APPENDIX J

TRAFFIC REPORTS

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APPENDIX J-1

TRAFFIC IMPACT ANALYSIS

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TRAFFIC IMPACT ANALYSIS

WORKFORCE RE-ENTRY CENTER

Orange, California
May 7, 2025

Prepared for:

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LLG Ref. 2-24-6650-2

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TRAFFIC IMPACT ANALYSIS

WORKFORCE RE-ENTRY CENTER

Orange, California

May 7, 2025

1.0 INTRODUCTION

This traffic impact analysis addresses the potential circulation needs associated with the proposed WorkForce Re-entry Center Project (hereinafter referred to as Project), a proposed vocational training and supportive housing project located in the City of Orange, California. The Project site is directly located east of The City Drive at Metropolitan Drive intersection, north of the Garden Grove (SR-22) Freeway, and west of the Santa Ana River, at the County's old animal shelter property located at 561 The City Drive South, Orange. The subject property is approximately 4.604-acre site that has been available for County uses and purposes since OC Animal Care vacated and relocated to a new facility in 2018. The Project includes the construction of three (3) new buildings consisting of a two-story 37,200 square foot (SF) vocational training, administrative office and classroom building, a one-story 16,166 SF retail/culinary building and a two-story 25,130 SF supportive housing and services building which will include 34 units, of which 20 units will have one (1) bed, 11 units will have two (2) beds and three (3) units will have four (4) beds for a combined total of 54 beds.

This report documents the findings and recommendations of a traffic impact analysis conducted by Linscott, Law & Greenspan, Engineers (LLG) to determine the potential circulation effects and Project-related improvements associated with the proposed Project. The traffic analysis evaluates the existing operating conditions at four (4) key study intersections within the project vicinity, estimates the trip generation potential of the proposed Project, and forecasts future operating conditions without and with the proposed Project. Where necessary, intersection improvement measures are identified. As such, this traffic report satisfies the traffic analysis requirements of the *City of OrangeTraffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment, date July 2020* and will be consistent with the requirements and procedures outlined in the most current *Congestion Management Program (CMP) for Orange County.* The Scope of Work for this traffic study is included in ***Appendix A***. It is noted that as a separate document, a Vehicle Miles Traveled (VMT) screening memorandum has been prepared per the City's requirements to address the Project's potential transportation impacts under CEQA.

The project site has been visited and an inventory of adjacent area roadways and intersections was performed. Existing peak hour traffic information has been collected at four (4) key study intersections for use in the preparation of intersection level of service calculations. Information concerning cumulative projects (planned and/or approved) in the vicinity of the proposed Project has been researched at the Cities of Orange, Santa Ana, Garden Grove, and Anaheim and the County of Orange. Based on our research, there are three (3) cumulative projects in the City of Orange, one (1) cumulative project in the City of Santa Ana, two (2) cumulative projects in the City of Garden Grove, and nine (9) cumulative projects in the City of Anaheim within the vicinity of the subject site

that have either been built, but not yet fully occupied, or are being processed for approval. These fifteen (15) planned and/or approved cumulative projects were considered in the cumulative traffic analysis for this project.

This traffic report analyzes existing and future weekday AM peak hour and PM peak hour traffic conditions for a near-term (Year 2028) and long-term buildout (Year 2050) traffic settings upon completion of the proposed Project. Peak hour traffic forecasts for the Year 2028 horizon year have been projected by increasing existing traffic volumes by an annual growth rate of 1.0% per year and adding traffic volumes generated by fifteen (15) cumulative projects. Long-term buildout (Year 2050) peak hour traffic forecasts were projected based on modeled traffic projections utilizing the OCTAM 5.1 Year 2050 Model.

1.1 Study Area

The four (4) key study intersections selected for evaluation were based on the City's guidelines. The four (4) key study intersections listed below provide local access to the study area and define the extent of the boundaries for this traffic analysis. The jurisdiction that the study intersections are located in is shown in parentheses.

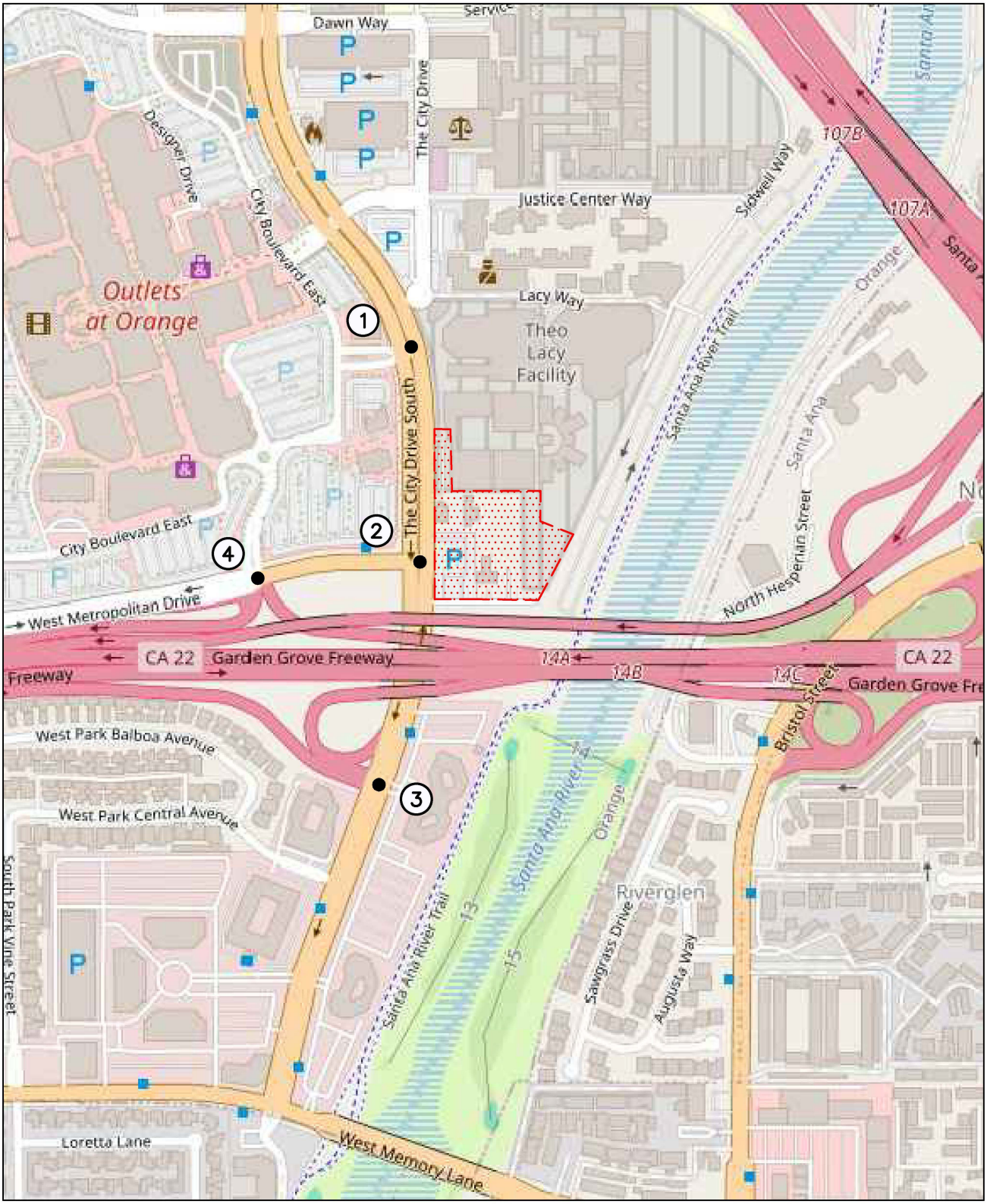
Key Study Intersections

1. The City Drive at Outlet Drive (Orange)
2. The City Drive at Metropolitan Drive (Orange)
3. The City Drive at SR-22 EB Ramps (Caltrans/Orange)
4. SR-22 WB Ramps at Metropolitan Drive (Caltrans/Orange)

Figure 1-1 presents a Vicinity Map, which illustrates the general location of the proposed Project and depicts the study locations and surrounding street system. The Level of Service (LOS) investigations at these key locations were used to evaluate the potential circulation effects associated with area growth, cumulative projects and the proposed Project. When necessary, this report recommends intersection improvements that may be required to restore/maintain an acceptable Level of Service and/or offset the circulation effects of the project.

Included in this Traffic Analysis are:

- Existing traffic counts,
- Estimated Project traffic generation/distribution/assignment,
- Estimated cumulative project traffic generation/distribution/assignment,
- AM and PM peak hour capacity analyses for existing conditions,
- AM and PM peak hour capacity analyses for future near-term (Year 2028) traffic conditions without and with the proposed Project,
- AM and PM peak hour capacity analyses for future long-term (Year 2050) traffic conditions without and with the proposed Project,
- Site Access Evaluation,
- Internal Circulation and Sight Distance Evaluation,
- Synchro Assessment, and
- Recommended Intersection Improvements.



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SOURCE: OPEN STREETS

KEY

(#) = STUDY INTERSECTION

= PROJECT SITE

NO SCALE

FIGURE 1-1

VICINITY MAP

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE

2.0 PROJECT DESCRIPTION AND LOCATION

The Project site is at the County's old animal shelter property located at 561 The City Drive South, Orange. The subject property is approximately 4.604-acre site that has been available for County uses and purposes since OC Animal Care vacated and relocated to a new facility in 2018. The site is directly located east of The City Drive at Metropolitan Drive intersection, north of the Garden Grove (SR-22) Freeway, and west of the Santa Ana River. ***Figure 2-1*** presents an aerial depiction of the existing site.

The Project includes the construction of three (3) new buildings consisting of a two-story 37,200 square foot (SF) vocational training, administrative office and classroom building, a one-story 16,166 SF retail/culinary building and a two-story 25,130 SF supportive housing and services building which will include 34 units, of which 20 units will have one (1) bed, 11 units will have two (2) beds and three (3) units will have four (4) beds for a combined total of 54 beds. The purpose of the project is to assist those who need help in developing the skills needed to enter the workforce. ***Figure 2-2*** presents the proposed site plan prepared by the architect, LPA Design Studios.

The vocational/operations building is anticipated to include a large training warehouse, multi-purpose room, classrooms, and offices for operations and management. The retail/culinary building is anticipated to include various kitchens for training and production, retail suites for pet grooming and a fitness studio, and an open market with grab-n-go style bakery and bistro counters and other retail stalls, where program participants will develop, produce, and provide goods and/or services to the public as part of the vocational training program.

The housing building is anticipated to provide on-site housing for 52 selected program participants and 2 on-site managers. The site is also planned to include approximately 175 surface level parking spaces, two outdoor pet training/relief area, an outdoor activity/garden area for program participants, and a new security block wall between the Property and the adjacent Theo Lacy Facility.

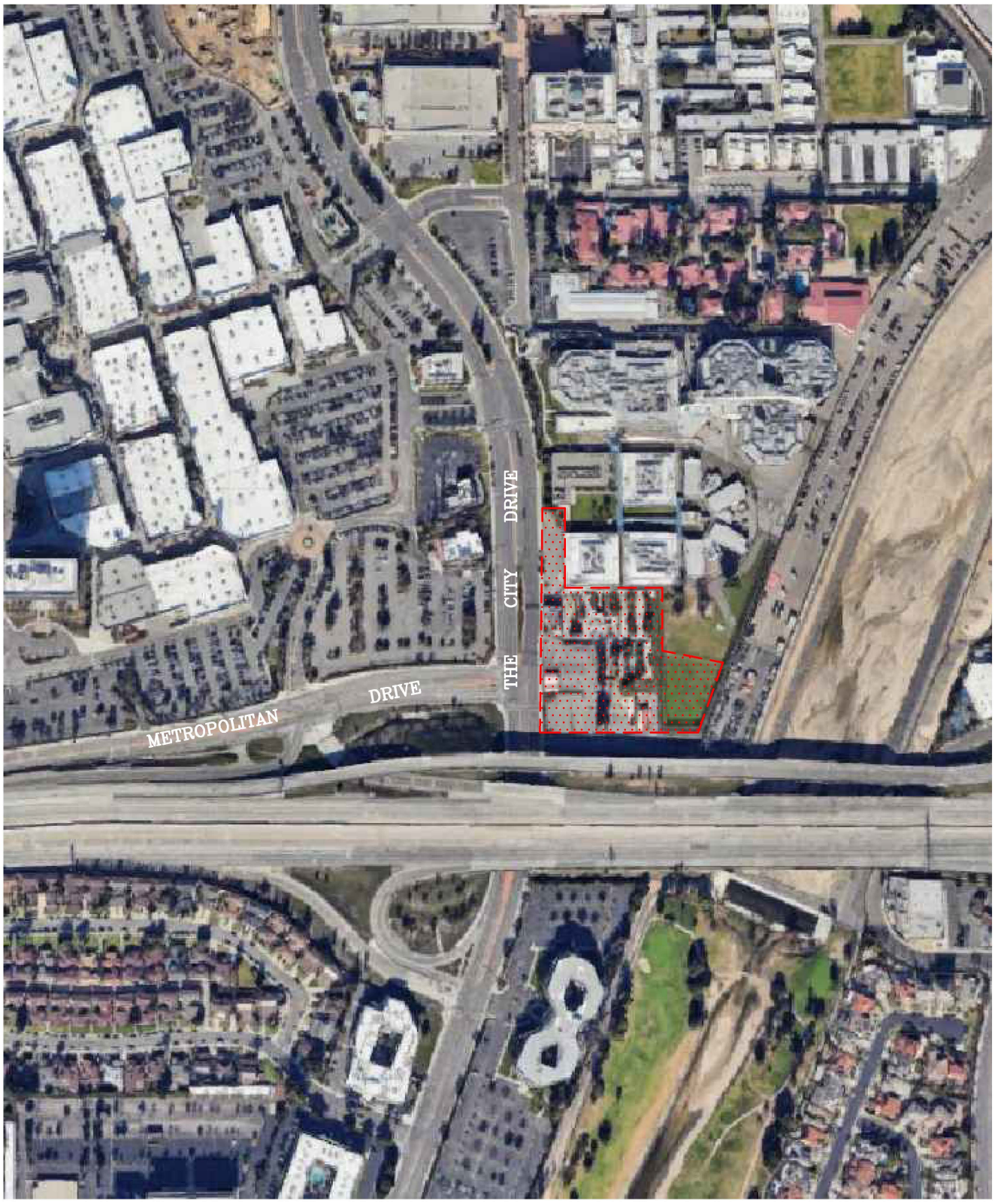
The project would house up to 54 people on-site of which approximately 40% could have jobs off-site. In addition, about half of the people housed on-site would likely not have a car and would use other means of transportation (i.e. walk, bike, bus, etc.). As such, conservatively it has been assumed that approximately 11 people would leave the site to attend work from 7:00 AM – 8:00 AM and arrive back between 5:00 PM – 6:00 PM during the commuter peak hour. The teaching aspects would focus to retail/culinary uses that would produce items that could be sold for profit. The site would consist 7,810 SF retail type uses which could consist of merchandise/apparel, artwork, bistro, salon, tattoo, pet grooming or fitness uses. The teaching/training component of the project would include up to 60 staff members which varying schedules between 8:00 AM – 5:00 PM with 20% starting at 6:00 AM and 20% starting at 3:00 PM. To be conservative it has been assumed that the remaining 60% of the staff would arrive between 7:00 AM – 8:00 AM and depart between 5:00 PM – 6:00 PM during the commuter peak hour. It is anticipated that up to 20 students that do not live on-site would participate in the training/sales component of the Project. Conservatively, it has been assumed that all 20 students would arrive between 7:00 AM – 8:00 AM and depart between 5:00 PM – 6:00 PM during the commuter peak hour.

2.1 Site Access

Access to the Project site is proposed via a full access driveway that would be integrated into the existing signal at The City Drive and Metropolitan Drive. Secondary access is proposed via right-turn only driveways located at the northern and southern portion of the site. ***Figure 2-3*** presents the conceptual design at the intersection of The City Drive and Metropolitan Drive, with recommended access modifications to the intersection and the Project site plan to allow for operation of an 8-phase traffic signal. As a Project design feature a southbound left-turn lane is proposed along The City Drive at Metropolitan Drive. Additionally, modifications along Metropolitan Drive to the median are proposed to allow for a dual left-turn lane, single through lane and a dual right-turn lane. It should also be noted that with the construction of the proposed signal modification, the egress movement would consist of a left-turn lane and a shared through/right turn lane. Additionally, based on review of the Caltrans Right-of-Way Map, the proposed striping modifications located along Metropolitan Drive are approximately 65 feet within Caltrans ROW. As such, the permitting process would also require Caltrans coordination/approval as well as City of Orange.

2.2 Pedestrian Circulation

Pedestrian circulation would be provided via existing public sidewalks along The City Drive and Metropolitan Drive bordering the project site, which will connect to the project's internal walkway. The proposed Project will protect the existing sidewalk along the project frontage and if necessary, repair or reconstruct sidewalks along the project frontage per the City's request.



SOURCE: GOOGLE

KEY

= PROJECT SITE

LLG

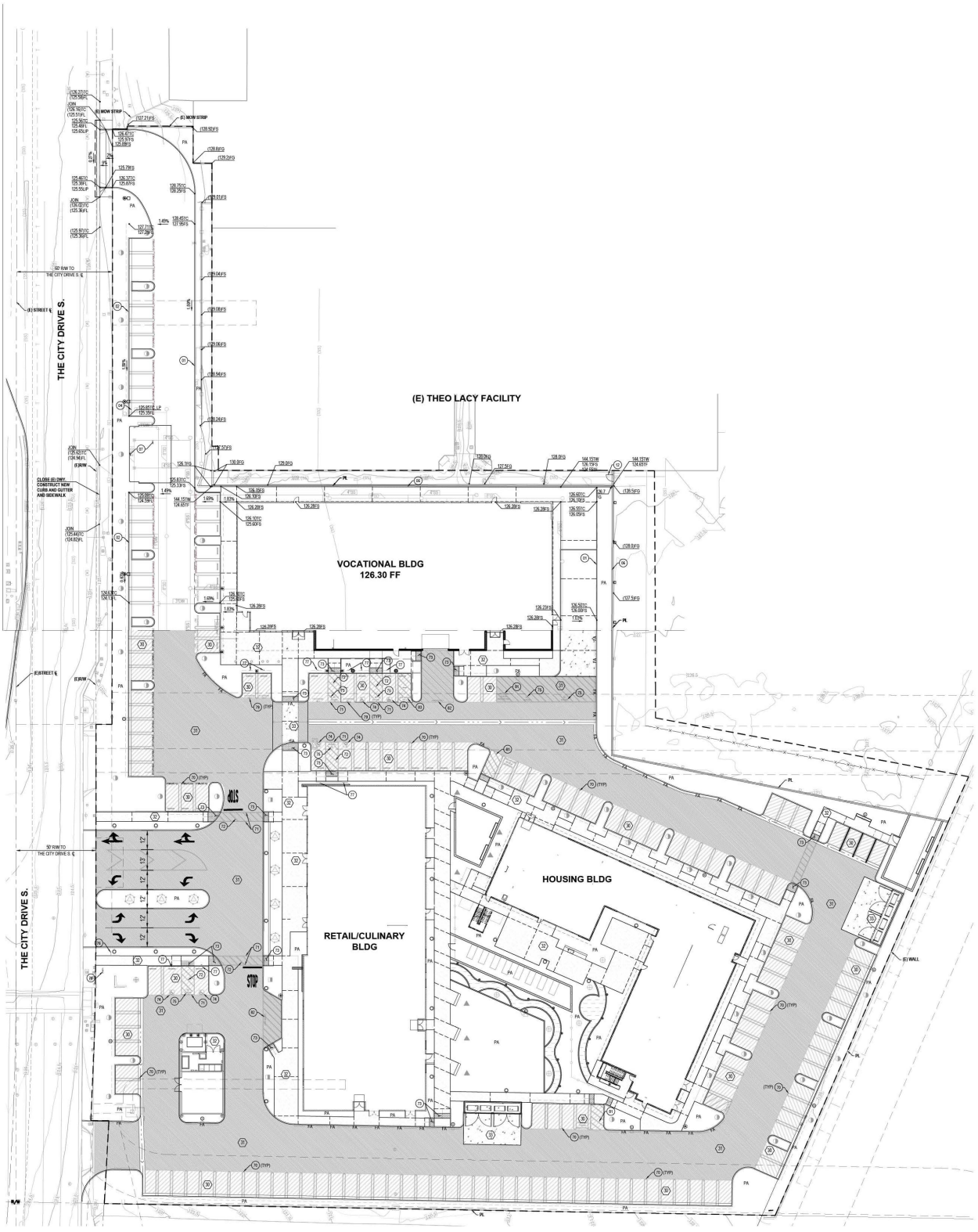
N

NO SCALE

FIGURE 2–1

EXISTING SITE AERIAL

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE



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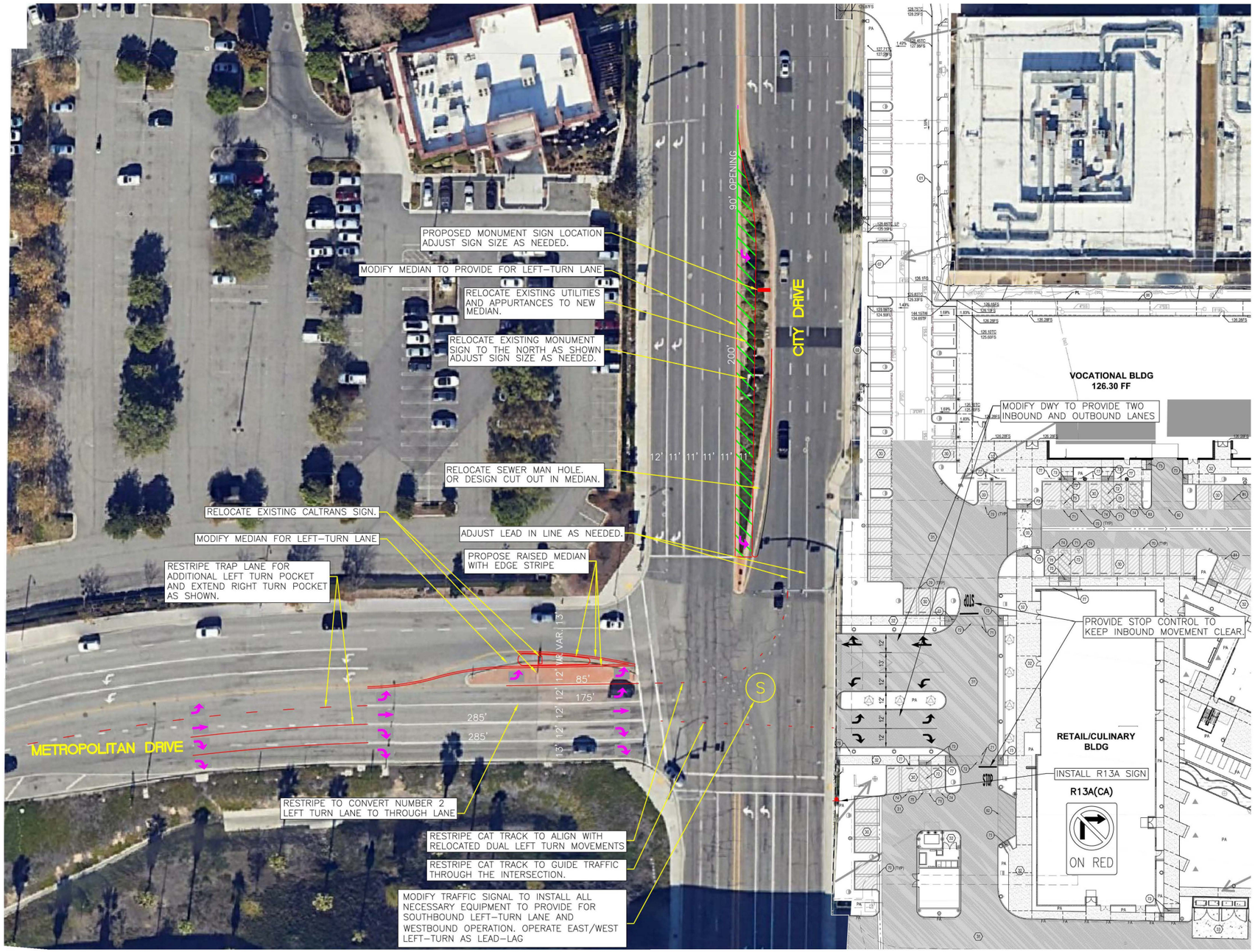
SOURCE: LPA

FIGURE 2-2

NO SCALE

PROPOSED SITE PLAN

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE



SOURCE: LLG

NO SCALE

FIGURE 2-3

CONCEPTUAL INTERSECTION DESIGN

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE

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3.0 EXISTING CONDITIONS

3.1 Existing Street System

The principal local network of streets serving the proposed Project includes The City Drive and Metropolitan Drive. The following discussion provides a brief synopsis of these key area streets. The descriptions are based on an inventory of existing roadway conditions.

The City Drive is an eight-lane divided roadway north of Outlet Drive, a seven-lane divided roadway between Outlet Drive and Metropolitan Drive, and a five-lane divided roadway south of Metropolitan Drive, oriented in the north-south direction, bordering the Project site to the west. Parking is not permitted along either side of this roadway in the vicinity of the proposed Project. The posted speed limit on The City Drive is 35 miles per hour (mph). Traffic signals control the study intersections of The City Drive at Outlet Drive, Metropolitan Drive, and SR-22 EB Ramps.

Metropolitan Drive is a four-lane divided roadway, oriented in the east-west direction, located to the west of the Project site. The posted speed limit on Metropolitan Drive is 30 mph in the vicinity of the proposed Project. Parking is not permitted along either side of this roadway in the vicinity of the proposed project. Traffic signals control the study intersections of Metropolitan Drive at The City Drive and SR-22 WB Ramps.

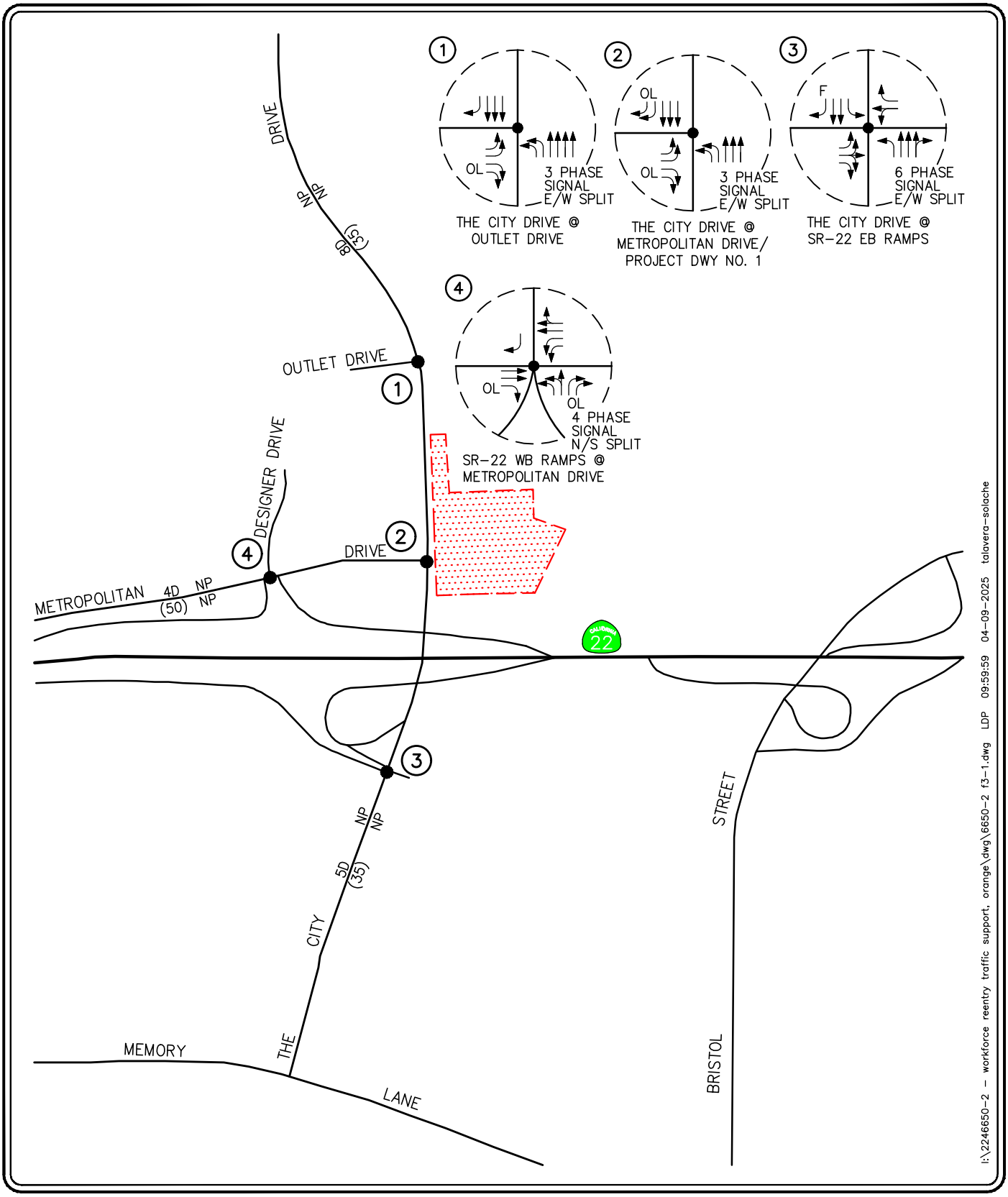
Figure 3-1 presents an inventory of the existing roadway conditions for the arterials and intersections evaluated in this report. This figure identifies the number of travel lanes for key arterials, as well as intersection configurations and controls for the key area study intersections.

3.1.1 *Public Transit*

Public transit bus service for the Project site is adequate and is provided in the project area by the Orange County Transportation Authority (OCTA). OCTA is the leading transit provider in Orange County and offers a wide range of fixed-route bus services. OCTA has developed an extensive network of transit routes to connect residents and commuters of Orange to key destinations. Two (2) OCTA bus routes operate within the vicinity of the project site on Warner Avenue and Magnolia Street which consists of the following:

- OCTA Route 47: The major route of travel includes The City Drive. Nearest to the project site is a bus stop on the northwest corner of the intersection of The City Drive at Metropolitan Drive. Route 47 operates on approximate 20-minute headways during weekdays and 30-minute headways during weekends.

- OCTA Route 57: The major route of travel includes The City Drive. Nearest to the project site is a bus stop on the southwest corner of the intersection of The City Drive at Park Central Avenue. Route 57 operates on approximate 15-minute headways on the weekdays and 20-minute headways on the weekends.



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KEY

= APPROACH LANE ASSIGNMENT
F = FREE-RIGHT, OL = OVERLAP
P = PARKING, NP = NO PARKING
U = UNDIVIDED, D = DIVIDED
2 = NUMBER OF TRAVEL LANES
(XX)= POSTED SPEED LIMIT (MPH)
= PROJECT SITE
= TRAFFIC SIGNAL

LLG

N

NO SCALE

FIGURE 3-1

EXISTING ROADWAY CONDITIONS AND INTERSECTION CONTROLS

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE

Figure 3-2 graphically illustrates the transit routes of OCTA within the vicinity of the project. ***Figure 3-3*** identifies the locations of the existing bus stops in proximity to the Project site.

3.2 Existing Traffic Volumes

Vehicular turning movement counts were conducted at the four (4) key study locations adjacent to the project site during the weekday morning and evening peak commuter periods to determine the existing AM and PM peak hour traffic volumes. AM and PM peak hour traffic counts at the key study intersections were collected by Counts Unlimited, Inc. in October 2024 when local area schools were in session. It should be noted that these 2024 were grown by 1% to establish Existing Year 2025 traffic conditions.

Figures 3-4 and ***3-5*** illustrate the existing AM and PM peak hour traffic volumes at the four (4) key study evaluated in this report, respectively. ***Appendix B*** contains the detailed peak hour count sheets for the key intersections evaluated in this report.

3.3 Existing Intersection Conditions

Existing AM and PM peak hour operating conditions for the four (4) key study intersections were evaluated using the *Intersection Capacity Utilization* (ICU) methodology for signalized intersections and the methodology outlined in the *Highway Capacity Manual* (HCM) for unsignalized intersections per the City of Orange requirements.

3.3.1 *Intersection Capacity Utilization (ICU) Method of Analysis*

In conformance with the City of Orange requirements, existing AM and PM peak hour operating conditions for the key signalized study intersections were evaluated using the Intersection Capacity Utilization (ICU) method. The ICU technique is intended for signalized intersection analysis and estimates the volume to capacity (V/C) relationship for an intersection based on the individual V/C ratios for key conflicting traffic movements.

The ICU numerical value represents the percent signal (green) time, and thus capacity, required by existing and/or future traffic. It should be noted that the ICU methodology assumes uniform traffic distribution per intersection approach lane and optimal signal timing. A minimum clearance interval of 0.05 in conjunction with lane capacities of 1700 per hour of green time for through and turn lanes will be used for all V/C calculations.

The ICU value translates to a Level of Service (LOS) estimate, which is a relative measure of the intersection performance. The ICU value is the sum of the critical volume to capacity ratios at an intersection; it is not intended to be indicative of the LOS of each of the individual turning movements. The six qualitative categories of Level of Service have been defined along with the corresponding ICU value range and are shown in ***Table 3-1***.

System Map

- 1 — Local Routes (1-99)
- 100 — Community Routes (100-199)
- 400 — Metrolink Stationlink Routes (400-499)
  Weekday Rush Hour Only
- 500 — Bravo Limited Stop Service (500-599)
- 800 — City Shuttle
- Rail Stations
- OC Bus Transit Centers

Effective February 12, 2023

OC Flex Zone

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Laguna Niguel/Mission Viejo.

OCFLEX

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SOURCE: OCTA

KEY

= PROJECT SITE

LLG

N NO SCALE

FIGURE 3-2

OCTA TRANSIT MAP

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE

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SOURCE: GOOGLE

KEY

= TRANSIT STOP

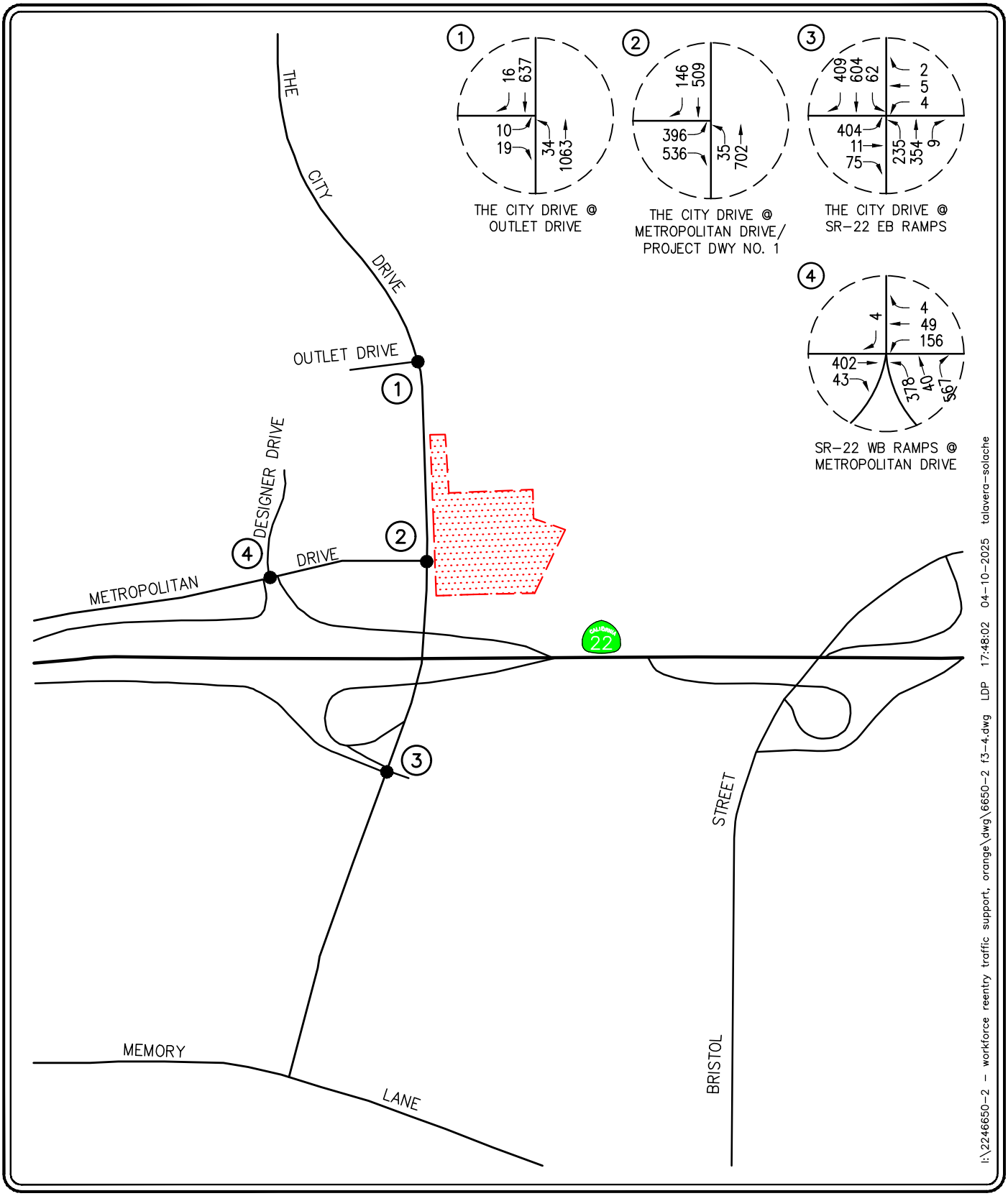
= PROJECT SITE

NO SCALE

FIGURE 3-3

TRANSIT STOP LOCATIONS

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE



KEY

(#) = STUDY INTERSECTION

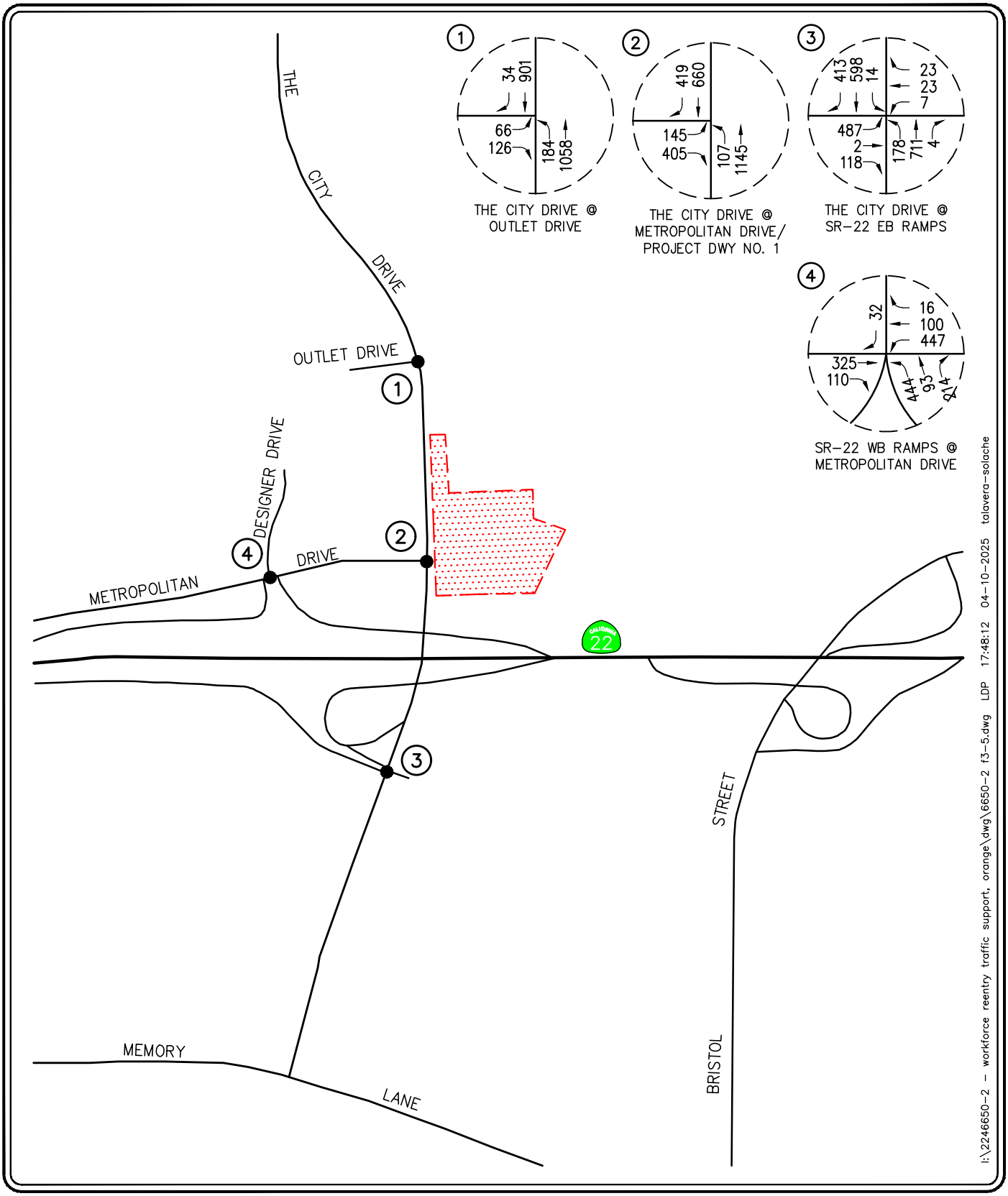
= PROJECT SITE

N NO SCALE

FIGURE 3-4

EXISTING AM PEAK HOUR TRAFFIC VOLUMES

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE



KEY

(#) = STUDY INTERSECTION

= PROJECT SITE

N NO SCALE

FIGURE 3-5

EXISTING PM PEAK HOUR TRAFFIC VOLUMES

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE

3.3.1 *Highway Capacity Manual 7 (HCM 7) Method of Analysis (Unsignalized Intersections)*

Two-way stop-controlled intersections are comprised of a major street, which is uncontrolled, and a minor street, which is controlled by stop signs. Level of service for a two-way stop-controlled intersection is determined by the computed or measured control delay. The control delay by movement, by approach, and for the intersection as a whole is estimated by the computed capacity for each movement. LOS is determined for each minor-street movement (or shared movement) as well as major-street left turns. The worst side street approach delay is reported. LOS is not defined for the intersection as a whole or for major-street approaches, as it is assumed that major-street through vehicles experience zero delay. The HCM control delay value range for two-way stop-controlled intersections is shown in ***Table 3-2***.

3.3.2 *Level of Service Criteria*

According to the City of Orange, LOS D is the minimum acceptable condition that should be maintained during the peak commute hours and on roadway segments.

3.4 Existing Level of Service Results

Table 3-3 summarizes the existing peak hour service level calculations for the four (4) key study intersections based on existing traffic volumes and current street geometry. Review of *Table 3-3* indicates that all four (4) key study intersections currently operate at an acceptable level of service during the AM and PM peak hours.

Appendix C presents the ICU/LOS calculation worksheets for the four (4) key study intersections.

TABLE 3-1

LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS (ICU METHODOLOGY)

Level of Service (LOS)	Intersection Capacity Utilization Value (V/C)	Level of Service Description
A	≤ 0.60	EXCELLENT. No vehicle waits longer than one red light, and no approach phase is fully used.
B	0.61 – 0.70	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
C	0.71 – 0.80	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	0.81 – 0.90	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	0.91 – 1.00	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	> 1.00	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Potentially very long delays with continuously increasing queue lengths.

TABLE 3-2

LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS (HCM 7 METHODOLOGY)[1]

Level of Service (LOS)	Highway Capacity Manual (HCM) Delay Per Vehicle (seconds/vehicle)	Level of Service Description
A	≤ 10.0	Little or no delay
B	> 10.0 and ≤ 15.0	Short traffic delays
C	> 15.0 and ≤ 25.0	Average traffic delays
D	> 25.0 and ≤ 35.0	Long traffic delays
E	> 35.0 and ≤ 50.0	Very long traffic delays
F	> 50.0	Severe congestion

[1] Source: *Highway Capacity Manual 7*, Chapter 20: Two-Way Stop-Controlled Intersections. The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major-street approaches or for the intersection as a whole.

TABLE 3-3
EXISTING PEAK HOUR INTERSECTION CAPACITY ANALYSIS

Key Intersection	Jurisdiction	Time Period	Minimum Acceptable LOS	Control Type	ICU	LOS
1. The City Drive at Outlet Drive	Orange	AM	D	3Ø Traffic	0.209	A
		PM		Signal	0.241	A
2. The City Drive at Metropolitan Drive	Orange	AM	D	3Ø Traffic	0.335	A
		PM		Signal	0.364	A
3. The City Drive at SR-22 EB Ramps	Caltrans/Orange	AM	D	6Ø Traffic	0.493	A
		PM		Signal	0.597	A
4. SR-22 WB Ramps at Metropolitan Drive	Caltrans/Orange	AM	D	4Ø Traffic	0.339	A
		PM		Signal	0.377	A

Notes:

- ICU = Intersection Capacity Utilization
- LOS = Level of Service, please refer to *Tables 3-1, and 3-2* for the LOS definitions
- ∅ = Phase
- **BOLD ICU/LOS** indicates unacceptable service level

4.0 TRAFFIC FORECASTING METHODOLOGY

In order to estimate the traffic characteristics of the proposed Project, a multi-step process has been utilized. The first step is traffic generation, which estimates the total arriving and departing traffic on a peak hour and daily basis. The traffic generation potential is forecast by applying the appropriate vehicle trip generation equations and/or rates to the Project development tabulation.

The second step of the forecasting process is traffic distribution, which identifies the origins and destinations of inbound and outbound Project traffic. These origins and destinations are typically based on demographics and existing/expected future travel patterns in the study area.

The third step is traffic assignment, which involves the allocation of Project traffic to study area streets and intersections. Traffic assignment is typically based on minimization of travel time, which may or may not involve the shortest route, depending on prevailing operating conditions and travel speeds. Traffic distribution patterns are indicated by general percentage orientation, while traffic assignment allocates specific volume forecasts to individual roadway segments and intersection turning movements throughout the study area.

With the forecasting process complete and project traffic assignments developed, the effect of project-related traffic is isolated by comparing operational (LOS) conditions at the selected key intersection using expected future traffic volumes with and without forecast project traffic. If necessary, the need for site-specific and/or cumulative local area traffic improvements can then be evaluated.

5.0 PROJECT TRAFFIC CHARACTERISTICS

5.1 Project Traffic Generation

Traffic generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. Generation factors and equations used in this analysis are based on information found in the 11th Edition of Trip Generation, published by the Institute of Transportation Engineers (ITE) [Washington, D.C., 2021] and operational information provided by the applicant. Adjustments to the traffic forecasts for pass-by trips will be applied.

Table 5-1 summarizes the trip generation rates used in forecasting the vehicular trips generated for the proposed Project and the Project's forecast peak hour and daily traffic volumes. It should be noted that the retail type uses could consist of merchandise/apparel, artwork, bistro/coffee, salon, tattoo, pet grooming or fitness uses.

As shown in the upper portion of *Table 5-1*, trip generation rates for ITE Land Use 822: Strip Retail Plaza (<40k) was used to forecast the trip generation potential for the proposed Project. Additionally, operational information was used to forecast the trip generation potential for the staff, on-site housing, and outside students for the proposed Project.

It should be noted that a trip reduction was applied to the commercial component since the employees of the commercial uses will be comprised of students and staff that will already be on-site.

Further, the aforementioned trip generation for the proposed Project includes adjustments for the internal trip capture within the Project site. An internal capture of 15% on daily basis, and 5% and 15% during the AM peak hour and PM peak hour, respectively, has been applied to the commercial uses to account for the interaction with students and staff of the other Project uses. Additionally, the internal capture rates are considered conservative compared to NCHRP 684 Internal Trip Capture Estimation Tool rates which calculates to 29% on daily basis, and 6% and 26% during the AM peak hour and PM peak hour, respectively.

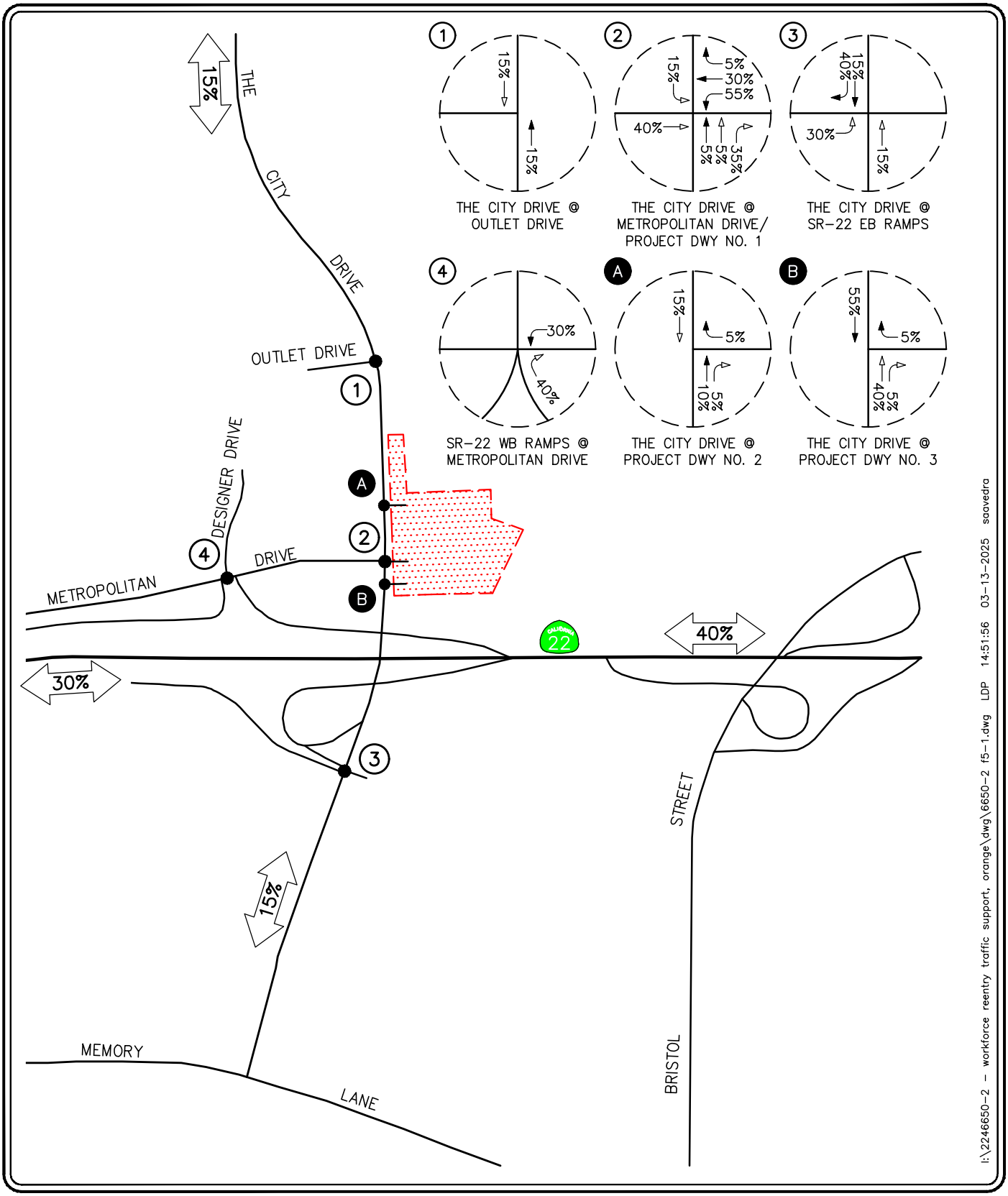
As shown in the lower portion of *Table 5-1* the proposed Project is forecast to generate 491 daily trips, with 81 trips (64 inbound, 17 outbound) produced in the AM peak hour and 92 trips (24 inbound, 68 outbound) produced in the PM peak hour on a "typical" weekday.

5.2 Project Traffic Distribution and Assignment

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

- location of site access points in relation to the surrounding street system,
- the site's proximity to major traffic carriers (i.e. The City Drive, Metropolitan Drive, etc.),
- physical characteristics of the circulation system such as lane channelization and presence of traffic signals that affect travel patterns, and
- ingress/egress availability at the project site.

Figure 5-1 illustrates the general, directional traffic distribution pattern for the proposed Project, which reflects full access movements at Metropolitan Drive/Project Driveway No. 1 and The City Drive. The anticipated AM and PM peak hour traffic volumes associated with the proposed Project are presented in ***Figures 5-2*** and ***5-3***, respectively. The traffic volume assignments presented in *Figures 5-2* and *5-3* reflect the traffic distribution characteristics shown in *Figure 5-1* and the traffic generation forecast of the proposed Project presented in *Table 5-1.*



KEY

(#) = STUDY INTERSECTION

⟵ = INBOUND PERCENTAGE

⟵ = OUTBOUND PERCENTAGE

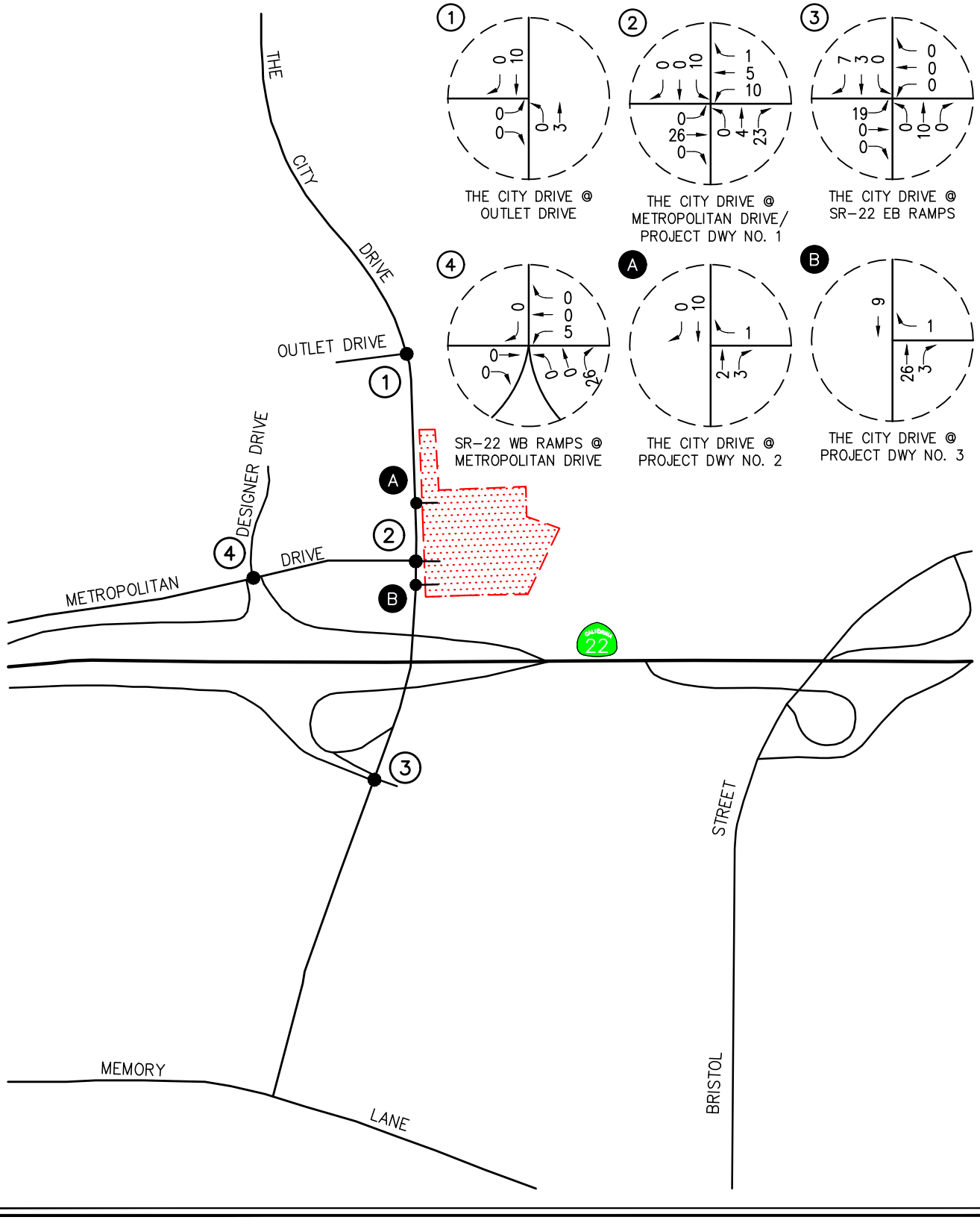
▭ = PROJECT SITE

NO SCALE

FIGURE 5-1

PROJECT TRAFFIC DISTRIBUTION PATTERN

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE



KEY

(#) = STUDY INTERSECTION

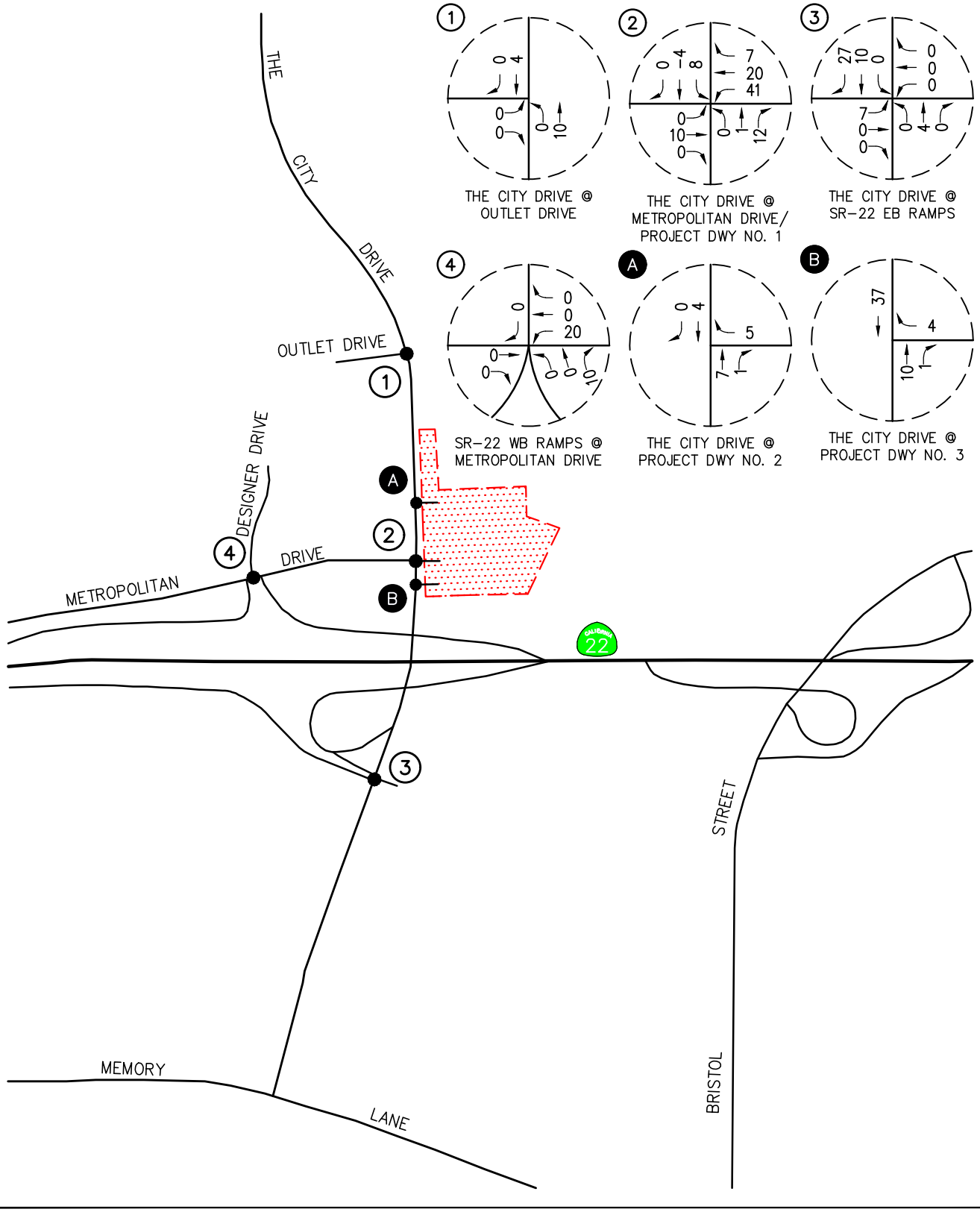
= PROJECT SITE

N NO SCALE

FIGURE 5-2

AM PEAK HOUR PROJECT TRAFFIC VOLUMES

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE



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KEY

(#) = STUDY INTERSECTION

= PROJECT SITE

N NO SCALE

FIGURE 5-3

PM PEAK HOUR PROJECT TRAFFIC VOLUMES

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE

TABLE 5-1
PROJECT TRIP GENERATION RATES AND FORECAST[2]

ITE Land Use Code / Project Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Generation Rates:							
▪ 822: Strip Retail Plaza <40K (TE/TSF)	54.45	60%	40%	2.36	50%	50%	6.59
Proposed Project Generation Forecast:							
▪ Retail (7,810 SF)	425	11	7	18	26	25	51
Employee Reduction (10 Employees)[3]	-20	-1	0	-1	-1	-1	-2
Subtotal	*405*	*10*	*7*	*17*	*25*	*24*	*49*
Internal Capture (10% Daily, 5% AM, 15% PM)	-41	-1	0	-1	-4	-3	-7
Subtotal	*364*	*9*	*7*	*16*	*21*	*21*	*42*
Pass-by (15% Daily, 15% AM, 40% PM)[4]	-55	-1	-1	-2	-8	-9	-17
Retail Subtotal	*309*	*8*	*6*	*14*	*13*	*12*	*25*
▪ Staffing (60 Staff)[5]	120	36	0	36	0	36	36
▪ On-Site Housing (54 Beds)[6]	22	0	11	11	11	0	11
▪ Outside Students (20 Students)[7]	40	20	0	20	0	20	20
Total Trip Generation Forecast	**491**	**64**	**17**	**81**	**24**	**68**	**92**

Note:

- TE/TSF = Trip End per Thousand Square Feet

2 Source: *Trip Generation*, 11th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2021).

3 A trip reduction was applied to the commercial component since the employees of the commercial uses will be comprised of students and staff that will already be on-site.

4 Pass-By trips are trips made as intermediate stops on the way from an origin to a primary trip destination. Pass-by trips are attracted from traffic passing the site on adjacent streets, which contain direct access to the generator. For this analysis, the following pass-by reduction factors were used (Source: *Trip Generation Manual, 11th Edition*, ITE 2021):

- ITE 822 Strip Retail Plaza: <40K: 15% daily (estimated), 15% AM peak hour (estimated), and 40% PM peak hour
- ITE 930 Fast Casual Restaurant (Utilized ITE 932 High-Turnover (Sit-Down) Restaurant Rates): 15% daily (estimated), 15% AM peak hour (estimated), and 43% PM peak hour

5 Conservatively it has been assumed that 60% of the staff would arrive between 7:00 AM – 8:00 AM and depart between 5:00 PM – 6:00 PM during the commuter peak hour. The remaining 40% of the staff would arrive outside of the peak hours.

6 Approximately 40% of the people housed on-site could have jobs off-site and about half of the people housed on-site would likely not have a car and would use other means for transportation (i.e. walk, bike, bus, etc.). Therefore, it has conservatively been assumed that approximately 11 people would leave the site to attend work from 7:00 AM – 8:00 AM and arrive back between 5:00 PM – 6:00 PM during the commuter peak hour.

7 Conservatively, it has been assumed that all 20 students would arrive between 7:00 AM – 8:00 AM and depart between 5:00 PM – 6:00 PM during the commuter peak hour.

6.0 FUTURE TRAFFIC CONDITIONS

6.1 Ambient Traffic Growth

Horizon year, background traffic growth estimates have been calculated using an ambient growth factor. The ambient traffic growth factor is intended to include unknown and future cumulative projects in the study area, as well as account for regular growth in traffic volumes due to the development of projects outside the study area. The future growth in traffic volumes has been calculated at one percent (1.0%) per year. Applied to the Year 2025 existing traffic volumes, this factor results in a 3.0% growth in existing volumes to the near-term horizon year 2028.

6.2 Related Projects Traffic Characteristics

In order to make a realistic estimate of future on-street conditions prior to implementation of the proposed Project, the status of other known development projects (related projects) in the vicinity of the proposed Project has been researched at the Cities of Orange, Santa Ana, Garden Grove, and Anaheim and the County of Orange. With this information, the potential circulation effects of the proposed Project can be evaluated within the context of the cumulative effects of all ongoing development.

Based on our research, there are three (3) cumulative projects in the City of Orange, one (1) cumulative project in the City of Santa Ana, two (2) cumulative projects in the City of Garden Grove, nine (9) cumulative projects in the City of Anaheim within the vicinity of the subject site that have either been built, but not yet fully occupied, or are being processed for approval. These fifteen (15) related projects have been included as part of the cumulative background setting. ***Table 6-1*** provides the location and a brief description for each of the fifteen (15) cumulative projects. ***Figure 6-1*** graphically illustrates the location of the cumulative projects. These related projects are expected to generate vehicular traffic, which may affect the operating conditions of the key study intersections.

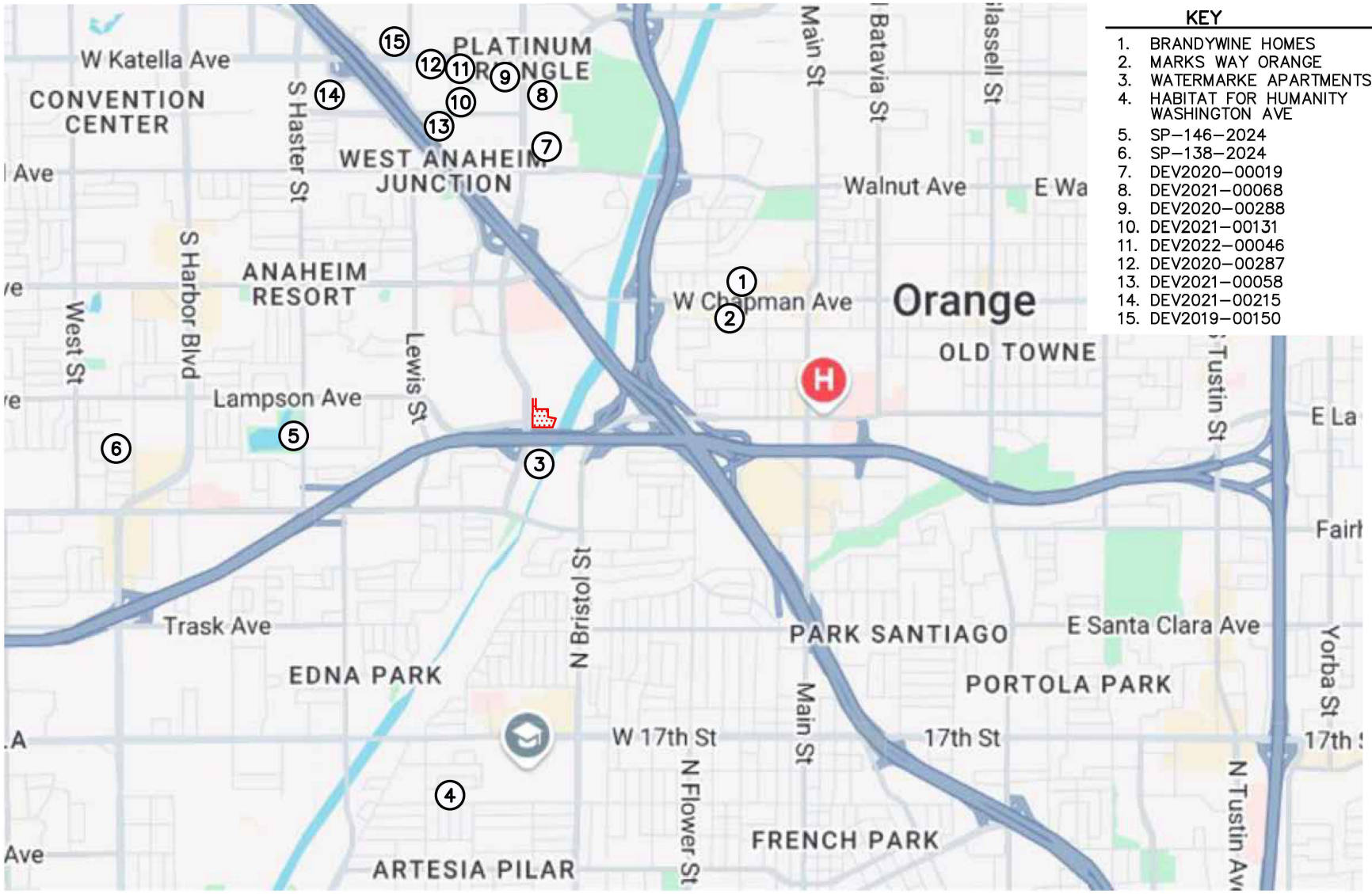
Table 6-2 summarizes the trip generation rates for the various land uses of the fifteen (15) cumulative projects. ***Table 6-3*** presents the trip generation potential for all fifteen (15) cumulative projects. As shown, the cumulative projects are forecast to generate a total of 38,013 daily trips, with 2,226 trips (838 inbound and 1,388 outbound) forecast during the AM peak hour and 2,924 trips (1,672 inbound and 1,252 outbound) forecast during the PM peak hour.

The anticipated AM and PM peak hour cumulative projects traffic volumes at the key study intersections are presented in ***Figure 6-2*** and ***6-3***, respectively.

6.3 Year 2028 Traffic Volumes

Figures 6-4 and ***6-5*** present the Year 2028 AM and PM peak hour cumulative traffic volumes at the four (4) key study intersections, respectively. It should be noted that the Year 2028 Cumulative traffic volumes include ambient traffic growth as well as the traffic from the fifteen (15) cumulative projects.

Figures 6-6 and ***6-7*** illustrate the Year 2028 forecast AM and PM peak hour traffic volumes with the inclusion of the trips generated by the proposed Project, respectively.

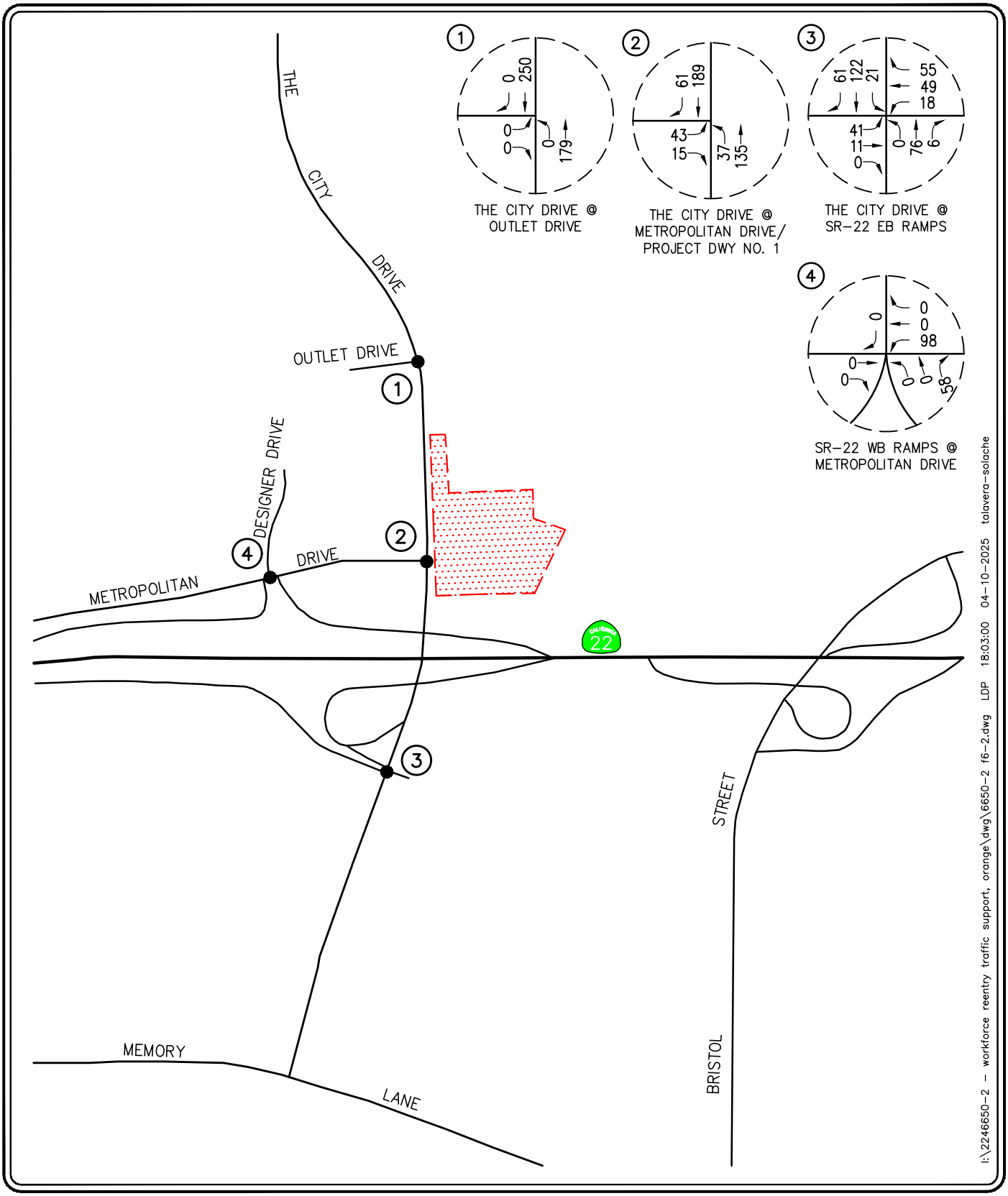


I:\2246650-2 - workforce reentry traffic support, orange\dwg\6650-2 f6-1.dwg LDP 11:29:48 04-11-2025 talavera-solache

FIGURE 6-1

LOCATION OF CUMULATIVE PROJECTS

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE



KEY

(#) = STUDY INTERSECTION

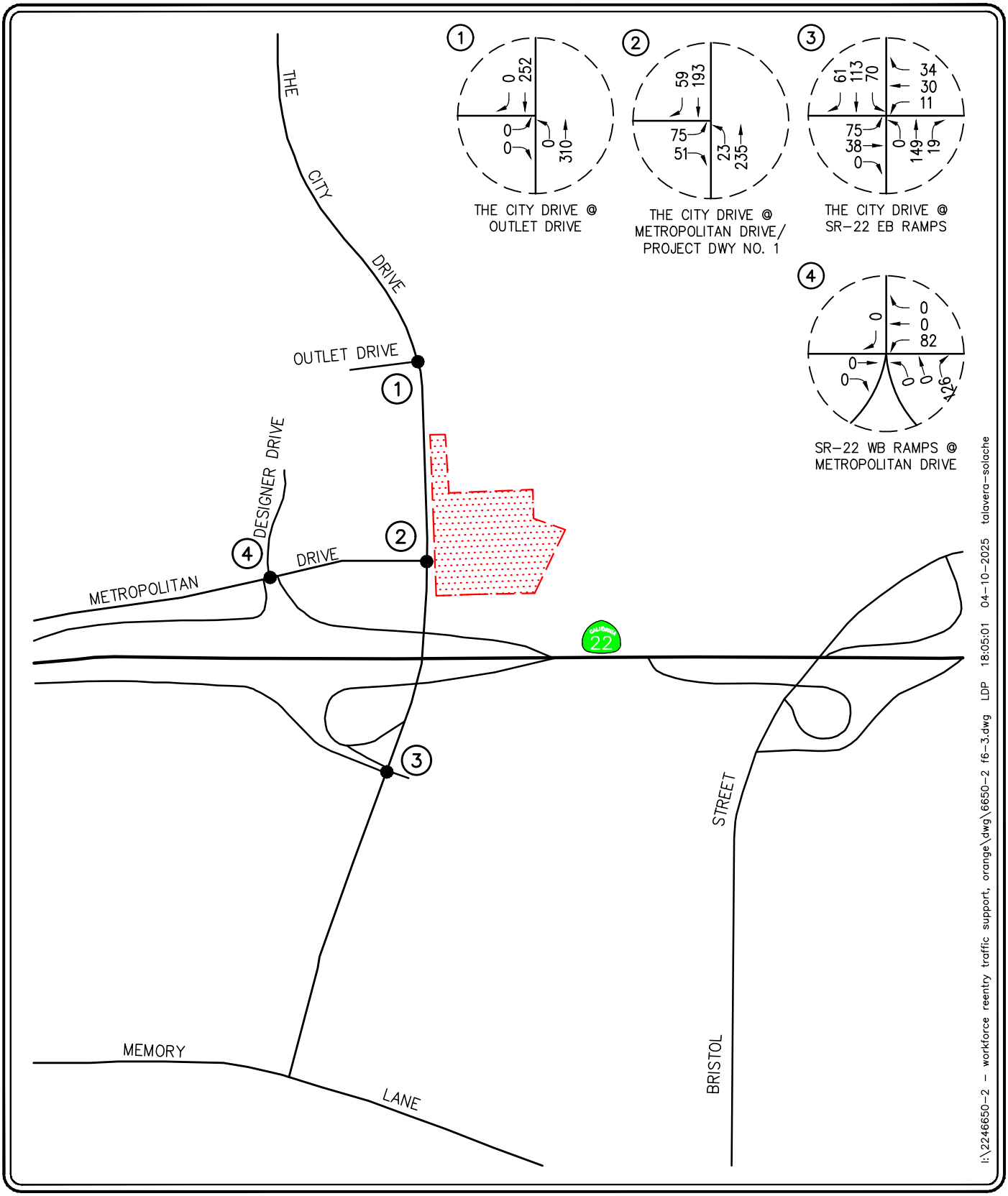
= PROJECT SITE

N NO SCALE

FIGURE 6-2

AM PEAK HOUR CUMULATIVE PROJECT TRAFFIC VOLUMES

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE



KEY

(#) = STUDY INTERSECTION

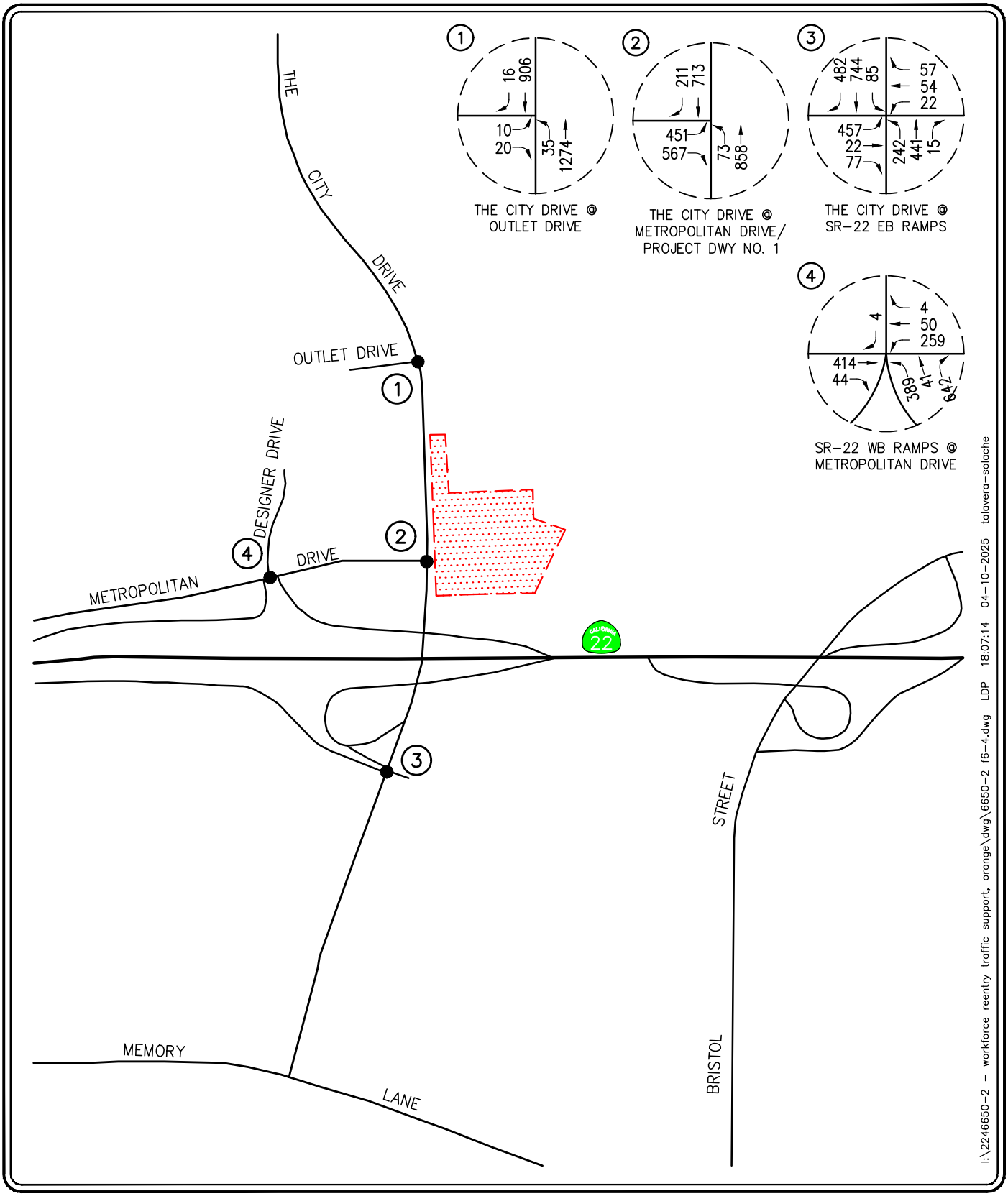
= PROJECT SITE

N NO SCALE

FIGURE 6-3

PM PEAK HOUR CUMULATIVE PROJECT TRAFFIC VOLUMES

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE



KEY

(#) = STUDY INTERSECTION

= PROJECT SITE

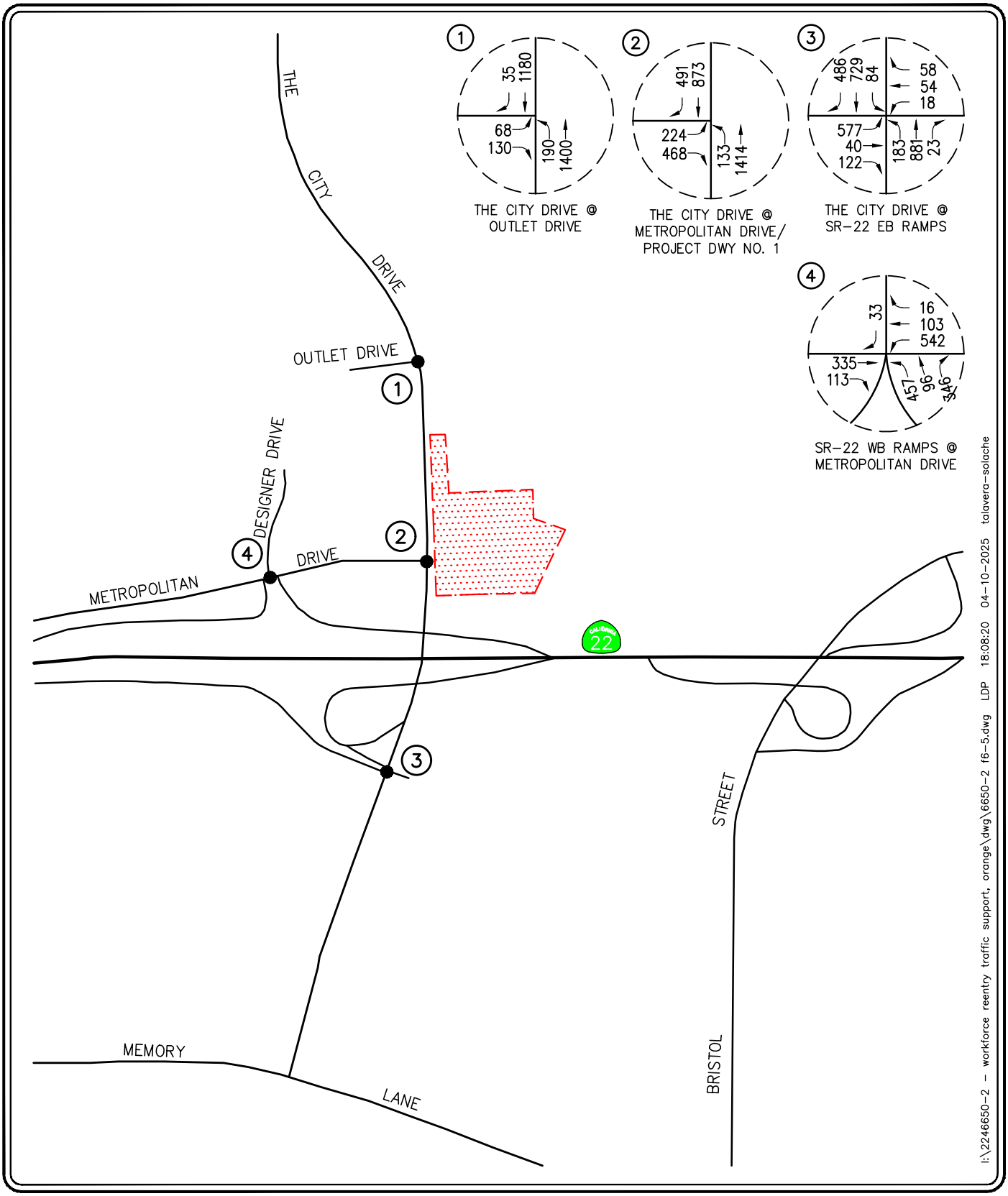
N

NO SCALE

FIGURE 6-4

YEAR 2028 CUMULATIVE AM PEAK HOUR TRAFFIC VOLUMES

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE



KEY

(#) = STUDY INTERSECTION

= PROJECT SITE

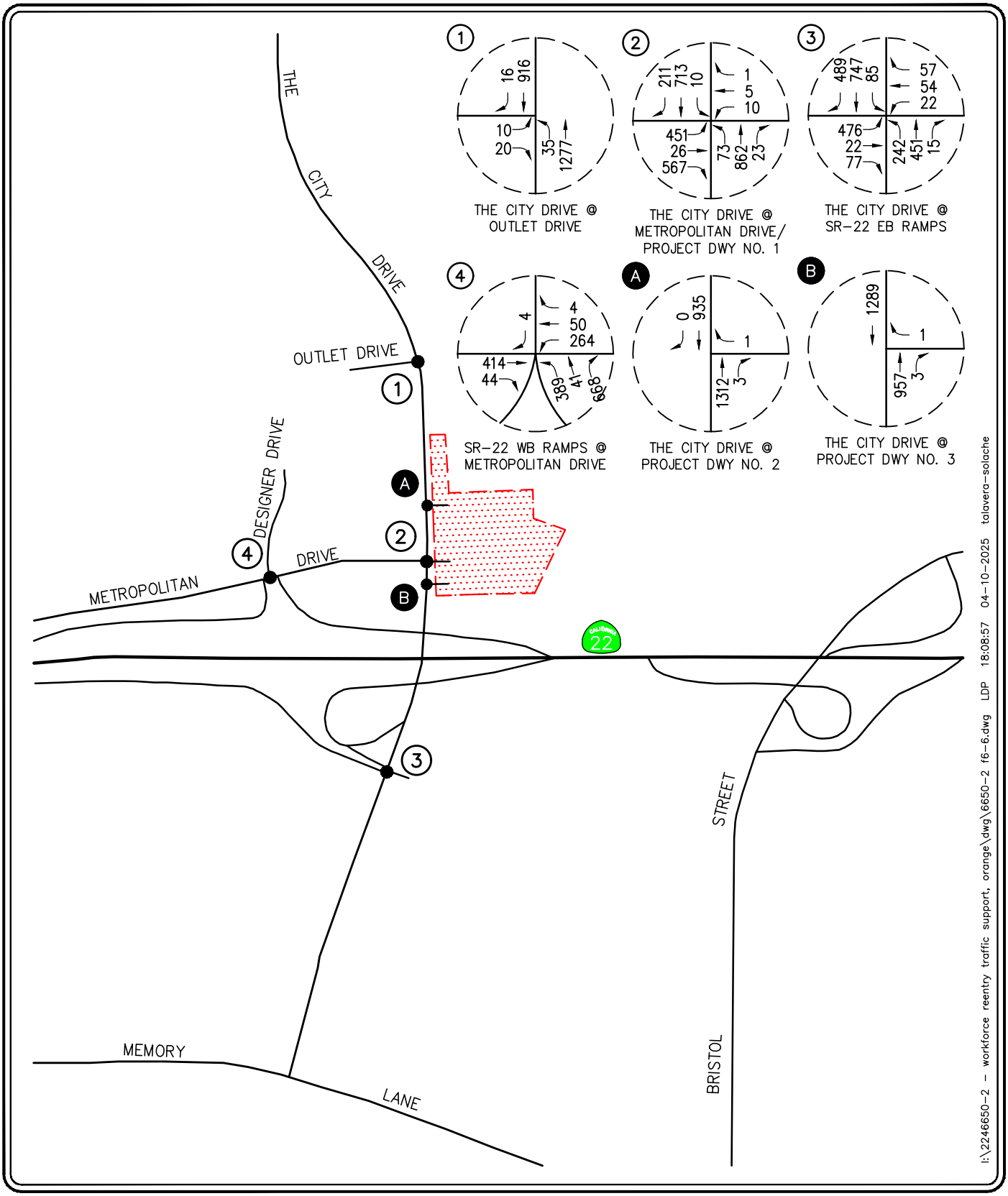
N

NO SCALE

FIGURE 6-5

YEAR 2028 CUMULATIVE PM PEAK HOUR TRAFFIC VOLUMES

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE



KEY

(#) = STUDY INTERSECTION

= PROJECT SITE

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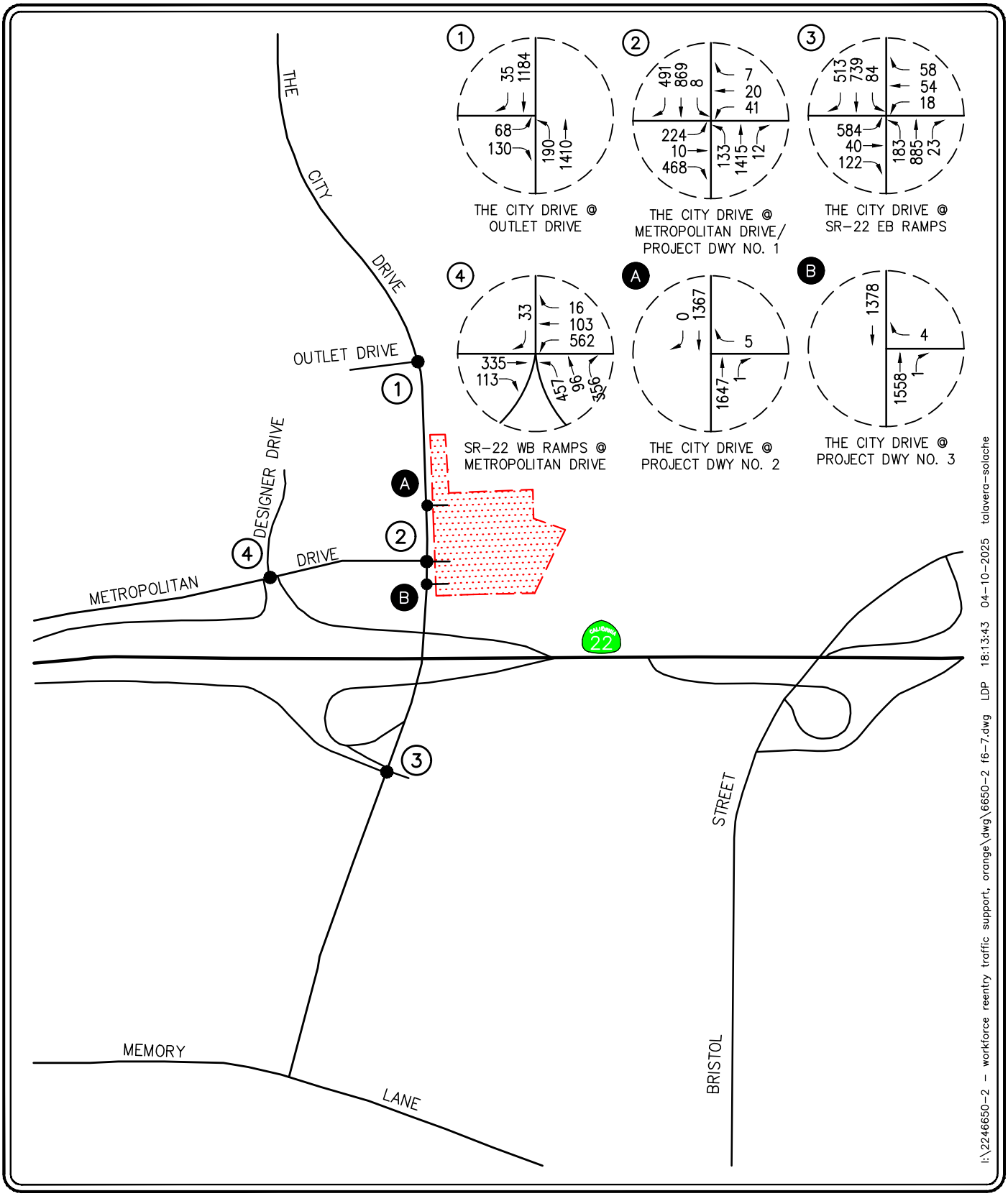
N

NO SCALE

FIGURE 6-6

YEAR 2028 CUMULATIVE PLUS PROJECT AM PEAK HOUR TRAFFIC VOLUMES

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE



KEY

(#) = STUDY INTERSECTION

= PROJECT SITE

N NO SCALE

FIGURE 6-7

YEAR 2028 CUMULATIVE PLUS PROJECT PM PEAK HOUR TRAFFIC VOLUMES

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE

TABLE 6-1
LOCATION AND DESCRIPTION OF CUMULATIVE PROJECTS[8]

No.	Cumulative Project	Location/Address	Description
City of Orange			
1.	Brandywine Homes	1937 W Chapman Avenue	Townhomes 44 DU
2.	Marks Way Orange	164 S Marks Way	Affordable Senior Homes 50 DU
3.	Watermarke Apartments	625 The City Dr. South	Multifamily Apartments 380 DU Affordable Housing 21 DU
City of Santa Ana			
4.	Habitat for Humanities Washington Ave	1921 W Washinton Avenue	Affordable Housing 6 DU
City of Garden Grove			
5.	SP-146-2024	12681 Haster Street	Multifamily Apartments 68 DU Affordable Housing 8 DU
6.	SP-138-2024	12701 Buaro Street	Multifamily Apartments 33 DU Affordable Housing 2 DU
City of Anaheim			
7.	DEV2020-00019	2040 S State College Blvd	Multifamily Apartments 947 DU Commercial Space 25,000 SF
8.	DEV2021-00068	1900 S State College Blvd	Office 22,607 SF
9.	DEV2020-00288	1845 S State College Blvd	Multifamily Apartments 257 DU
10.	DEV2021-00131	Tract 17703 Anaheim	Multifamily Apartments 73 DU
11.	DEV2022-00046	1432 E Katella Avenue	Multifamily Apartments 253 DU Commercial Space 17,227 SF
12.	DEV2020-00287	1338 E Katella Avenue	Multifamily Apartments 270 DU Commercial Space 21,615 SF
13.	DEV2021-00058	1970 S Santa Cruz Street	Industrial 5,600 SF
14.	DEV2021-00215	1847 S Mountain View Avenue	Hotel 1,163 Rooms Multifamily Apartments 1,108 DU Retail 32,450 SF
15.	DEV2019-00150	801 E Katella Avenue	Office 28,640 SF

Notes:
- SF = Square-feet
- DU = Dwelling Unit

[8] Source: City of Orange, City of Santa Ana, City of Garden Grove, and City of Anaheim Planning Departments (research in March 2025).

TABLE 6-2

TRIP GENERATION RATES APPLIED TO CUMULATIVE PROJECTS[9]

ITE Land Use Code	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
▪ 110: General Light Industrial (TE/1000 SF)	4.87	88%	12%	0.74	14%	86%	0.65
▪ 215: Single Family Attached Housing (TE/DU)	7.20	31%	69%	0.48	57%	43%	0.57
▪ 220: Multifamily Housing Low Rise (TE/DU)	6.74	24%	76%	0.40	63%	37%	0.51
▪ 223: Affordable Housing Income Limits (TE/DU)	4.81	29%	71%	0.36	59%	41%	0.46
▪ 223: Affordable Housing Senior (TE/DU)	0.90[10]	58%	42%	0.18	61%	39%	0.09
▪ 310: Hotel (TE/Room)	7.99	56%	44%	0.46	51%	49%	0.59
▪ 710: General Office Building (TE/1000 SF)	10.84	88%	12%	1.52	17%	83%	1.44
▪ 822: Strip Retail Plaza less than 40k	54.45	60%	40%	2.36	50%	50%	6.59

[9] Unless otherwise noted, Source: *Trip Generation*, 11th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2021).

[10] Due to unavailable daily trip generation data for ITE Land Use 223: Affordable Housing Senior (Trip Ends Per Dwelling Units), the daily rate was based on the total PM peak hour rate multiplied by 10 resulting in: 0.09 * 10 = 0.90.

TABLE 6-3
CUMULATIVE PROJECTS TRAFFIC GENERATION FORECAST[11]

Cumulative Project Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
1. Brandywine Homes	317	7	14	21	14	11	25
2. Marks Way Orange	45	5	4	9	3	2	5
3. Watermarke Apartments	2,662	38	122	160	128	76	204
4. Habitat for Humanities Washington Ave	43	1	2	3	2	1	3
5. SP-146-2024	496	7	23	30	24	15	39
6. SP-138-2024	232	3	11	14	12	6	18
7. DEV2020-00019	7,608	122	310	432	354	228	582
8. DEV2021-00068	271	33	5	38	6	30	36
9. DEV2020-00288	1,732	25	78	103	83	48	131
10. DEV2021-00131	492	7	22	29	23	14	37
11. DEV2022-00046	2,549	46	92	138	115	82	197
12. DEV2020-00287	2,879	54	100	154	130	93	223
13. DEV2021-00058	27	4	0	4	1	3	4
14. DEV2021-00215	18,350	447	600	1,047	770	609	1,379
15. DEV2019-00150	310	39	5	44	7	34	41
Cumulative Projects Total Trip Generation Potential	**38,013**	**838**	**1,388**	**2,226**	**1,672**	**1,252**	**2,924**

[11] Unless otherwise noted, Source: *Trip Generation*, 11th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2021).

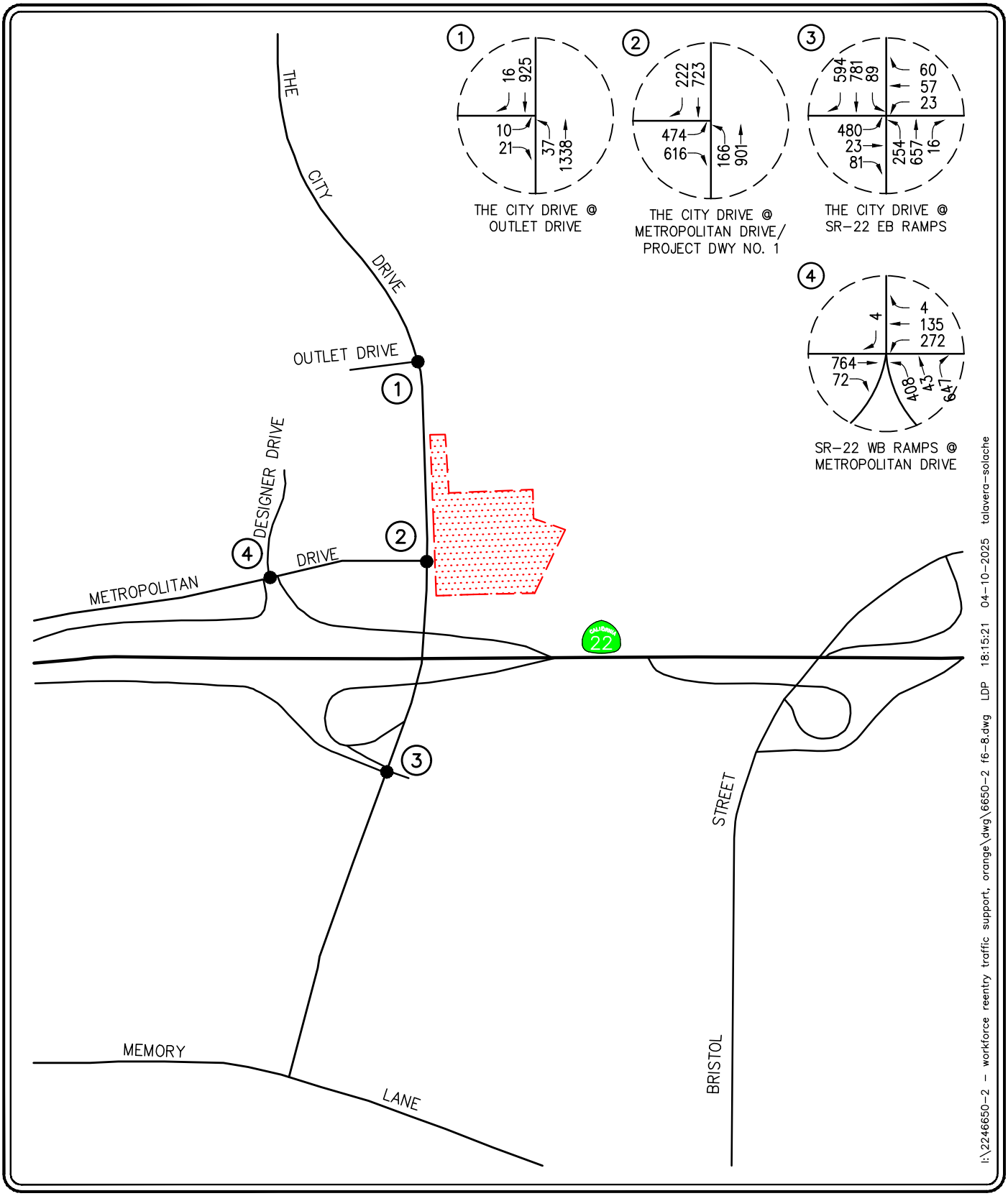
6.4 Year 2050 Buildout Traffic Conditions

Year 2050 traffic volume forecasts for this traffic study were developed via the utilization of the OCTAM 5.1 Year 2050 traffic model provided by OCTA. Specifically, AM peak period and PM peak period link traffic volumes were provided by OCTA for the existing base year (i.e. Year 2019) and for the Year 2050 year. The AM peak period corresponds to a three-hour morning commute period while the PM peak period corresponds to a four-hour afternoon commute period. Using the peak period model runs and the OCTA approved peak hour factors (i.e. AM = 0.3566 and PM = 0.2662), the one-hour peak hour link traffic volumes were determined. These future year 2050 link traffic volumes were post-processed based on the relationship of the base year validation model run output to the base year ground traffic counts resulting in Year 2050 without Project daily traffic volumes for the AM peak hour/PM peak hour turning movements for the key study intersections.

6.5 Year 2050 Traffic Volumes

Figures 6-8 and ***6-9*** present the Year 2050 AM and PM peak hour buildout traffic volumes at the four (4) key study intersections, respectively.

Figures 6-10 and ***6-11*** illustrate the Year 2050 forecast AM and PM peak hour traffic volumes, with the inclusion of the trips generated by the proposed Project, respectively.



KEY

(#) = STUDY INTERSECTION

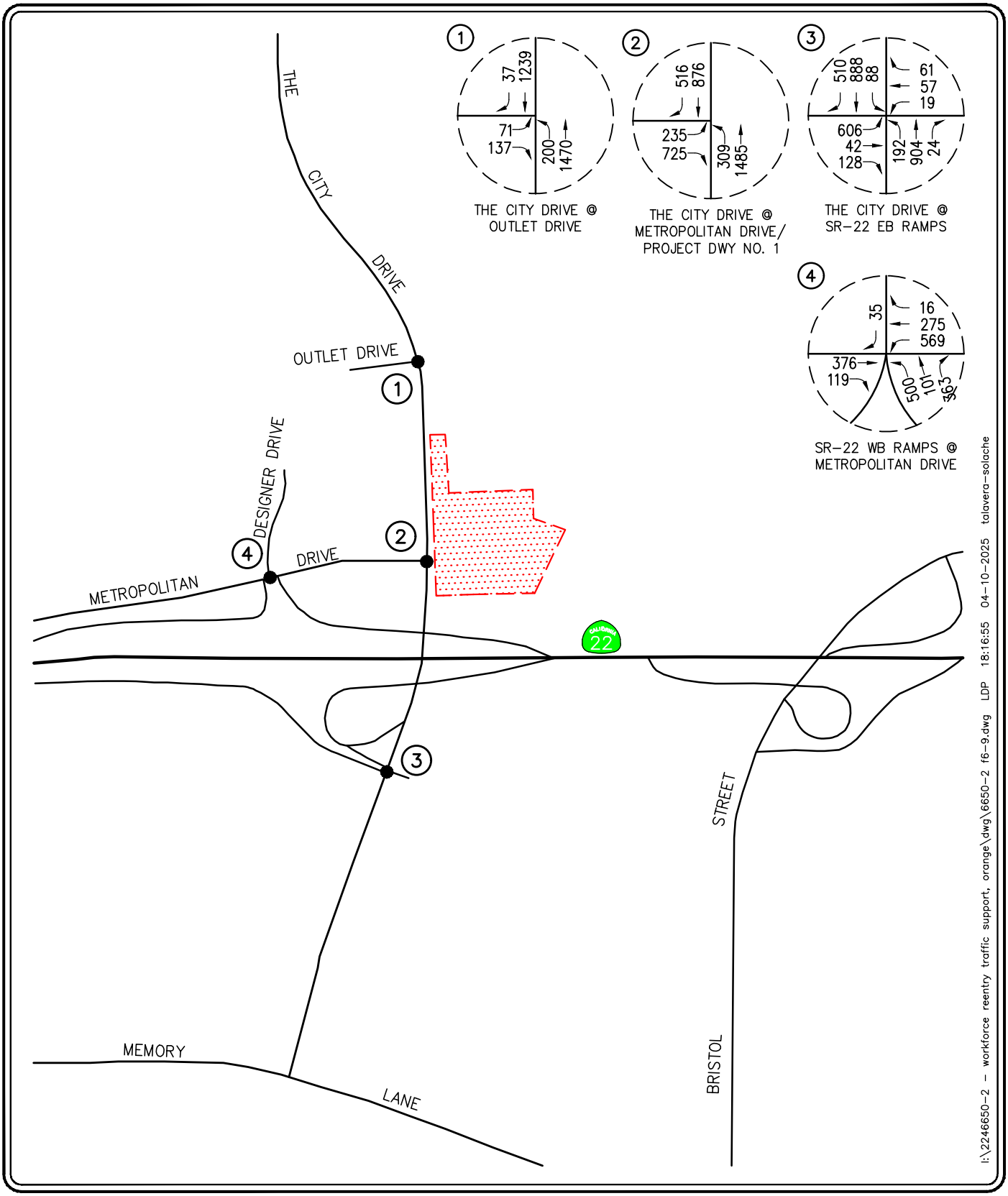
= PROJECT SITE

N NO SCALE

FIGURE 6-8

YEAR 2050 BUILDOUT
AM PEAK HOUR TRAFFIC VOLUMES

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE



KEY

(#) = STUDY INTERSECTION

= PROJECT SITE

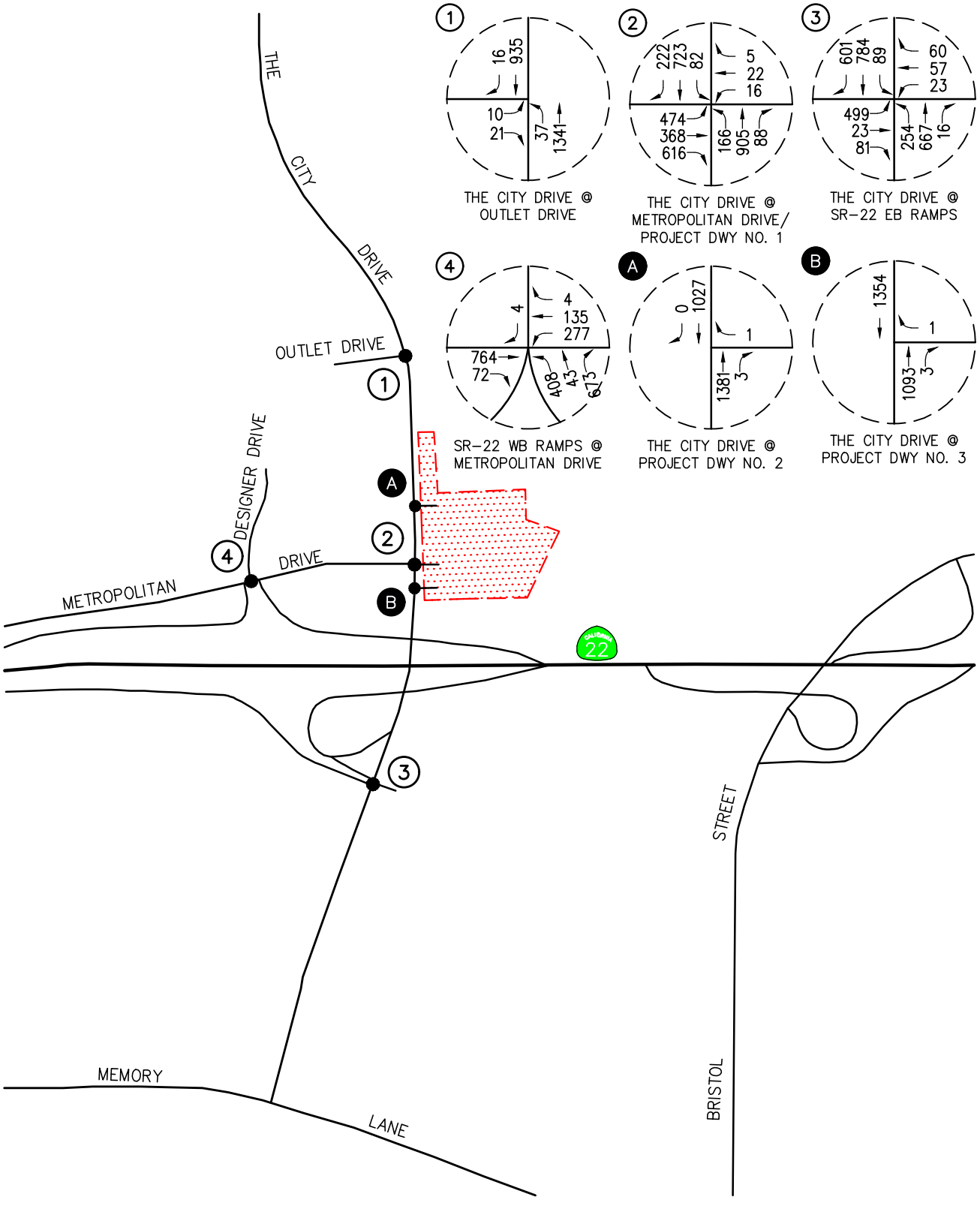
N

NO SCALE

FIGURE 6-9

YEAR 2050 BUILDOUT
PM PEAK HOUR TRAFFIC VOLUMES

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE



KEY

(#) = STUDY INTERSECTION

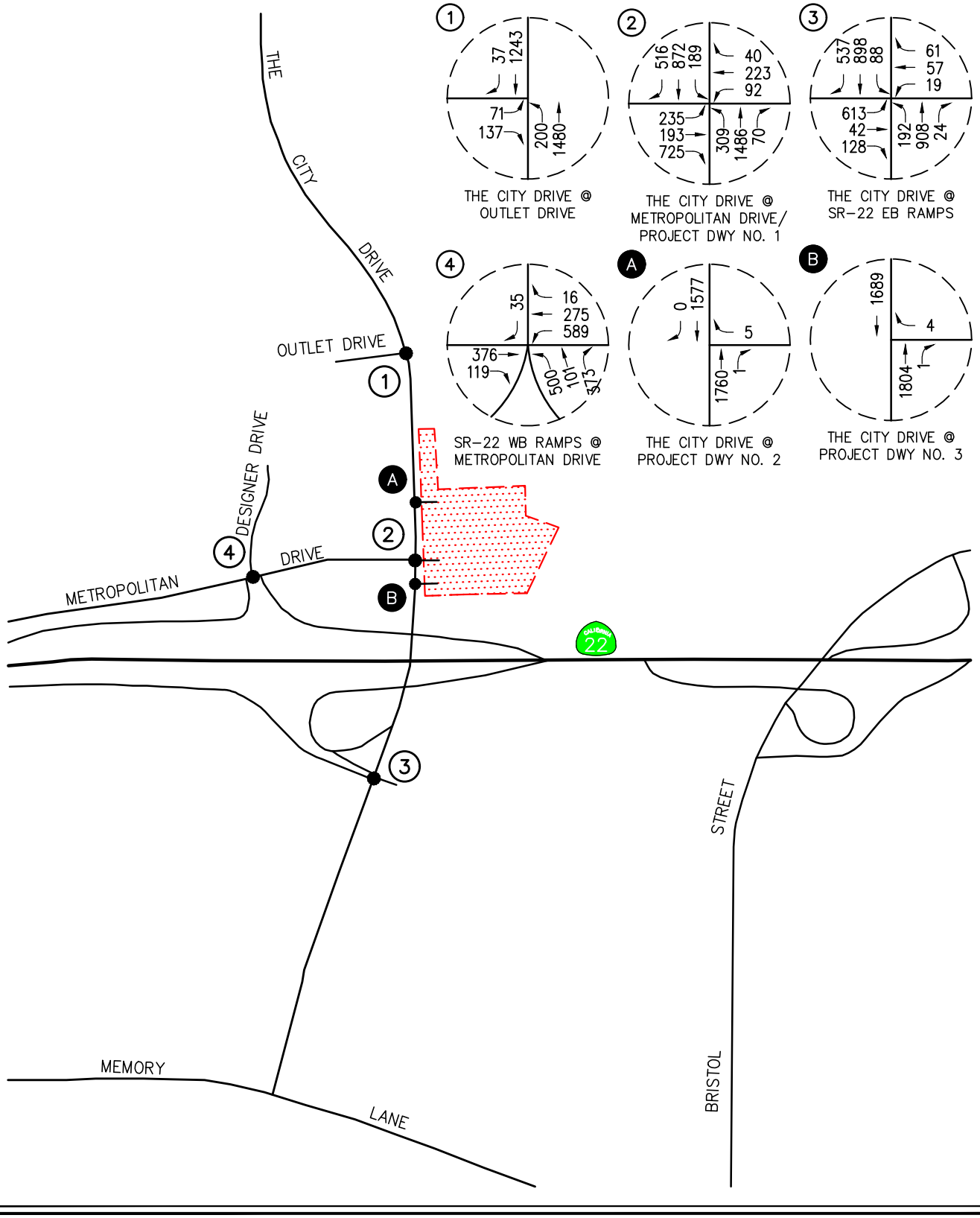
= PROJECT SITE

N NO SCALE

FIGURE 6-10

YEAR 2050 BUILDOUT PLUS PROJECT AM PEAK HOUR TRAFFIC VOLUMES

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE



KEY

(#) = STUDY INTERSECTION

= PROJECT SITE

N NO SCALE

FIGURE 6-11

YEAR 2050 BUILDOUT PLUS PROJECT PM PEAK HOUR TRAFFIC VOLUMES

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE

7.0 TRAFFIC CIRCULATION ANALYSIS METHODOLOGY

The potential circulation effects of the added peak hour project traffic volumes generated by the Project have been evaluated based on the analysis of existing operating conditions at four (4) key study intersections. Operating conditions at the key study intersections were evaluated during the AM and PM peak hours for existing traffic conditions without, then with the proposed Project.

The previously discussed capacity analysis procedures were utilized to investigate the service level characteristics at each study intersection. The significance of the potential circulation effects of the Project at each key intersection was then evaluated using the LOS standards and criteria defined in this report.

7.1 Level of Service Criteria and Thresholds

7.1.1 *City of Orange*

Based on the City of Orange, the need for potential improvements will be assessed based on the following criteria:

Signalized Intersections

- *ICU Methodology:* The addition of Project traffic causes the intersection peak hour level of service to become worse than LOS D (ICU = 0.901 or greater) or further worsens a "without Project" LOS E or F and the ICU increase attributable to the project is 0.010 or greater
- *HCM Methodology:* The Project is considered to have an impact if project-related traffic causes an intersection at LOS D or better to degrade to LOS E or F.

Unsignalized Intersections

- The total intersection delay value under "with Project" conditions is 35.0 sec/veh or greater (LOS E or F) and the total intersection delay increase attributable to the Project is 2.0 sec/veh or greater.

7.2 Traffic Analysis Scenarios

Per the requirements of the City of Orange, the following scenarios are those for which volume/capacity calculations have been performed at the four (4) key study intersections for existing plus project, near-term (Year 2028), and long-term buildout (Year 2050) traffic conditions:

A. Existing Traffic Conditions;
B. Project Opening Year (Near-Term Background) Traffic Conditions (Existing plus Ambient Growth plus Related Projects);
C. Project Opening Year Plus Project Traffic Conditions;
D. Scenario (C) with Recommended Improvements, if necessary;
E. Long-Term (2050) Traffic Conditions
F. Long-Term (2050) Traffic Conditions Plus Project; and
G. Scenario (F) with Mitigation, if necessary.

8.0 PEAK HOUR INTERSECTION CAPACITY ANALYSIS

8.1 Year 2028 Cumulative Traffic Analysis

Table 8-1 summarizes the peak hour level of service results at the four (4) key study intersections for the Year 2028 horizon year. The first column (1) of ICU/LOS values in *Table 8-1* presents a summary of existing AM and PM peak hour traffic conditions (which were also presented in *Table 3-3*). The second column (2) lists forecast 2028 cumulative conditions (existing traffic plus ambient growth traffic plus cumulative project traffic) based on existing intersection geometry, but without any traffic generated from the proposed Project. The third column (3) presents future forecast traffic conditions with the addition of traffic generated by the proposed Project. The fourth column (4) shows the increase in ICU value due to the added peak hour project trips and indicates whether the traffic associated with the Project will exceed the LOS standards and criteria defined in this report. The fifth column (5) presents the resultant level of service with the inclusion of recommended traffic improvements, where needed, to achieve an acceptable level of service.

8.1.1 *Year 2028 Cumulative Traffic Conditions*

Review of column (2) of *Table 8-2* indicates that the four (4) key study intersections are forecast to operate at an acceptable level of service during the AM and PM peak hours under Year 2028 Cumulative traffic conditions.

8.1.2 *Year 2028 Cumulative Plus Project Traffic Conditions*

Review of columns (3) and (4) of *Table 8-2* indicates that the four (4) key study intersections are forecast to continue operating at an acceptable level of service during the AM and PM peak hours under Year 2028 Cumulative traffic conditions with the addition of project traffic. As such, improvements at the study intersections are not required.

Appendix C presents the presents the ICU/LOS calculation worksheets for the four (4) key study intersections.

TABLE 8-1
YEAR 2028 CUMULATIVE PEAK HOUR INTERSECTION CAPACITY ANALYSIS

Key Intersections	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Year 2028 Cumulative Traffic Conditions		(3) Year 2028 Cumulative Plus Project Traffic Conditions		(4) Exceed LOS Criteria		(5) Year 2028 Cumulative Plus Project Traffic Conditions with Improvements	
			ICU	LOS	ICU	LOS	ICU	LOS	Increase	Yes/No	ICU	LOS
1. The City Drive at Outlet Drive	D	AM	0.209	A	0.241	A	0.243	A	0.002	No	--	--
		PM	0.241	A	0.357	A	0.358	A	0.001	No	--	--
2. The City Drive at Metropolitan Drive	D	AM	0.335	A	0.364	A	0.381	A	0.017	No	--	--
		PM	0.364	A	0.426	A	0.457	A	0.031	No	--	--
3. The City Drive at SR-22 EB Ramps	D	AM	0.493	A	0.597	A	0.603	B	0.006	No	--	--
		PM	0.597	A	0.596	A	0.601	B	0.005	No	--	--
4. SR-22 WB Ramps at Metropolitan Drive	D	AM	0.339	A	0.377	A	0.378	A	0.001	No	--	--
		PM	0.377	A	0.490	A	0.496	A	0.006	No	--	--

Notes:

- **BOLD ICU/LOS** indicates unacceptable service level

8.2 Year 2050 Buildout Traffic Analysis

Table 8-2 summarizes the peak hour level of service results at the four (4) key study intersections for the Year 2050 buildout year. The first column (1) of ICU/LOS values in *Table 8-2* presents a summary of existing AM and PM peak hour traffic conditions (which were also presented in *Table 3-3*). The second column (2) lists forecast 2050 buildout conditions based on existing intersection geometry, but without any traffic generated from the proposed Project. The third column (3) presents future forecast traffic conditions with the addition of traffic generated by the proposed Project. The fourth column (4) shows the increase in ICU value due to the added peak hour project trips and indicates whether the traffic associated with the Project will exceed the LOS standards and criteria defined in this report. The fifth column (5) presents the resultant level of service with the inclusion of recommended traffic improvements, where needed, to achieve an acceptable level of service.

8.2.1 *Year 2050 Buildout Traffic Conditions*

Review of column (2) of *Table 8-2* indicates that the four (4) key study intersections are forecast to operate at an acceptable level of service during the AM and PM peak hours under Year 2050 Buildout traffic conditions.

8.2.2 *Year 2050 Buildout Plus Project Traffic Conditions*

Review of columns (3) and (4) of *Table 8-2* indicates that the four (4) key study intersections are forecast to continue operating at an acceptable level of service during the AM and PM peak hours under Year 2050 Buildout traffic conditions with the addition of project traffic. As such, improvements at the study intersections are not required.

Appendix C presents the presents the ICU/LOS calculation worksheets for the four (4) key study intersections.

TABLE 8-2

YEAR 2050 BUILDOUT PEAK HOUR INTERSECTION CAPACITY ANALYSIS

Key Intersections	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Year 2050 Buildout Traffic Conditions		(3) Year 2050 Buildout Plus Project Traffic Conditions		(4) Exceed LOS Criteria		(5) Year 2050 Buildout Plus Project Traffic Conditions with Improvements	
			ICU	LOS	ICU	LOS	ICU	LOS	Increase	Yes/No	ICU	LOS
1. The City Drive at Outlet Drive	D	AM	0.209	A	0.250	A	0.250	A	0.000	No	--	--
		PM	0.241	A	0.373	A	0.373	A	0.000	No	--	--
2. The City Drive at Metropolitan Drive	D	AM	0.335	A	0.380	A	0.519	A	0.139	No	--	--
		PM	0.364	A	0.464	A	0.690	B	0.226	No	--	--
3. The City Drive at SR-22 EB Ramps	D	AM	0.493	A	0.624	B	0.631	B	0.007	No	--	--
		PM	0.597	A	0.659	B	0.664	B	0.005	No	--	--
4. SR-22 WB Ramps at Metropolitan Drive	D	AM	0.339	A	0.490	A	0.491	A	0.001	No	--	--
		PM	0.377	A	0.525	A	0.531	A	0.006	No	--	--

Notes:

- **BOLD ICU/LOS** indicates unacceptable service level

9.0 SITE ACCESS AND INTERNAL CIRCULATION EVALUATION

9.1 Site Access

Access to the Project site is proposed via a full access driveway that would be integrated into the existing signal at The City Drive and Metropolitan Drive. Secondary access is proposed via right-turn only driveways located at the northern and southern portion of the site. As described previously, *Figure 2-3* presents the conceptual design at the intersection of The City Drive and Metropolitan Drive, with recommended access modifications to the intersection and the Project site plan to allow for operation of an 8-phase traffic signal. As a Project design feature a southbound left-turn lane is proposed along The City Drive at Metropolitan Drive. Additionally, modifications along Metropolitan Drive to the median are proposed to allow for a dual left-turn lane, single through lane and a dual right-turn lane. It should also be noted that with the construction of the proposed signal modification, the egress movement would consist of a left-turn lane and a shared through/right turn lane.

Table 9-1 summarizes the intersection operations at the proposed project driveways under near-term (Year 2028) cumulative traffic conditions and long-term (Year 2050) buildout traffic conditions at completion and full occupancy of the proposed Project. The operations analysis for the project driveways are based on the *Highway Capacity Manual 7th Edition* (HCM 7) methodology for unsignalized intersections.

Review of *Table 9-1* indicates that the project driveways are forecast to operate at acceptable LOS C or better during the AM and PM peak hours for near-term (Year 2028) cumulative traffic conditions and long-term (Year 2050) buildout traffic conditions. As such, Project access will be adequate with the installation of the signal modification at The City Drive at Metropolitan Drive/Project Driveway No. 1.

Appendix D presents the Year 2028 Cumulative Plus Project and Year 2050 Buildout Plus Project level of service calculation worksheets for the three (3) proposed Project driveways.

9.2 Project Driveway Queueing Analysis

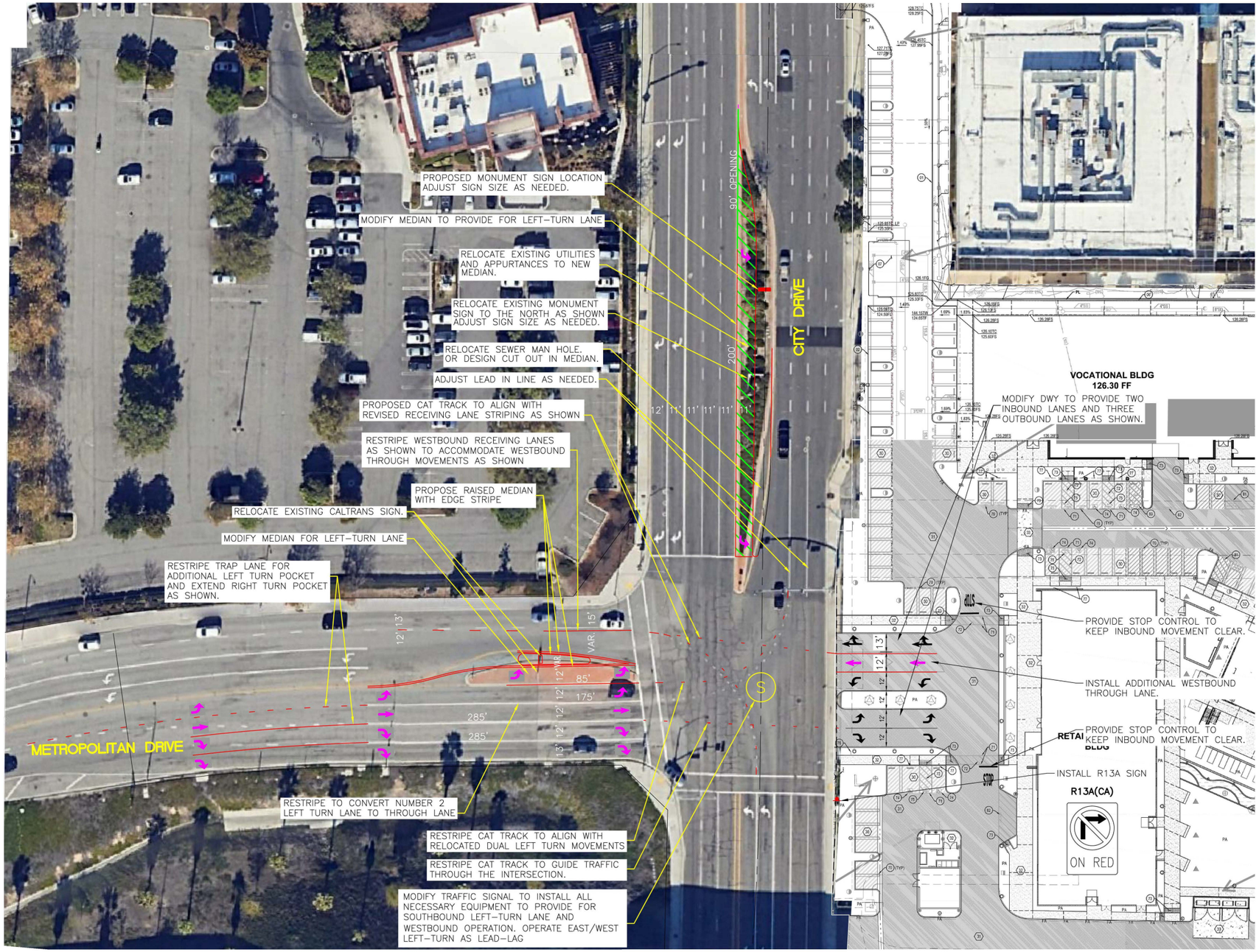
A queuing evaluation was prepared for the Project driveways to determine the required stacking/storage lengths for all existing and/or planned left-turn and right-turn lanes at the three (3) proposed Project driveways. Queues were also evaluated at the project driveways to determine internal stacking.

The queuing assessment was conducted utilizing the 95th percentile delay methodology. The 95th percentile queue represents the back of vehicle queue with 95th percentile traffic volumes. For unsignalized locations, the 95th percentile queue length (feet) in the peak hour was also used to determine the required storage length.

Table 9-2 summarizes the queueing results at the Project driveways for Year 2050 Buildout Plus Project. Review of *Table 9-2* indicates that the existing and/or proposed storage is adequate to accommodate the anticipated queues with the exception of the westbound through/right-turn movement at Intersection 2: The City Drive at Metropolitan Drive/Project Driveway No. 1.

A potential improvement to improve the outbound queue at The City Drive at Metropolitan Drive/Project Driveway No. 1 is to stripe for an additional through lane for the westbound movement. ***Figure 9-1*** presents modification to allow for an additional outbound lane. This improvement would result in an improved queue of 154 feet. Although the queue would continue to exceed the proposed striped length of the additional through lane the spillover queue can be accommodated on site.

Appendix E contains the queueing worksheets for the proposed Project driveways.



SOURCE: LLG

NO SCALE

FIGURE 9-1

RECOMMENDED IMPROVEMENTS TO CONCEPTUAL INTERSECTION DESIGN

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE

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TABLE 9-1

PROJECT DRIVEWAY PEAK HOUR LEVELS OF SERVICE SUMMARY

Project Driveway	Time Period	Intersection Control	(1) Year 2028 Cumulative Plus Project Traffic Conditions		(2) Year 2050 Buildout Plus Project Traffic Conditions	
			ICU/HCM	LOS	ICU/HCM	LOS
2. The City Drive at Metropolitan Drive/Project Driveway No. 1	AM	8Ø Traffic	0.381	A	0.519	A
	PM	Signal	0.457	A	0.690	B
A. The City Drive at Project Driveway No. 2	AM	One–Way	15.3 s/v	C	15.9 s/v	C
	PM	Stop	18.5 s/v	C	19.8 s/v	C
B. The City Drive at Project Driveway No. 3	AM	One–Way	12.9 s/v	B	13.8 s/v	B
	PM	Stop	17.6 s/v	C	20.2 s/v	C

Notes:

- s/v = seconds per vehicle (delay)
- **BOLD ICU/HCM/LOS** indicates unacceptable service level

TABLE 9-2
PROJECT DRIVEWAY PEAK HOUR QUEUING ANALYSIS[12]

Key Intersections	Storage Provided (feet)	(2) Year 2050 Buildout Plus Project Traffic Conditions			
		AM Peak Hour		PM Peak Hour	
		95th Percentile Queue/Min. Storage Required (feet)	Adequate Storage (Yes/No)	95th Percentile Queue/Min. Storage Required (feet)	Adequate Storage (Yes/No)
2. The City Drive at Metropolitan Drive/Project Driveway No. 1					
Northbound Left-Turn	255[13]	123	Yes	329	Yes[14]
Southbound Left-Turn	200	112	Yes	222	Yes[15]
Southbound Right-Turn	630[13]	72	Yes	110	Yes
Eastbound Left-Turn	285[13]	333[16]	Yes	220	Yes
Eastbound Through	285	408[17]	Yes	204	Yes
Eastbound Right-Turn	285[13]	309	Yes[15]	220	Yes
Westbound Left-Turn	70	40	Yes	125	Yes[18,19]
Westbound Through/Right-Turn	70	59	Yes	**443[20]**	**No[18]**
A. The City Drive at Project Driveway No. 2					
Westbound Right-Turn	85	25	Yes	25	Yes
B. The City Drive at Project Driveway No. 3					
Westbound Right-Turn	30	25	Yes	39	Yes[19]

12 Queues are based on HCM 95th Percentile methodology.

13 Movement consists of dual turn lanes.

14 The provide storage length is based on an average of the two northbound left-turn lanes lengths however this queue can be accommodated within the longer left-turn lane which is 375'.

15 Spillover queue can be accommodated within the transition area of the turn pocket.

16 The provide storage length is based on an average of the two eastbound left-turn lanes lengths however this queue can be accommodated within the trap left-turn lane which is 490'.

17 Spillover queue can be accommodated within the transition area of the striped through lane.

18 HCM 95th percentile shows a more realistic queue for the outbound movement, therefore that has been reported.

19 Although the queue exceeds the striped storage length, the additional queue length can be accommodated on site.

20 With an additional outbound through lane as shown in Figure 9-1 the resulting queue would be 154 feet.

9.3 Internal Circulation Evaluation

The City Drive at Metropolitan Drive/Project Driveway No. 1, The City Drive at Project Driveway No. 2, and The City Drive at Project Driveway No. 3 will provide access to the subject property for various types of trucks and passenger vehicles. On-site circulation was evaluated for a fire truck which was performed using the *Turning Vehicle Templates*, developed by Jack E. Leisch & Associates and *AutoTURN for AutoCAD* computer software that simulates turning maneuvers for various types of vehicles.

Figures 9-2 and ***9-3*** illustrates the turning movements required of a fire truck and trash truck, respectively, as it accesses and circulates through the site. Review of *Figures 9-2* and *9-3* show that access to and from the site via a fire truck and trash truck is considered adequate. It should be noted that *Figures 9-2A and B* shows access for both a small and large fire truck.

9.4 Sight Distance Evaluation

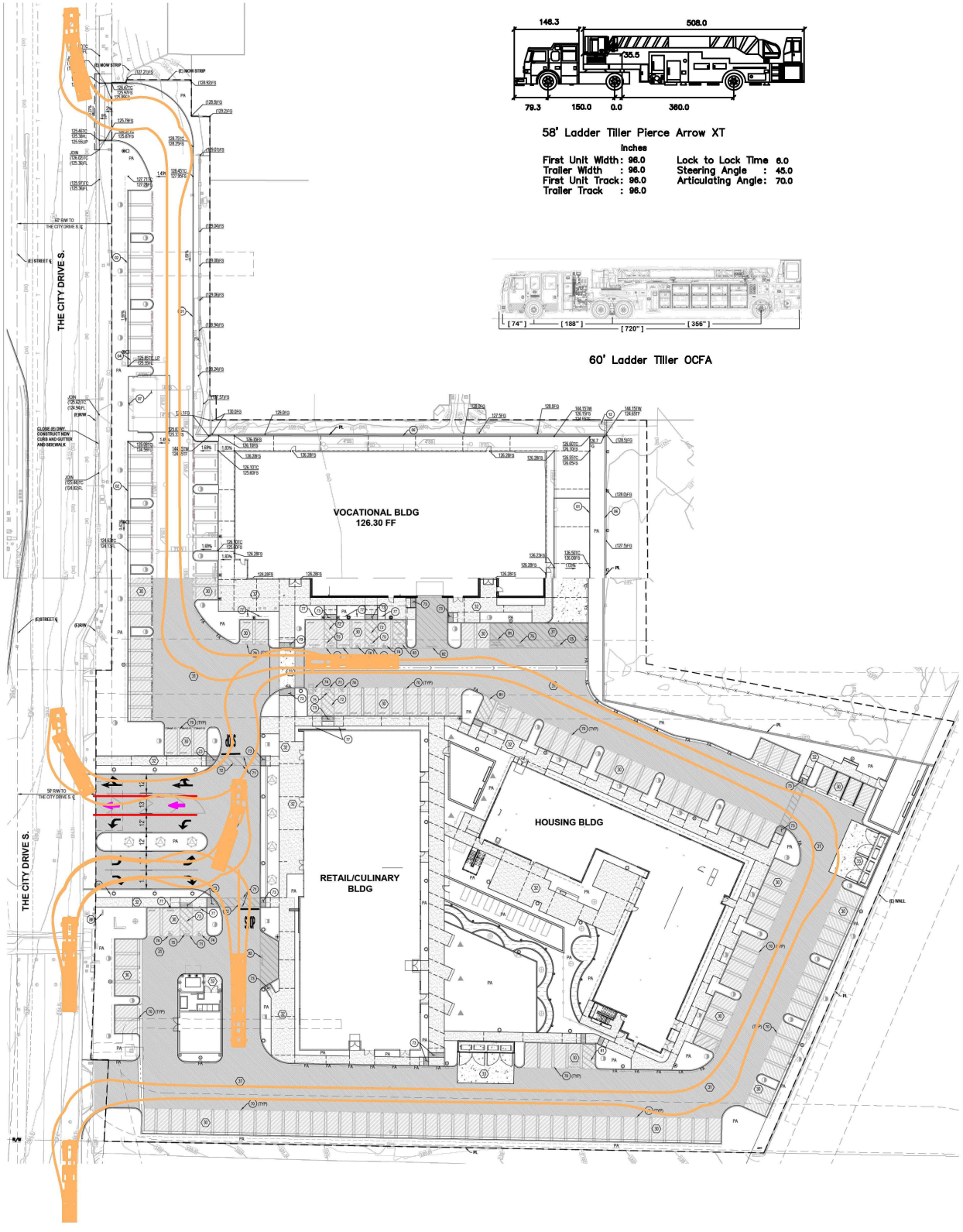
At intersections and/or Project driveways, a substantially clear line of sight should be maintained between the driver of a vehicle waiting at the crossroad and the driver of an approaching vehicle. Adequate time must be provided for the waiting vehicle to either cross all lanes of through traffic, cross the near lanes and turn left, or turn right, without requiring through traffic to radically alter their speed. A sight distance evaluation has been performed for the three (3) Project driveways.

The Sight Distance Evaluation prepared for the project driveways are based on the criteria and procedures set forth by the California Department of Transportation (Caltrans) in the State's *Highway Design Manual (HDM)*. Corner sight distance was utilized for the evaluation.

Corner sight distance is defined in the Caltrans HDM to be the distance required by the driver of a vehicle, traveling at a given speed, to maneuver their vehicle and avoid an object without radically altering their speed. Line of sight for corner sight distance is to be determined from a 3½ foot height at the location of the driver of a vehicle on a minor road to a 4¼ foot object height in the center of the approaching lane of the major road. It should be noted that although corner sight is typically desired, stopping sight is more appropriate to use when designing a private driveway and slower speed arterials.

Based on the criteria set forth in the Caltrans HDM and a posted speed limit of 35 mph on The City Drive, the corner sight distance required at Project Driveway No. 1, Project Driveway No. 2, and Project Driveway No. 3 for a right-turning vehicle is 334 feet for vehicles approaching from the left.

Figures 9-4 through ***9-6*** present the results of the sight distance evaluation for the Project driveways based on the application of the corner sight distance criteria. The figures illustrate the limited use areas. As shown, the sight lines at the proposed Project driveways are expected to be adequate as long as obstructions within the sight triangles are minimized.



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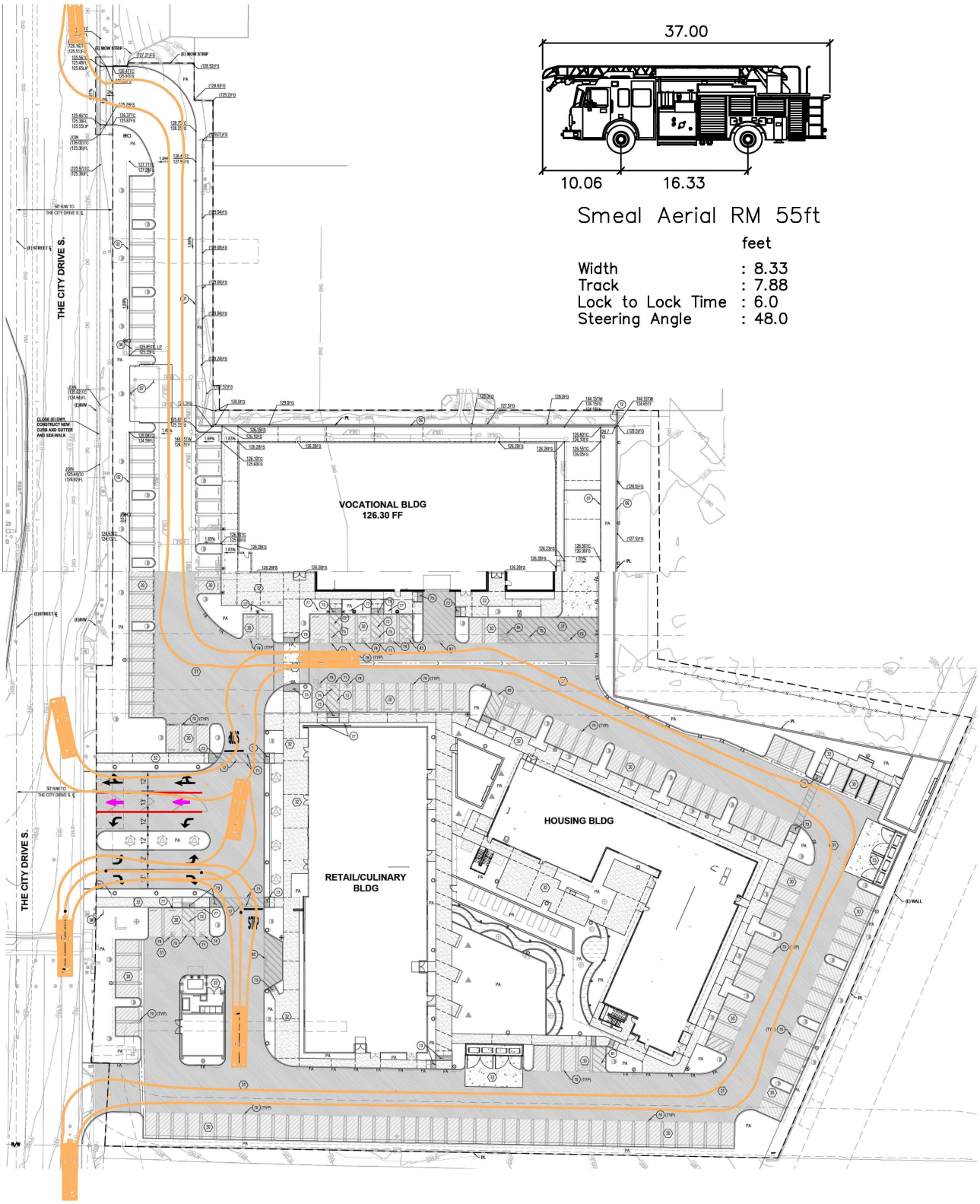
SOURCE: LPA

FIGURE 9-2A

NO SCALE

FIRE TRUCK TURNING ANALYSIS

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE



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SOURCE: LPA

FIGURE 9-2B

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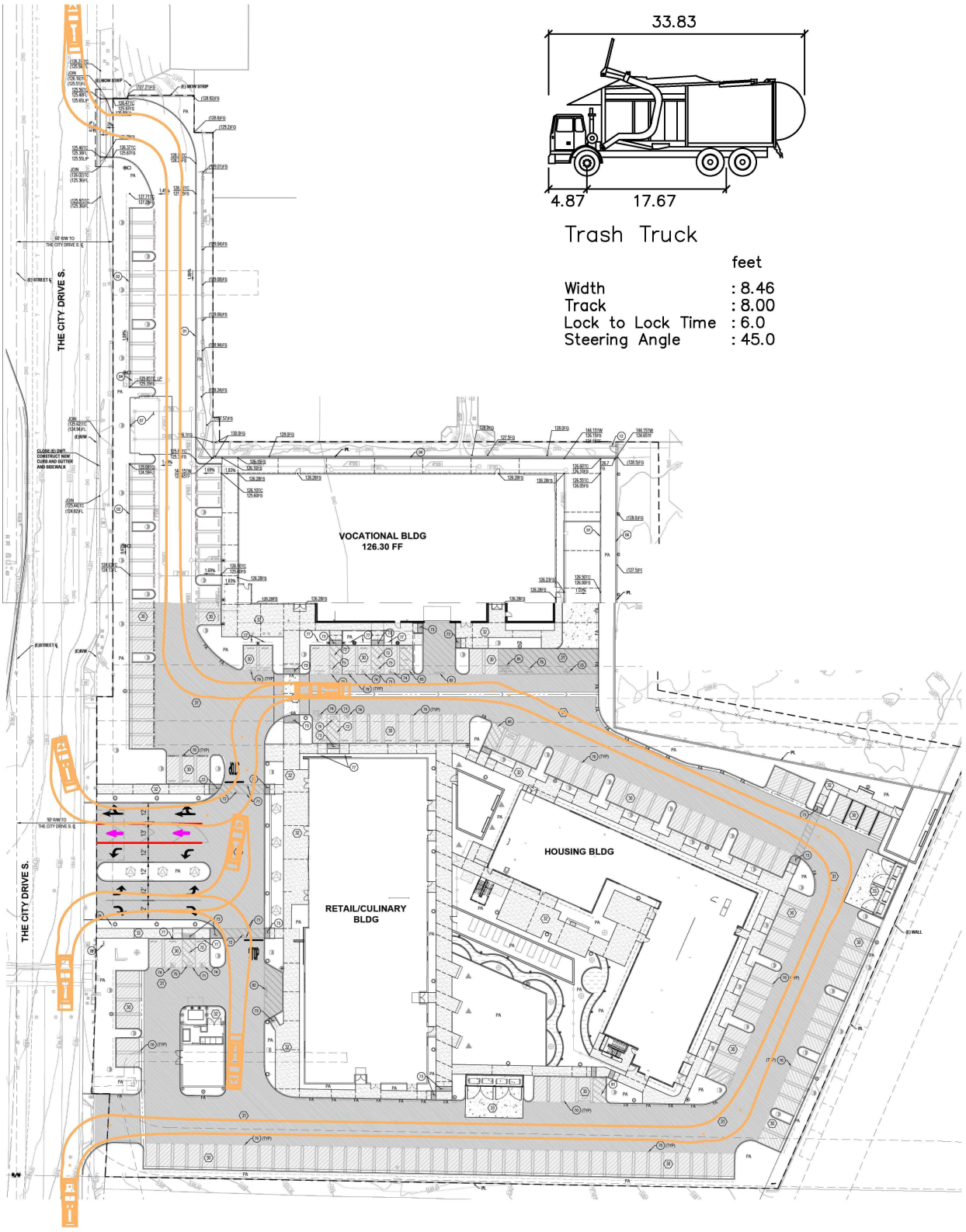
N NO SCALE

FIRE TRUCK TURNING ANALYSIS

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE



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SOURCE: LPA

FIGURE 9-3

NO SCALE

TRASH TRUCK TURNING ANALYSIS

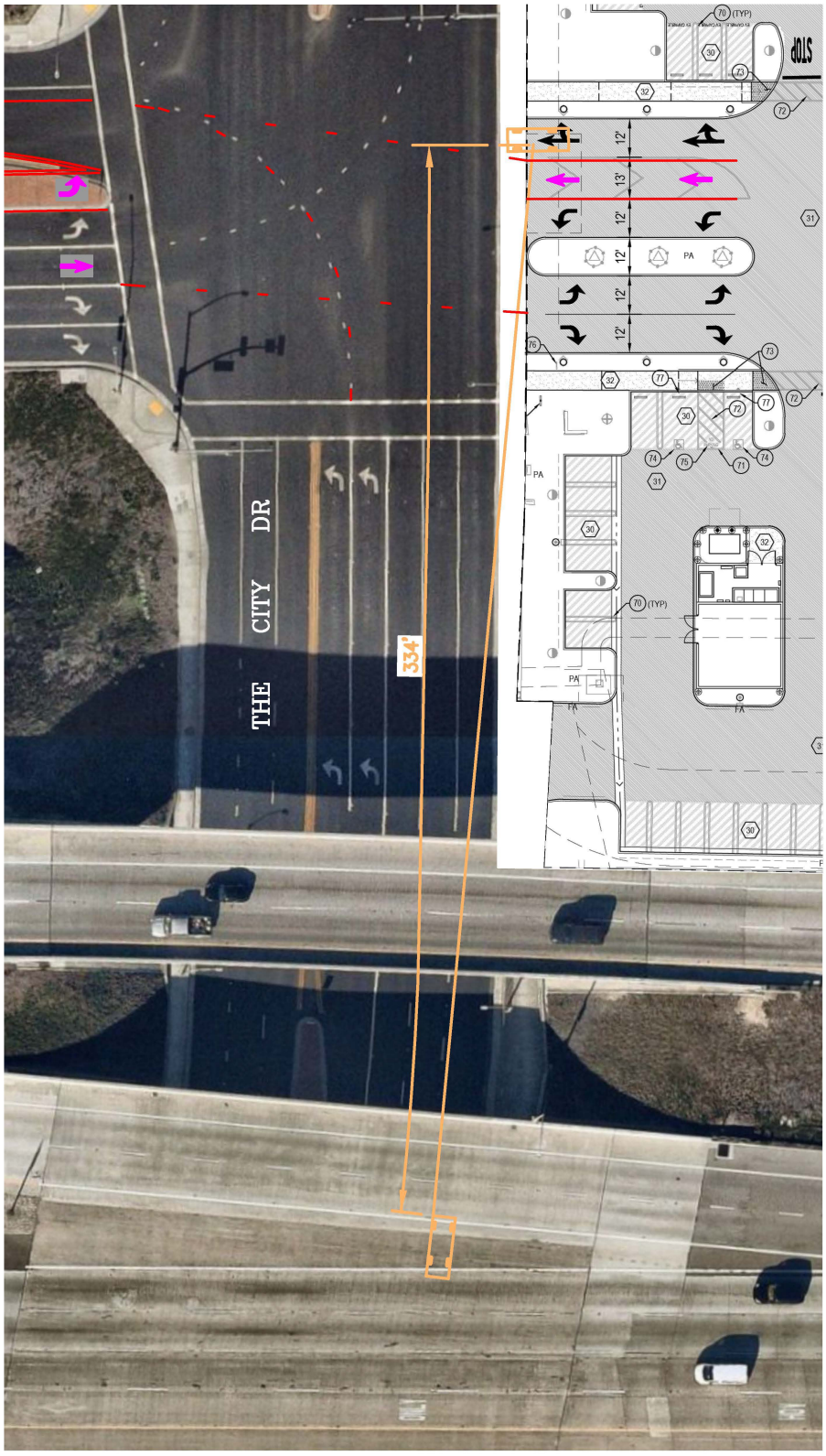
WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE

SIGHT DISTANCE

DESIGN SPEED LIMIT:	35 MPH
REQUIRED CORNER SIGHT DISTANCE LOOKING LEFT:	334 FEET

LEGEND

LIMITED USE AREA: TO ENSURE ADEQUATE SIGHT DISTANCE, HARDSCAPE AND/OR LANDSCAPE SHALL NOT BE HIGHER THAN 30 INCHES. NO FENCES OR WALLS IN LIMITED USE AREA. THE MAXIMUM TREE SIZE AND MINIMUM TREE SPACING IN THE LIMITED USE AREA FOR ALL MAJOR STREETS SHALL BE 24-INCHES CALIPER TREE TRUNKS (MAXIMUM SIZE AT MATURITY) SPACED AT 60-FEET ON CENTER.



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SOURCE: LPA

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N NO SCALE

FIGURE 9-4

PROJECT DWY NO. 1
CORNER SIGHT DISTANCE ANALYSIS

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE

SIGHT DISTANCE

DESIGN SPEED LIMIT:	35 MPH
REQUIRED CORNER SIGHT DISTANCE LOOKING LEFT:	334 FEET

LEGEND

LIMITED USE AREA: TO ENSURE ADEQUATE SIGHT DISTANCE, HARDSCAPE AND/OR LANDSCAPE SHALL NOT BE HIGHER THAN 30 INCHES. NO FENCES OR WALLS IN LIMITED USE AREA. THE MAXIMUM TREE SIZE AND MINIMUM TREE SPACING IN THE LIMITED USE AREA FOR ALL MAJOR STREETS SHALL BE 24-INCHES CALIPER TREE TRUNKS (MAXIMUM SIZE AT MATURITY) SPACED AT 60-FEET ON CENTER.

SOURCE: LPA

NO SCALE

FIGURE 9-5

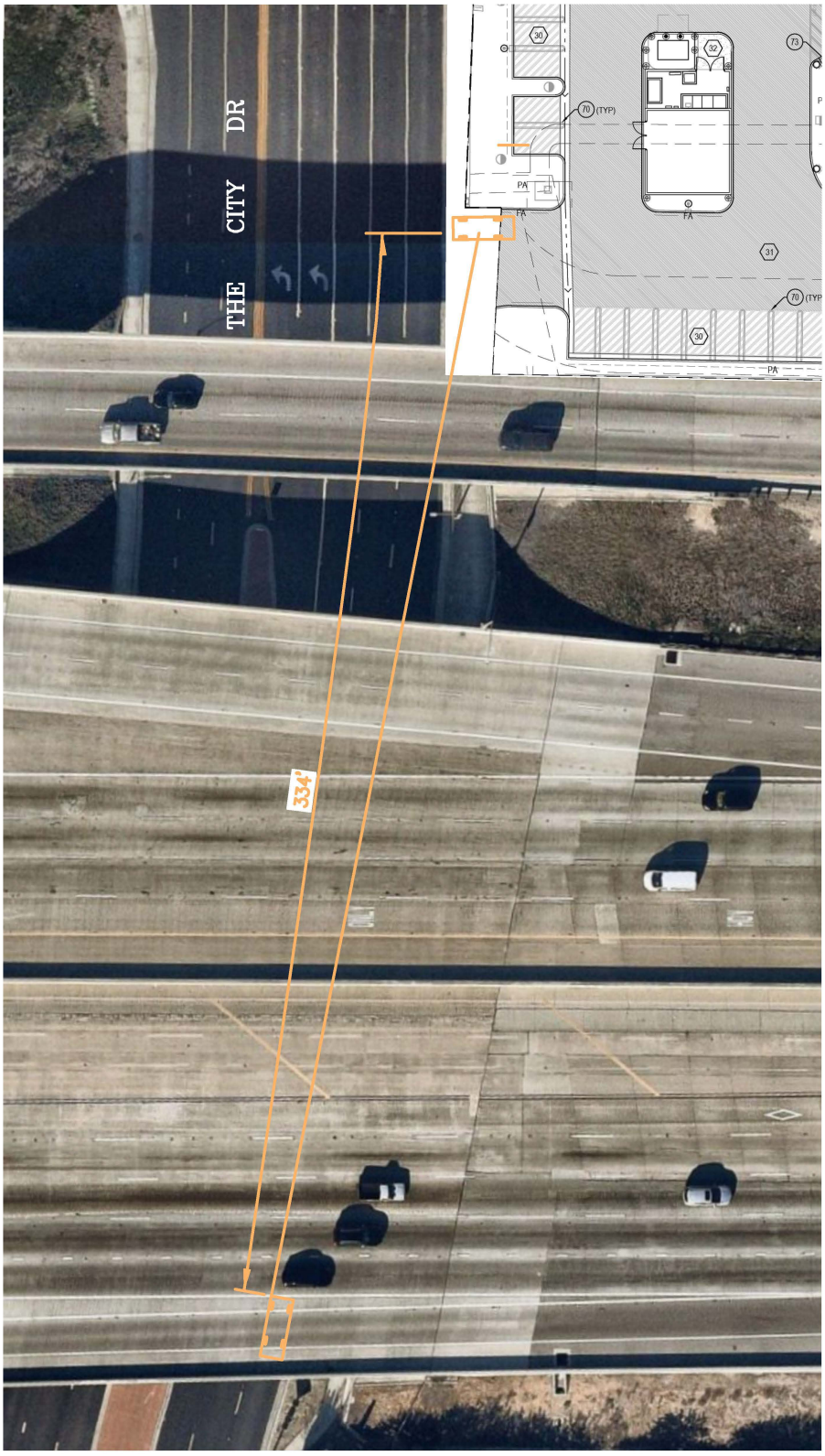
PROJECT DWY NO. 2
CORNER SIGHT DISTANCE ANALYSIS
WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE

SIGHT DISTANCE

DESIGN SPEED LIMIT:	35 MPH
REQUIRED CORNER SIGHT DISTANCE LOOKING LEFT:	334 FEET

LEGEND

LIMITED USE AREA: TO ENSURE ADEQUATE SIGHT DISTANCE, HARDSCAPE AND/OR LANDSCAPE SHALL NOT BE HIGHER THAN 30 INCHES. NO FENCES OR WALLS IN LIMITED USE AREA. THE MAXIMUM TREE SIZE AND MINIMUM TREE SPACING IN THE LIMITED USE AREA FOR ALL MAJOR STREETS SHALL BE 24-INCHES CALIPER TREE TRUNKS (MAXIMUM SIZE AT MATURITY) SPACED AT 60-FEET ON CENTER.



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SOURCE: LPA

NO SCALE

FIGURE 9-6

PROJECT DWY NO. 3
CORNER SIGHT DISTANCE ANALYSIS

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE

10.0 SYNCHRO ASSESSMENT

As shown in *Section 8.0*, the key study intersections operate at acceptable service levels under ICU analysis, however, Synchro operational analysis has been completed to validate the proposed signal modifications inclusive of the proposed Project. As such, operational level of service analysis has been completed along with a queuing analysis and a progression assessment of City Drive.

10.1 Intersection Level of Service Analysis

Level of Service (LOS) calculations for the four (4) key study intersections have been prepared for Year 2050 Buildout peak hour operating conditions based on the *Highway Capacity Manual* operations method of analysis. This analysis includes the following study intersections:

Key Study Intersections

1. The City Drive at Outlet Drive (Caltrans)
2. The City Drive at Metropolitan Drive/Project Driveway No. 1 (Orange)
3. The City Drive at SR-22 EB Ramps (Caltrans/Orange)
4. SR-22 WB Ramps at Metropolitan Drive (Caltrans/Orange)

10.1.1 *Year 2050 Buildout Plus Project Traffic Conditions*

Table 10-1 summarizes the Level of service results at the four (4) key study intersections for Year 2050 Buildout Plus Project traffic conditions. Review of *Table 10-1* indicates that the four (4) key study intersections are forecast to operate at an acceptable LOS D or better during the AM and PM peak hours. As such, improvements at the study intersections are not required.

Appendix F presents the presents the HCM/LOS calculation worksheets for the four (4) key study intersections.

TABLE 10-1

YEAR 2050 BUILDOUT PLUS PROJECT PEAK HOUR INTERSECTION CAPACITY ANALYSIS

Key Intersections		Minimum Acceptable LOS	Time Period	(1) Year 2050 Buildout Plus Project Traffic Conditions	
				HCM	LOS
1.	The City Drive at Outlet Drive	D	AM	4.9 s/v	A
			PM	9.9 s/v	A
2.	The City Drive at Metropolitan Drive/Project Driveway No. 1	D	AM	30.0 s/v	C
			PM	42.7 s/v	D
3.	The City Drive at SR-22 EB Ramps	D	AM	38.7 s/v	D
			PM	32.5 s/v	C
4.	SR-22 WB Ramps at Metropolitan Drive	D	AM	26.8 s/v	C
			PM	22.7 s/v	C

Notes:

- s/v = seconds per vehicle (delay)
- **BOLD HCM/LOS** indicates unacceptable service level

10.2 Intersection Vehicle Queueing Analysis

A vehicle queuing analysis was conducted along The City Drive, between Outlet Drive and the SR-22 EB Ramps, as well as the westbound movements along Metropolitan Drive, to validate the signal spacing with the installation of the proposed traffic signal modifications at Project Driveway No. 1. The queuing analysis was prepared for each intersection lane group and was based on Synchro 12.0 SimTraffic 95th percentile delay methodology.

The lane queuing analysis was based on the forecast weekday AM and PM intersection turning movement volumes utilized in the level of service analyses. The existing lane configurations and storage lengths were determined based on a review of aerial maps of the subject intersections obtained from Google Earth as well as proposed plans for the traffic signal modifications at Project Driveway No. 1 shown in *Figure 2-3*. An average vehicle length of 25 feet is assumed for the purposes of this analysis.

10.2.1 *Year 2050 Buildout Plus Project Traffic Analysis*

Table 10-2 presents the Synchro queuing results for Year 2050 Buildout Plus Project traffic conditions with the proposed traffic signal modifications at Project Driveway No. 1. Review of *Table 10-2* indicates that the existing/proposed storage is adequate to accommodate the anticipated queues under Year 2050 Buildout traffic conditions with the addition of project with the exception of the westbound through/right-turn movement at Intersection 2: The City Drive at Metropolitan Drive/Project Driveway No. 1. Therefore, the proposed signal modification at The City Drive and Metropolitan Drive would continue to adequately support the community.

A potential improvement to improve the outbound queue at The City Drive at Metropolitan Drive/Project Driveway No. 1 is to stripe for an additional through lane. This improvement would result in an improved queue of 154 feet. Although the queue would continue to exceed the proposed striped length of the additional through lane the spillover queue can be accommodated on site.

Appendix H contains the *Synchro 12.0* queuing reports along The City Drive and Metropolitan Drive for Year 2050 Buildout Plus Project traffic conditions.

TABLE 10-2

YEAR 2050 BUILDOUT PLUS PROJECT PEAK HOUR INTERSECTION QUEUING ANALYSIS[21]

Key Intersection	Storage Provided (feet)	(1) Year 2050 Buildout Plus Project Traffic Conditions			
		AM Peak Hour		PM Peak Hour	
		95th Percentile Queue/Min. Storage Required (feet)	Adequate Storage (Yes/No)	95th Percentile Queue/ Min. Storage Required (feet)	Adequate Storage (Yes/No)
1. The City Drive at Outlet Drive					
Northbound Left-Turn	360[22]	69	Yes	135	Yes
Northbound Through	450	27	Yes	118	Yes
2. The City Drive at Metropolitan Drive/Project Driveway No. 1					
Northbound Left-Turn	255[22]	123	Yes	329	Yes[23]
Northbound Through	765	172	Yes	350	Yes
Northbound Through/Right-Turn	765	156	Yes	300	Yes
Southbound Left-Turn	200	112	Yes	222	Yes[24]
Southbound Through	630	193	Yes	212	Yes
Southbound Right-Turn	630[22]	72	Yes	110	Yes
Eastbound Left-Turn	285[22]	333[25]	Yes	220	Yes
Eastbound Through	285	408[26]	Yes	204	Yes
Eastbound Right-Turn	285[22]	309	Yes	220	Yes
Westbound Left-Turn	70	40	Yes	125	Yes[27,28]
Westbound Through/Right-Turn	70	59	Yes	**443**	**No[27]**

Notes:

- **Bold** storage values indicate the anticipated queue exceeds the existing provided storage
- Highlighted values indicate the minimum storage requirements

21 Queues are based on Synchro 12.0 SimTraffic 95th Percentile methodology.

22 Movement consists of dual turn lanes.

23 The provide storage length is based on an average of the two northbound left-turn lanes lengths however this queue can be accommodated within the longer left-turn lane which is 375'.

24 Spillover queue can be accommodated within the transition area of the turn pocket.

25 The provide storage length is based on an average of the two eastbound left-turn lanes lengths however this queue can be accommodated within the trap left-turn lane which is 490'.

26 An additional 200' of storage is provide in the through lane.

27 HCM 95th percentile shows a more realistic queue for the outbound movement, therefore that has been reported.

28 Although the queue exceeds the striped storage length, the additional queue length can be accommodated on site.

TABLE 10-2 (CONTINUED)

YEAR 2050 BUILDOUT PLUS PROJECT PEAK HOUR INTERSECTION QUEUING ANALYSIS[29]

Key Intersection	Storage Provided (feet)	(1) Year 2050 Buildout Plus Project Traffic Conditions			
		AM Peak Hour		PM Peak Hour	
		95th Percentile Queue/Min. Storage Required (feet)	Adequate Storage (Yes/No)	95th Percentile Queue/ Min. Storage Required (feet)	Adequate Storage (Yes/No)
3. The City Drive at SR-22 EB Ramps					
Southbound Left-Turn	180	166	Yes	220	Yes[30]
Southbound Through	750	297	Yes	371	Yes
Southbound Right-Turn	650	330	Yes	231	Yes
Eastbound Left-Turn	520	296	Yes	431	Yes
Eastbound Left/Through/Right-Turn	520	264	Yes	376	Yes
Eastbound Right-Turn	520	144	Yes	213	Yes
4. SR-22 WB Ramps at Metropolitan Drive					
Northbound Left-Turn	105	210[30]	Yes	207[30]	Yes
Northbound Through/Left-Turn	975	378	Yes	447	Yes
Northbound Right-Turn	975[31]	441	Yes	264	Yes
Westbound Left-Turn	320[31]	130	Yes	182	Yes
Westbound Through	490	45	Yes	79	Yes
Westbound Through/Right-Turn	490	36	Yes	80	Yes

Notes:

- **Bold** storage values indicate the anticipated queue exceeds the existing provided storage
- Highlighted values indicate the minimum storage requirements

[29] Queues are based on Synchro 12.0 SimTraffic 95th Percentile methodology.

[30] Spillover queue can be accommodated within the transition area of the turn pocket and remain on the off-ramp.

[31] Movement consists of dual turn lanes.

10.3 Synchro Progression Assessment

To address the City of Orange concerns regarding the traffic signal modifications to The City Drive at Metropolitan Drive/Project Driveway No. 1 intersection and the potential effect on progression of this roadway, a Synchro assessment has been completed for Year 2050 Buildout Plus Project traffic conditions with the proposed signal modifications at Project Driveway No. 1. The Synchro network includes analysis at the following intersections along The City Drive.

Key Study Intersections

1. The City Drive at Outlet Drive
2. The City Drive at Metropolitan Drive/Project Driveway No. 1
3. The City Drive at SR-22 EB Ramps
4. SR-22 WB Ramps at Metropolitan Drive

10.3.1 *Synchro 12.0 Method of Analysis*

Synchro 12.0 analyzes intersection capacity, as well as progression/coordination operations along an arterial street. *Synchro 12.0* provides an alternative method for calculating intersection delays called the Percentile Delay Method. This method provides key benefits over Webster's formula, used by the Highway Capacity Manual, as it is able to model the following situations:

- Signals in coordination
- Actuated and semi-actuated signals
- Near saturation and super saturated signals

In a coordinated arterial network, *Synchro 12.0* calculates the progression factor and the effects of coordination. To optimize traffic progression along an arterial street, *Synchro 12.0* optimizes splits and offsets to reduce vehicular delays. This makes *Synchro's* timing plans similar to *TRANSYT*, which optimizes to reduce stops and delays. *PASSER-II 90* and other arterial software optimize to maximize the arterial bandwidth.

As such, utilizing the calculated green splits, phase sequences, and coordination offsets, *Synchro 12.0* produces generated solutions with minimal delays and good arterial progression for the given geometric, traffic, and signal control conditions. The generated progression solutions are typically evaluated based on the following measures of effectiveness:

- **Band A/B:** The "A" and "B" direction bandwidths (in seconds) indicate the period of time available for traffic to flow in the northerly and southerly directions along The City Drive within the band from one end of the arterial to the other intersections.
- **Efficiency:** The average fraction of the cycle used for progression, ranging from 0.00 to 0.50. Efficiency values for a desirable progression should preferably be greater than 0.25, however efficiency values greater than 0.13 are acceptable. Efficiency is calculated based on the following formula:
    - **Efficiency** = (Band A + Band B) / (2 * Cycle Length)

Table 10-3 summarizes the measures of effectiveness criteria, as detailed above.

10.3.2 *Progression Analysis*

Table 10-4 summarizes the peak period progression analysis results along The City Drive for Year 2050 Buildout Plus Project traffic conditions, assuming the intersection of The City Drive at Metropolitan Drive/Project Driveway No. 1 is operating with the modified signal design. The efficiency values are reported in column (1), column (2) reports the respective bandwidths for the northbound and southbound directions, and column (3) reports the progression results along The City Drive.

As shown in Row 1 of *Table 10-4*, traffic signal progression along The City Drive in the northbound and southbound directions is "Good" during the AM and PM peak hours for Year 2050 Buildout Plus Project traffic conditions. The bandwidth is expected to be 37 seconds in the AM peak hour and 25 seconds in the PM peak hour in the northbound direction. In the southbound direction, the bandwidth is expected to be 22 seconds in the AM peak hour and 34 seconds in the PM peak hour. As such, signal progression with the proposed Project and signal modification to The City Drive at Metropolitan Drive/Project Driveway No. 1 would result in good progression levels.

Appendix G contains the *Synchro 12.0* time-space diagrams along The City Drive for Year 2050 Buildout Plus Project traffic conditions.

TABLE 10-3
EFFICIENCY CRITERIA FOR PROGRESSION[32]

Efficiency	Description
0.00 – 0.12	Poor Progression
0.13 – 0.24	Fair Progression
0.25 – 0.36	Good Progression
0.37 – 1.00	Great Progression

[32] Source: *PASSER II-90 Program User's Guide* (June 1991, Texas Transportation Institute).

TABLE 10-4
SIGNAL PROGRESSION SUMMARY[33]

Scenario Description	Time Period	(1) Efficiency	(2) Bandwidth (seconds)		(3) Progression Results
			NB	SB	
(1) Year 2050 Buildout Plus Project Traffic Conditions	AM	0.25	37	22	"Good"
	PM	0.25	25	34	"Good"

[33] Source: *Synchro 12.0*, Percentile Delay Methodology.

11.0 RECOMMENDED INTERSECTION IMPROVEMENTS

For those intersections where projected traffic volumes are expected to result in unacceptable operating conditions, this report recommends (identifies) improvement measures that change the intersection geometry to increase capacity. These capacity improvements involve roadway widening and/or re-striping to reconfigure (add lanes) to specific approaches of a key intersection. The identified improvements are expected to:

- improve existing traffic, Project traffic and future non-project (ambient traffic growth and cumulative project) traffic and
- improve Levels of Service to an acceptable range and/or to pre-project conditions.

11.1 Year 2028 Cumulative Plus Project Project Specific Improvements

The results of the intersection capacity analysis presented previously in *Table 8-1* and *9-1* identifies improvements at one (1) study intersection under Year 2028 Plus Project traffic conditions. The project specific improvements consist of the following:

- **The City Drive at Metropolitan Drive/Project Driveway No. 1**: Modify the existing traffic signal and design for eight-phase operation and implement all necessary signing and striping improvements. Stripe a southbound left-turn lane along The City Drive at Metropolitan Drive. Modify the median along Metropolitan Drive to allow for a dual left-turn lane, single through lane and a dual right-turn lane. As a result of potential on-site queuing concerns the westbound egress movement at the intersection is recommended to consist of a left-turn lane, a through lane, and a shared through/right turn lane. Additional improvements beyond those required for construction/installation of traffic signal equipment on all three corners may be necessary and will be subject to review and approval of the City Engineer, inclusive of traffic signal phasing. All improvements need to conform to the City of Orange Standard Design Guidelines and/or *California Manual on Uniform Traffic Control Devices* (CA MUTCD).

11.2 Year 2050 Buildout Plus Project Project Specific Improvements

The results of the intersection capacity analysis presented previously in *Table 8-2* and *9-1* identifies improvements at one (1) study intersection under Year 2050 Plus Project traffic conditions. The project specific improvements consist of the following:

- **The City Drive at Metropolitan Drive/Project Driveway No. 1**: Modify the existing traffic signal and design for eight-phase operation and implement all necessary signing and striping improvements. Stripe a southbound left-turn lane along The City Drive at Metropolitan Drive. Modify the median along Metropolitan Drive to allow for a dual left-turn lane, single through lane and a dual right-turn lane. As a result of potential on-site queuing concerns the westbound egress movement at the intersection is recommended to consist of a left-turn lane, a through lane and a shared through/right turn lane. Additional improvements beyond those required for construction/installation of traffic signal equipment on all three corners may be necessary and will be subject to review and approval of the City Engineer, inclusive of traffic

signal phasing. All improvements need to conform to the City of Orange Standard Design Guidelines and/or *California Manual on Uniform Traffic Control Devices* (CA MUTCD).

Figure 2-3 presents the conceptual design at the intersection of The City Drive and Metropolitan Drive.

12.0 SUMMARY OF FINDINGS AND CONCLUSION

- ***Project Description*** – The Project site is at the County's old animal shelter property located at 561 The City Drive South, Orange. The subject property is approximately 4.604-acre site that has been available for County uses and purposes since OC Animal Care vacated and relocated to a new facility in 2018. The site is directly located east of The City Drive at Metropolitan Drive intersection, north of the Garden Grove (SR-22) Freeway, and west of the Santa Ana River.

  The Project includes the construction of three (3) new buildings consisting of a two-story 37,200 square foot (SF) vocational training, administrative office and classroom building, a one-story 16,166 SF retail/culinary building and a two-story 25,130 SF supportive housing and services building which will include 34 units, of which 20 units will have one (1) bed, 11 units will have two (2) beds and three (3) units will have four (4) beds for a combined total of 54 beds. The purpose of the project is to assist those who need help in developing the skills needed to enter the workforce.

  The vocational/operations building is anticipated to include a large training warehouse, multi-purpose room, classrooms, and offices for operations and management. The retail/culinary building is anticipated to include various kitchens for training and production, retail suites for pet grooming and a fitness studio, and an open market with grab-n-go style bakery and bistro counters and other retail stalls, where program participants will develop, produce, and provide goods and/or services to the public as part of the vocational training program.

  The housing building is anticipated to provide on-site housing for 52 selected program participants and 2 on-site managers. The site is also planned to include approximately 175 surface level parking spaces, two outdoor pet training/relief area, an outdoor activity/garden area for program participants, and a new security block wall between the Property and the adjacent Theo Lacy Facility.

  The project would house up to 54 people on-site of which approximately 40% could have jobs off-site. In addition, about half of the people housed on-site would likely not have a car and would use other means of transportation (i.e. walk, bike, bus, etc.). As such, conservatively it has been assumed that approximately 11 people would leave the site to attend work from 7:00 AM – 8:00 AM and arrive back between 5:00 PM – 6:00 PM during the commuter peak hour. The teaching aspects would focus to retail/culinary uses that would produce items that could be sold for profit. The site would consist 7,810 SF retail type uses which could consist of merchandise/apparel, artwork, bistro, salon, tattoo, pet grooming or fitness uses. The teaching/training component of the project would include up to 60 staff members which varying schedules between 8:00 AM – 5:00 PM with 20% starting at 6:00 AM and 20% starting at 3:00 PM. To be conservative it has been assumed that the remaining 60% of the staff would arrive between 7:00 AM – 8:00 AM and depart between 5:00 PM – 6:00 PM during the commuter peak hour. It is anticipated that up to 20 students that do not live on-site would participate in the training/sales component of the Project. Conservatively, it has been assumed that all 20 students would arrive between 7:00 AM – 8:00 AM and depart between 5:00 PM – 6:00 PM during the commuter peak hour.

- ***Study Scope*** – The four (4) key study intersections listed below were selected for detailed peak hour level of service analyses under Existing, Year 2028 Cumulative and Year 2050 Buildout Traffic Conditions.

  Key Study Intersections

  1. The City Drive at Outlet Drive (Orange)
  2. The City Drive at Metropolitan Drive (Orange)
  3. The City Drive at SR-22 EB Ramps (Caltrans/Orange)
  4. SR-22 WB Ramps at Metropolitan Drive (Caltrans/Orange)

  The analysis is focused on assessing potential traffic impacts during the morning and evening commute peak hours (between 7:00-9:00 AM and 4:00-6:00 PM) on a typical weekday.

- ***Existing Traffic Conditions*** – All four (4) key study intersections currently operate at an acceptable level of service during the AM and PM peak hours.

- ***Project Trip Generation*** – The proposed Project is forecast to generate 491 daily trips, with 81 trips (64 inbound, 17 outbound) produced in the AM peak hour and 92 trips (24 inbound, 68 outbound) produced in the PM peak hour on a "typical" weekday.

- ***Cumulative Projects Traffic Characteristics*** – The fifteen (15) cumulative projects. As shown, the cumulative projects are forecast to generate a total of 38,013 daily trips, with 2,226 trips (838 inbound and 1,388 outbound) forecast during the AM peak hour and 2,924 trips (1,672 inbound and 1,252 outbound) forecast during the PM peak hour.

- ***Year 2028 Cumulative Plus Project Traffic Conditions*** – All four (4) key study intersections are forecast to operate at acceptable LOS in both the AM and PM peak hours with the addition of the proposed Project. As such, improvements at the study intersections are not required.

- ***Year 2050 Buildout Plus Project Traffic Conditions*** – All four (4) key study intersections are forecast to operate at acceptable LOS in both the AM and PM peak hours with the addition of the proposed Project. As such, improvements at the study intersections are not required.

- ***Site Access LOS and Queueing Analysis*** – With the installation of the proposed signal modifications, Project Driveway No. 1 is expected to operate at an acceptable service level. Project Driveways No. 2 and No. 3 are also forecast to operate at acceptable LOS C or better during the AM and PM peak hours for near-term (Year 2028) cumulative traffic conditions and long-term (Year 2050) buildout traffic conditions. As such, Project access will be adequate with the installation of the proposed signal modifications at The City Drive and Metropolitan Drive.

  Additionally, the existing and/or proposed storage is adequate to accommodate the anticipated queues at the Project driveways with the addition of a westbound through lane to Project Driveway No. 1.

- ***Sight Distance Evaluation*** – Based on the application of corner sight distance criteria, the sight lines at the proposed Project driveways are expected to be adequate as long as obstructions within the sight triangles are minimized.

- ***HCM Year 2050 Buildout Plus Project Traffic Conditions*** – The four (4) key study intersections are forecast to operate at an acceptable LOS D or better during the AM and PM peak hours. As such, improvements at the study intersections are not required.

  Additionally, the existing/proposed storage is adequate to accommodate the anticipated queues under Year 2050 Buildout traffic conditions with the addition of project. Therefore, the proposed signal modification at The City Drive and Metropolitan Drive would continue to adequately support the community.

- ***The City Drive Synchro Analysis*** – To address the City of Orange concerns regarding the location of the traffic signal modifications to The City Drive at Metropolitan Drive/Project Driveway No. 1 intersection and the potential effect on progression of this roadway, a Synchro assessment has been completed for Year 2050 Buildout Plus Project traffic conditions with the proposed signal modifications at Project Driveway No. 1. Traffic signal progression for Year 2050 Buildout Plus Project traffic conditions, inclusive of the proposed signalized driveway, along Magnolia Street during the AM and PM peak hours is "Good".

- ***Project Specific Intersection Improvements*** – The Project specific improvements consist of the following:

  - **The City Drive at Metropolitan Drive/Project Driveway No. 1**: Modify the existing traffic signal and design for eight-phase operation and implement all necessary signing and striping improvements. Stripe a southbound left-turn lane along The City Drive at Metropolitan Drive. Modify the median along Metropolitan Drive to allow for a dual left-turn lane, single through lane and a dual right-turn lane. As a result of potential on-site queuing concerns the westbound egress movement at the intersection is recommended to consist of a left-turn lane, a through lane, and a shared through/right turn lane. Additional improvements beyond those required for construction/installation of traffic signal equipment on all three corners may be necessary and will be subject to review and approval of the City Engineer, inclusive of traffic signal phasing. All improvements need to conform to the City of Orange Standard Design Guidelines and/or *California Manual on Uniform Traffic Control Devices* (CA MUTCD).

APPENDIX A

TRAFFIC STUDY SCOPE OF WORK

MEMORANDUM

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Suite 250
Irvine, CA 92614
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Pasadena
Irvine
San Diego

To:	Larry S. Tay, PE, TE, PTOE Manager Trans. Svcs/City Traffic Engr. City of Orange Public Works Department	Date:	January 17, 2025
From:	Richard E. Barretto, PE, Principal Linscott, Law & Greenspan, Engineers	LLG Ref:	2.24.6650.2
Subject:	***Traffic Scope of Work for WorkForce Re-entry Center*** City of Orange, California		

Linscott, Law & Greenspan, Engineers (LLG) is pleased to submit the following Traffic Scope of Work for the proposed WorkForce Re-entry Center Project. The proposed access improvements at The City Drive and Metropolitan Drive would require approval by the City of Orange. As such, the work program summarized below considers the City of Orange requirements.

Traffic Scope of Work

The Traffic Scope of Work for the proposed WorkForce Re-entry Center Project (herein after referred to as Project) will satisfy the traffic impact requirements of the City of Orange and will be consistent with the requirements and procedures outlined in the most current *Congestion Management Program (CMP) for Orange County.*

A. Project Location: The Project site is at the County's old animal shelter property located at 561 The City Drive South, Orange. The subject property is approximately 4.604-acre site that has been available for County uses and purposes since OC Animal Care vacated and relocated to a new facility in 2018. The site will require approval by the City of Orange as part of their permitting process as it relates to the proposed access improvements. The site is directly located east of The City Drive at Metropolitan Drive intersection, north of the Garden Grove (SR-22) Freeway, and west of the Santa Ana River. ***Figure 1-1*** presents the vicinity map. ***Figure 2-1*** presents an existing aerial photograph of the site.

B. Project Description: The Project includes the construction of three (3) new buildings consisting of a two-story 37,200 square foot (SF) vocational training, administrative office and classroom building, a one-story 16,166 SF retail/culinary building and a two-story 25,130 SF supportive housing and services building which will include 34 units, of which 20 units will have one (1) bed, 11 units will have two (2) beds and three (3) units will have four (4) beds for a combined total of 54 beds. The purpose of the project is to help teach/provide the skills needed to enter the workforce. ***Figure 2-2*** presents the proposed site plan prepared by the architect, LPA Design Studios.

The vocational/operations building is anticipated to include a large training warehouse, multi-purpose room, classrooms, and offices for operations and

management. The retail/culinary building is anticipated to include various kitchens for training and production, retail suites for pet grooming and a fitness studio, and an open market with grab-n-go style bakery and bistro counters and other retail stalls, where program participants will develop, produce, and provide goods and/or services to the public as part of the vocational training program.

The housing building is anticipated to provide on-site housing for 52 selected program participants and 2 on-site managers. The site is also planned to include approximately 175 surface level parking spaces, two outdoor pet training/relief area, an outdoor activity/garden area for program participants, and a new security block wall between the Property and the adjacent Theo Lacy Facility.

The project would house up to 54 people on-site of which approximately 40% could have jobs off-site. In addition, about half of the people housed on-site would likely not have a car and would use other means of transportation (i.e. walk, bike, bus, etc.). As such, conservatively it has been assumed that approximately 11 people would leave the site to attend work from 7:00 AM – 8:00 AM and arrive back between 5:00 PM – 6:00 PM during the commuter peak hour. The teaching aspects would focus to retail/culinary uses that would produce items that could be sold for profit. The site would consist 7,810 SF retail type uses which could consist of merchandise/apparel, artwork, bistro, salon, tattoo, pet grooming or fitness uses. The teaching/training component of the project would include up to 60 staff members which varying schedules between 8:00 AM – 5:00 PM with 20% starting at 6:00 AM and 20% starting at 3:00 PM. To be conservative it has been assumed that the remaining 60% of the staff would arrive between 7:00 AM – 8:00 AM and depart between 5:00 PM – 6:00 PM during the commuter peak hour. It is anticipated that up to 20 students that do not live on-site would participate in the training/sales component of the Project. Conservatively, it has been assumed that all 20 students would arrive between 7:00 AM – 8:00 AM and depart between 5:00 PM – 6:00 PM during the commuter peak hour.

Access to the site is proposed via full access driveway that would be integrated into the existing signal at The City Drive and Metropolitan Drive. Secondary access is proposed via right-turn only driveways located at the northern and southern portion of the site. ***Figure 2-3*** presents the conceptual design at the intersection of The City Drive and Metropolitan Drive, with recommended access modifications to the intersection and the Project site plan to allow for operation of an 8-phase traffic signal.

C. Project Study Area: The following four (4) key study intersections have been selected for evaluation:

Key Study Intersections

1. The City Drive at Metropolitan Drive
2. The City Drive at Outlet Drive
3. The City Drive at SR-22 EB Ramps
4. SR-22 WB Ramps at Metropolitan Drive

D. Traffic Counts: Weekday AM peak period (7AM – 9AM) and PM peak period (4PM – 6PM) traffic counts for the four (4) key study intersections. Counts will be conducted on a non-holiday weekday (Tuesday, Wednesday, or Thursday) while schools are back in session.

E. Project Traffic Generation: The trip generation potential of the proposed Project will be estimated using trip rates contained in the 11th Edition of Trip Generation, published by the Institute of Transportation Engineers (ITE), [Washington, D.C., 2021] and operational information provided by the applicant. Adjustments to the traffic forecasts for pass-by trips will be applied.

Table 5-1 summarizes the trip generation rates used in forecasting the vehicular trips generated by the proposed Project and the Project's forecast peak hour and daily traffic volumes. It should be noted that the retail type uses could consist of merchandise/apparel, artwork, bistro/coffee, salon, tattoo, pet grooming or fitness uses.

As shown in the upper portion of *Table 5-1*, trip generation rates for ITE Land Use 822: Strip Retail Plaza (<40k) and ITE Land Use 930: Fast Casual Restaurant were used to forecast the trip generation potential for the proposed Project. Additionally, operational information was used to forecast the trip generation potential for the staff, on-site housing, and outside students for the proposed Project.

It should be noted that a trip reduction was applied to the commercial component since the employees of the commercial uses will be comprised of students and staff that will already be on-site.

Further, the aforementioned trip generation for the proposed Project includes adjustments for the internal trip capture within the Project site. An internal capture of 15% on daily basis, and 5% and 15% during the AM peak hour and PM peak hour, respectively, has been applied to the commercial uses to account for the interaction with students and staff of the other Project uses. Additionally, the internal capture rates are considered conservative compared to NCHRP 684 Internal Trip Capture Estimation Tool rates which calculates to 29% on daily basis, and 6% and 26% during the AM peak hour and PM peak hour, respectively.

As shown in the lower portion of *Table 5-1* the proposed Project is forecast to generate 491 daily trips, with 81 trips (64 inbound, 17 outbound) produced in the AM peak hour and 92 trips (24 inbound, 68 outbound) produced in the PM peak hour on a "typical" weekday.

F. Project Trip Distribution Pattern: See the attached project traffic distribution pattern for the site, ***Figure 5-1***. The project trip distribution pattern was developed based on the following considerations:

- location of site access points in relation to the surrounding street system,
- the site's proximity to major traffic carriers (i.e. The City Drive, Metropolitan Drive, etc.),
- physical characteristics of the circulation system such as lane channelization and presence of traffic signals that affect travel patterns, and
- ingress/egress availability at the project site.

G. Analysis Scenarios: Prepare AM and PM peak hour level of Service (LOS) calculations at the four (4) study intersections to determine the potential impacts of the proposed Project. Subject to confirmation by City staff, the following traffic scenarios will be prepared.

(a) Existing Traffic Conditions;
(b) Project Opening Year (Near-Term Background) Traffic Conditions (Existing plus Ambient Growth plus Related Projects);
(c) Project Opening Year Plus Project Traffic Conditions;
(d) Scenario (c) with Recommended Improvements, if necessary;
(e) Long-Term (2050) Traffic Conditions
(f) Long-Term (2050) Traffic Conditions Plus Project; and
(g) Scenario (f) with Mitigation, if necessary.

H. Impact Criteria: In order to provide a quantitative basis for determining the traffic impact of the Project at a specific location, it is necessary to establish the criteria to be used in the analysis of intersections for this study. Per the City's published guidelines, the Project is considered to have an impact if the following criteria are met:

Signalized Intersections

- *ICU Methodology:* The addition of Project traffic causes the intersection peak hour level of service to become worse than LOS D (ICU = 0.901 or greater) or further worsens a "without Project" LOS E or F and the ICU increase attributable to the project is 0.010 or greater

I. Other Issues:

The Project is proposing to modify the signal, lane geometry and storage capacities at The City Drive/Metropolitan Drive. As such, a detailed Synchro network will be developed for the four (4) key study intersections. The Synchro analysis will analyze traffic progression along The City Drive, confirm anticipated service levels and queues with the proposed signal modification. The Synchro analysis will focus on the worst case scenario which is Long Term Year 2050 traffic conditions.

- Evaluate ingress/egress adequacy as it relates to site access, circulation and pedestrian conflicts.
- Perform a Code parking assessment.

J. VMT Assessment

- Using the *City of Orange Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment, dated July 2020*, as guidance, complete a VMT Screening Assessment and a summary memorandum to determine if the proposed Project screens out from the preparation of a full VMT analysis. Utilize the City of Orange – VMT Screening Application to estimate project VMT for the various project components. Generally, there are three types of screening that lead agencies can apply to effectively screen projects from project-level assessment. These screening steps include:

  - ✓ Projects in TPA/HQTA
  - ✓ Low VMT Area Project
  - ✓ Project Type Screening

* * * * * * * * * * *

We appreciate the opportunity to provide this scope of work. Should you have any questions, please call us at (949) 825-6175. Thank you.

Approved by:

_____ _____

City of Orange Date

I:\2246650-2 - workforce reentry traffic support, orange\dwg\port 8x11.5.dwg LDP 09:55:19 08-23-2024 saavedra

SOURCE: OPEN STREETS

KEY

(#) = STUDY INTERSECTION

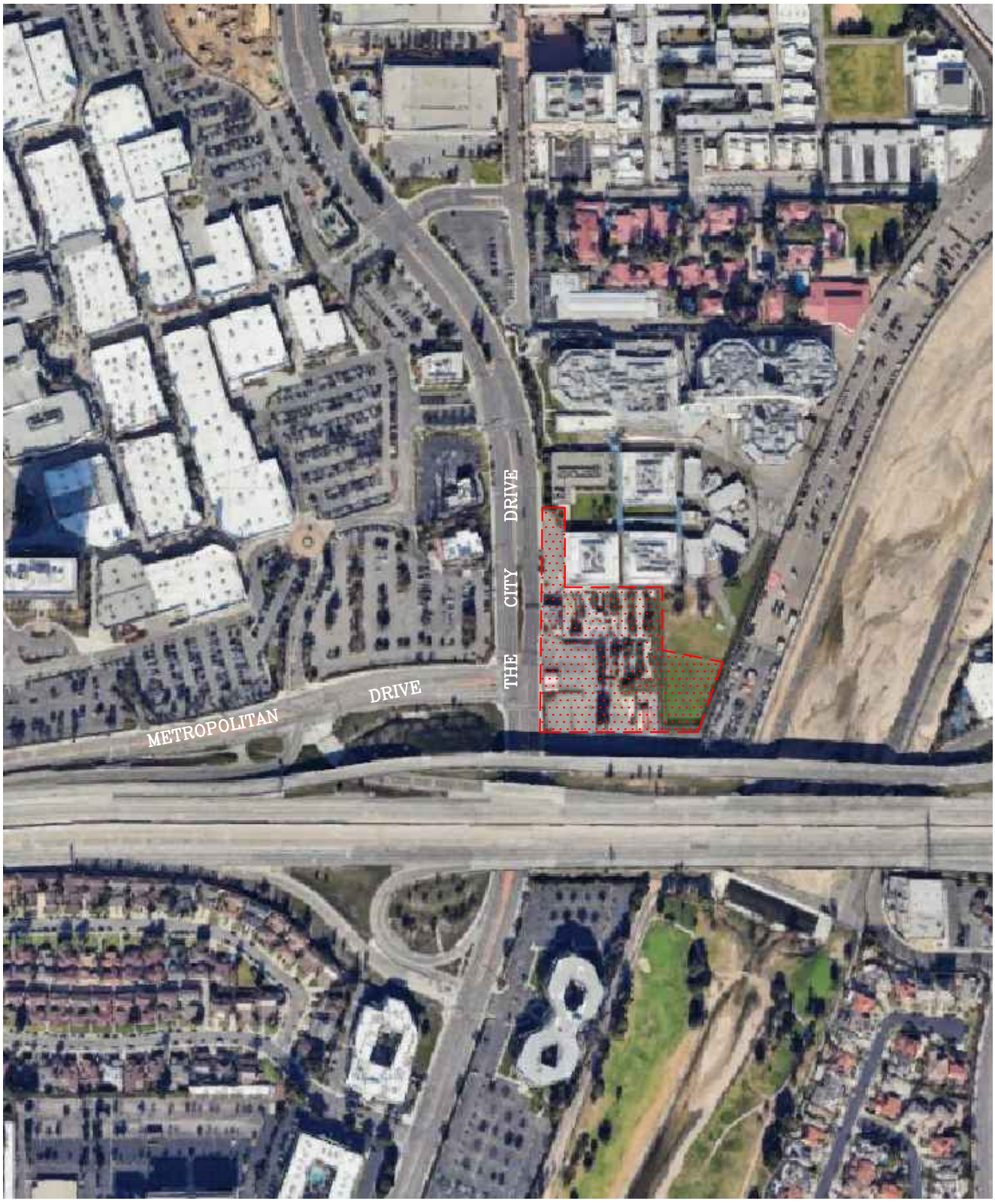
= PROJECT SITE

NO SCALE

FIGURE 1-1

VICINITY MAP

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE



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SOURCE: GOOGLE

KEY

= PROJECT SITE

LLG

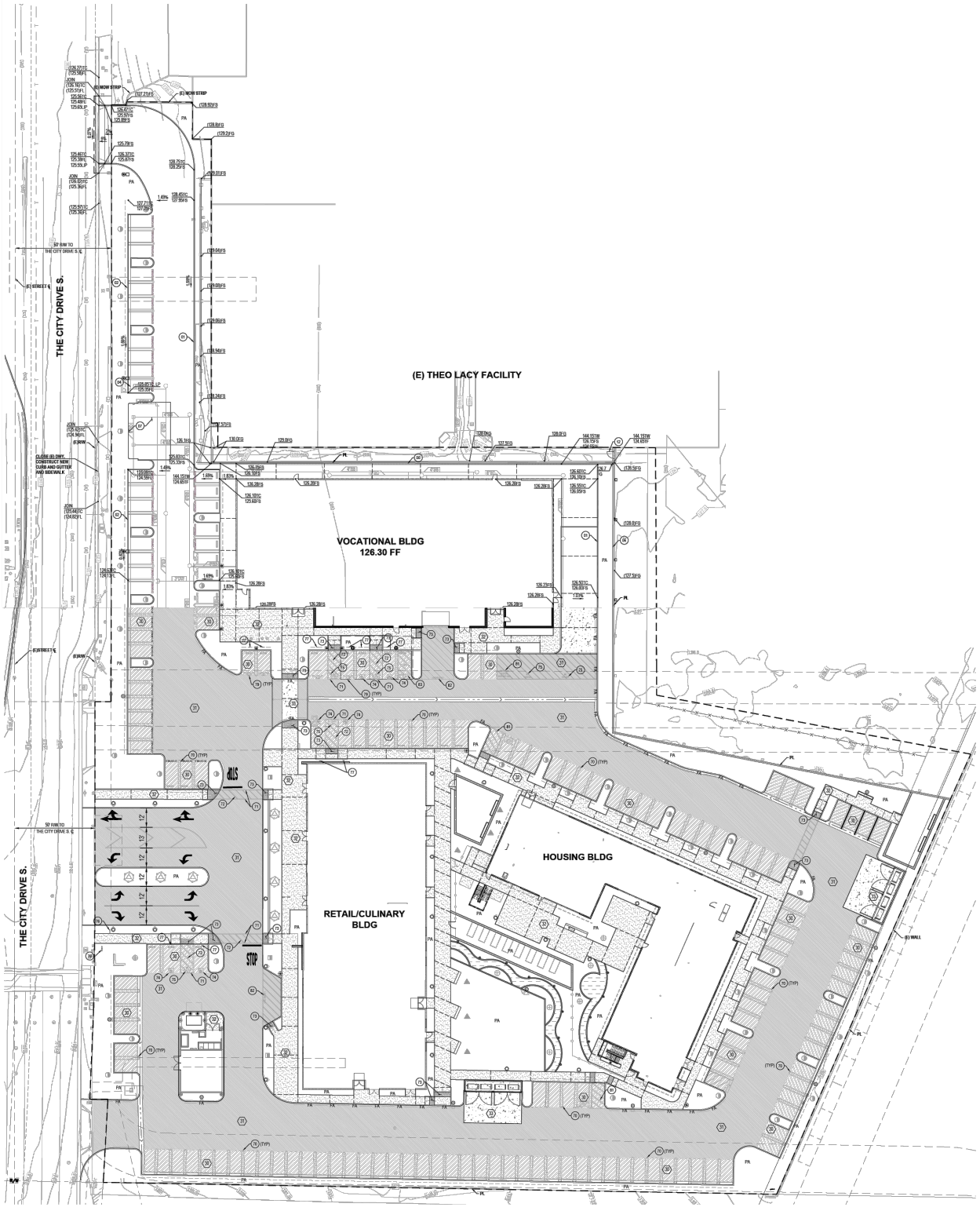
N

NO SCALE

FIGURE 2-1

EXISTING SITE AERIAL

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE



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SOURCE: LPA

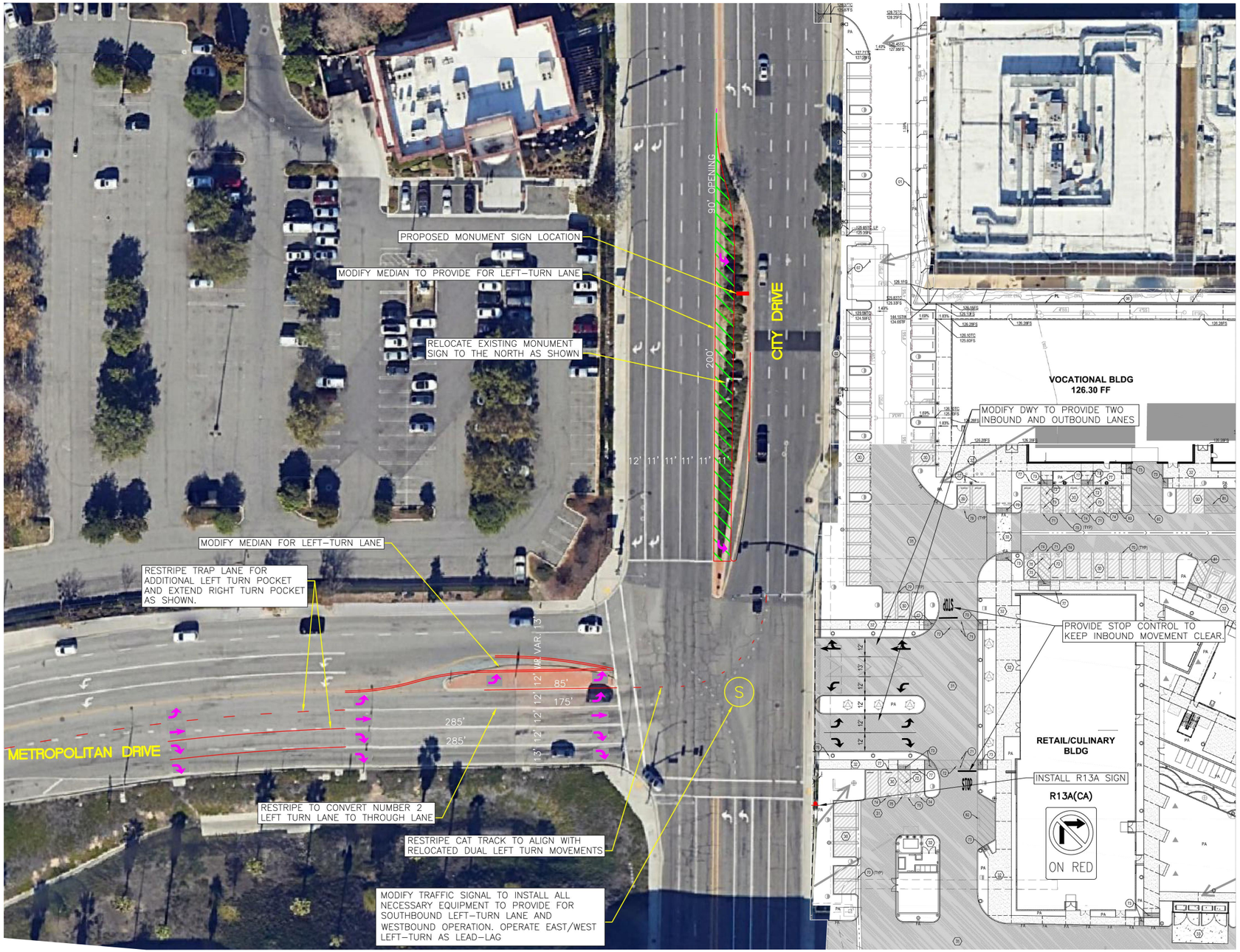
LLG

N NO SCALE

FIGURE 2-2

PROPOSED SITE PLAN

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE



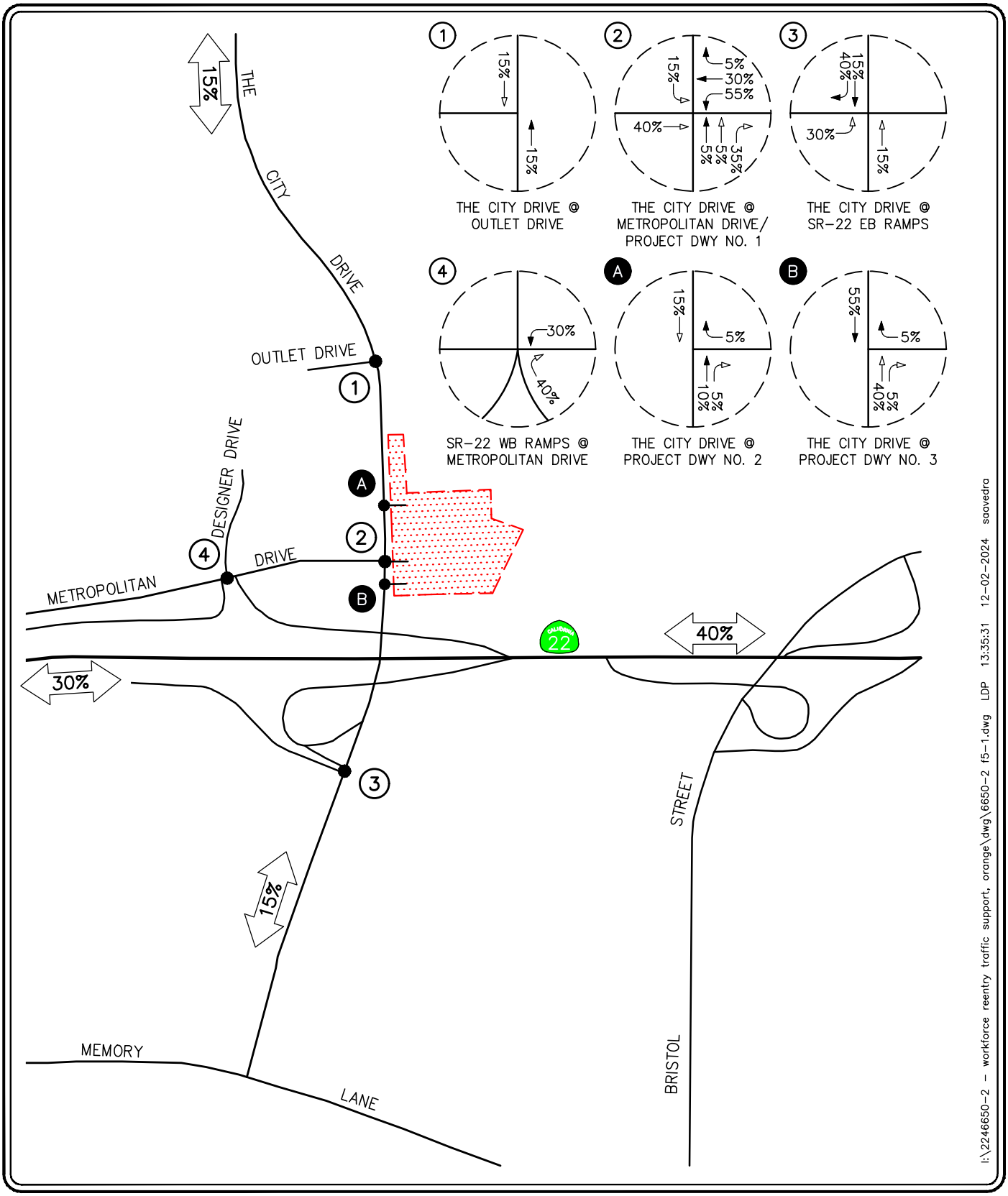
SOURCE: LLG

NO SCALE

FIGURE 2-3

CONCEPTUAL INTERSECTION DESIGN

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE



KEY

(#) = STUDY INTERSECTION
⇦ = INBOUND PERCENTAGE
⇦ = OUTBOUND PERCENTAGE
▭ = PROJECT SITE

NO SCALE

FIGURE 5-1

PROJECT TRAFFIC DISTRIBUTION PATTERN

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE

TABLE 5-1
PROJECT TRIP GENERATION RATES AND FORECAST[1]

ITE Land Use Code / Project Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Generation Rates:							
▪ 822: Strip Retail Plaza <40K (TE/TSF)	54.45	60%	40%	2.36	50%	50%	6.59
Proposed Project Generation Forecast:							
▪ Retail (7,810 SF)	425	11	7	18	26	25	51
Employee Reduction (10 Employees)[2]	-20	-1	0	-1	-1	-1	-2
Subtotal	*405*	*10*	*7*	*17*	*25*	*24*	*49*
Internal Capture (10% Daily, 5% AM, 15% PM)	-41	-1	0	-1	-4	-3	-7
Subtotal	*364*	*9*	*7*	*16*	*21*	*21*	*42*
Pass-by (15% Daily, 15% AM, 40% PM)[3]	-55	-1	-1	-2	-8	-9	-17
Retail Subtotal	*309*	*8*	*6*	*14*	*13*	*12*	*25*
▪ Staffing (60 Staff)[4]	120	36	0	36	0	36	36
▪ On-Site Housing (54 Beds)[5]	22	0	11	11	11	0	11
▪ Outside Students (20 Students)[6]	40	20	0	20	0	20	20
Total Trip Generation Forecast	**491**	**64**	**17**	**81**	**24**	**68**	**92**

Note:

- TE/TSF = Trip End per Thousand Square Feet

1 Source: *Trip Generation*, 11th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2021).

2 A trip reduction was applied to the commercial component since the employees of the commercial uses will be comprised of students and staff that will already be on-site.

3 Pass-By trips are trips made as intermediate stops on the way from an origin to a primary trip destination. Pass-by trips are attracted from traffic passing the site on adjacent streets, which contain direct access to the generator. For this analysis, the following pass-by reduction factors were used (Source: *Trip Generation Manual, 11th Edition*, ITE 2021):
- ITE 822 Strip Retail Plaza: <40K: 15% daily (estimated), 15% AM peak hour (estimated), and 40% PM peak hour
- ITE 930 Fast Casual Restaurant (Utilized ITE 932 High-Turnover (Sit-Down) Restaurant Rates): 15% daily (estimated), 15% AM peak hour (estimated), and 43% PM peak hour

4 Conservatively it has been assumed that 60% of the staff would arrive between 7:00 AM – 8:00 AM and depart between 5:00 PM – 6:00 PM during the commuter peak hour. The remaining 40% of the staff would arrive outside of the peak hours.

5 Approximately 40% of the people housed on-site could have jobs off-site and about half of the people housed on-site would likely not have a car and would use other means for transportation (i.e. walk, bike, bus, etc.). Therefore, it has conservatively been assumed that approximately 11 people would leave the site to attend work from 7:00 AM – 8:00 AM and arrive back between 5:00 PM – 6:00 PM during the commuter peak hour.

6 Conservatively, it has been assumed that all 20 students would arrive between 7:00 AM – 8:00 AM and depart between 5:00 PM – 6:00 PM during the commuter peak hour.

APPENDIX B

EXISTING TRAFFIC COUNT DATA

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

City of Orange
N/S: The City Drive S
E/W: Outlet Drive
Weather: Clear

File Name : 02_ORN_TCDS_Outlet AM
Site Code : 05724917
Start Date : 10/22/2024
Page No : 1

Groups Printed- Total Volume

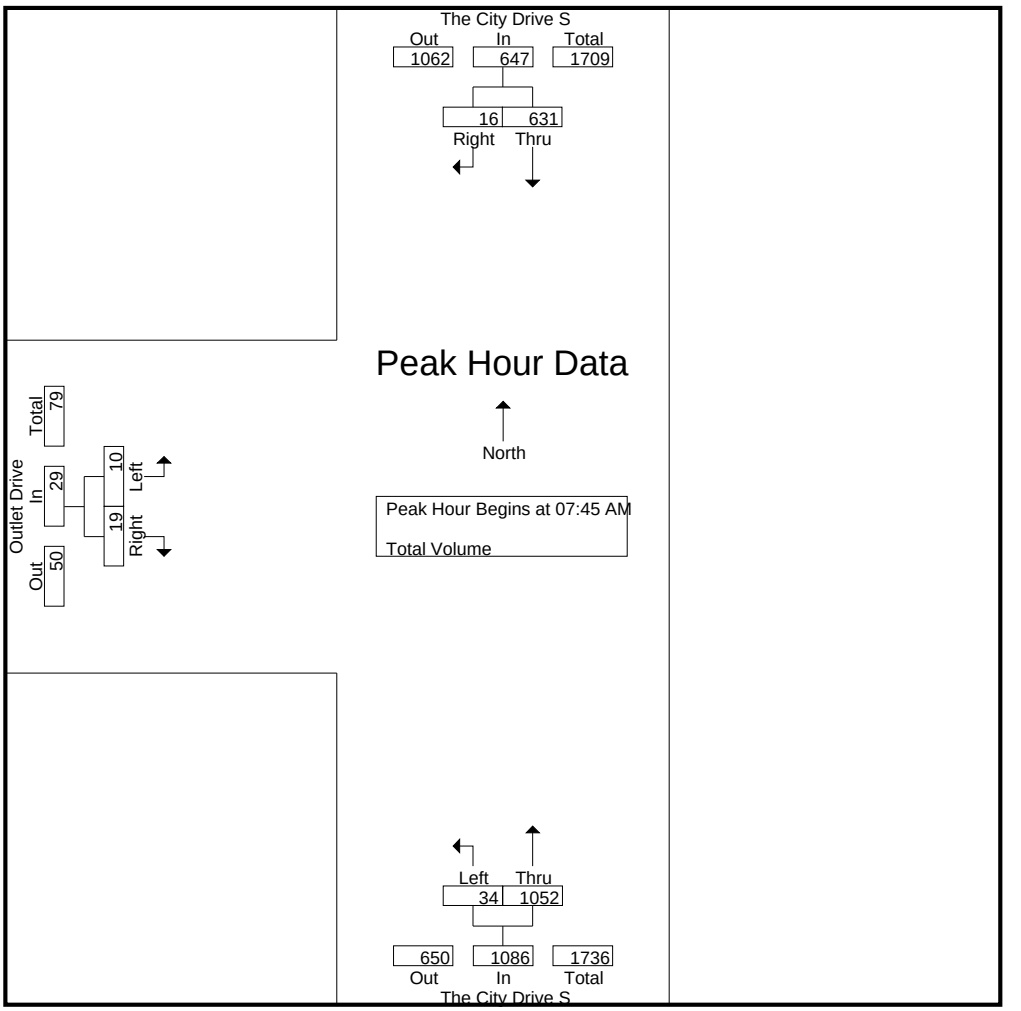
	The City Drive S Southbound			The City Drive S Northbound			Outlet Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	126	3	129	5	199	204	1	2	3	336
07:15 AM	151	2	153	4	245	249	4	0	4	406
07:30 AM	129	3	132	9	202	211	3	3	6	349
07:45 AM	158	4	162	7	271	278	4	2	6	446
Total	564	12	576	25	917	942	12	7	19	1537
08:00 AM	163	3	166	14	270	284	1	6	7	457
08:15 AM	160	4	164	6	272	278	2	4	6	448
08:30 AM	150	5	155	7	239	246	3	7	10	411
08:45 AM	171	5	176	6	227	233	5	13	18	427
Total	644	17	661	33	1008	1041	11	30	41	1743
Grand Total	1208	29	1237	58	1925	1983	23	37	60	3280
Apprch %	97.7	2.3		2.9	97.1		38.3	61.7		
Total %	36.8	0.9	37.7	1.8	58.7	60.5	0.7	1.1	1.8	

	The City Drive S Southbound			The City Drive S Northbound			Outlet Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	158	4	162	7	271	278	**4**	2	6	446
08:00 AM	**163**	3	**166**	**14**	270	**284**	1	6	7	**457**
08:15 AM	160	4	164	6	**272**	278	2	4	6	448
08:30 AM	150	**5**	155	7	239	246	3	**7**	**10**	411
Total Volume	631	16	647	34	1052	1086	10	19	29	1762
% App. Total	97.5	2.5		3.1	96.9		34.5	65.5		
PHF	.968	.800	.974	.607	.967	.956	.625	.679	.725	.964

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

City of Orange
N/S: The City Drive S
E/W: Outlet Drive
Weather: Clear

File Name : 02_ORN_TCDS_Outlet AM
Site Code : 05724917
Start Date : 10/22/2024
Page No : 2



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

	08:00 AM			07:45 AM			08:00 AM		
+0 mins.	163	3	166	7	271	278	1	6	7
+15 mins.	160	4	164	**14**	270	**284**	2	4	6
+30 mins.	150	**5**	155	6	**272**	278	3	7	10
+45 mins.	**171**	5	**176**	7	239	246	**5**	**13**	**18**
Total Volume	644	17	661	34	1052	1086	11	30	41
% App. Total	97.4	2.6		3.1	96.9		26.8	73.2	
PHF	.942	.850	.939	.607	.967	.956	.550	.577	.569

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
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City of Orange
N/S: The City Drive S
E/W: Outlet Drive
Weather: Clear

File Name : 02_ORN_TCDS_Outlet PM
Site Code : 05724917
Start Date : 10/22/2024
Page No : 1

Groups Printed- Total Volume

	The City Drive S Southbound			The City Drive S Northbound			Outlet Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	206	17	223	30	194	224	15	38	53	500
04:15 PM	204	4	208	42	195	237	17	27	44	489
04:30 PM	266	6	272	29	205	234	17	42	59	565
04:45 PM	213	16	229	33	205	238	13	28	41	508
Total	889	43	932	134	799	933	62	135	197	2062
05:00 PM	281	9	290	48	234	282	18	31	49	621
05:15 PM	249	6	255	49	253	302	8	34	42	599
05:30 PM	199	10	209	43	306	349	20	34	54	612
05:45 PM	163	9	172	42	255	297	19	26	45	514
Total	892	34	926	182	1048	1230	65	125	190	2346
Grand Total	1781	77	1858	316	1847	2163	127	260	387	4408
Apprch %	95.9	4.1		14.6	85.4		32.8	67.2		
Total %	40.4	1.7	42.2	7.2	41.9	49.1	2.9	5.9	8.8	

	The City Drive S Southbound			The City Drive S Northbound			Outlet Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	**281**	9	**290**	48	234	282	18	31	49	**621**
05:15 PM	249	6	255	**49**	253	302	8	**34**	42	599
05:30 PM	199	**10**	209	43	**306**	**349**	**20**	34	**54**	612
05:45 PM	163	9	172	42	255	297	19	26	45	514
Total Volume	892	34	926	182	1048	1230	65	125	190	2346
% App. Total	96.3	3.7		14.8	85.2		34.2	65.8		
PHF	.794	.850	.798	.929	.856	.881	.813	.919	.880	.944

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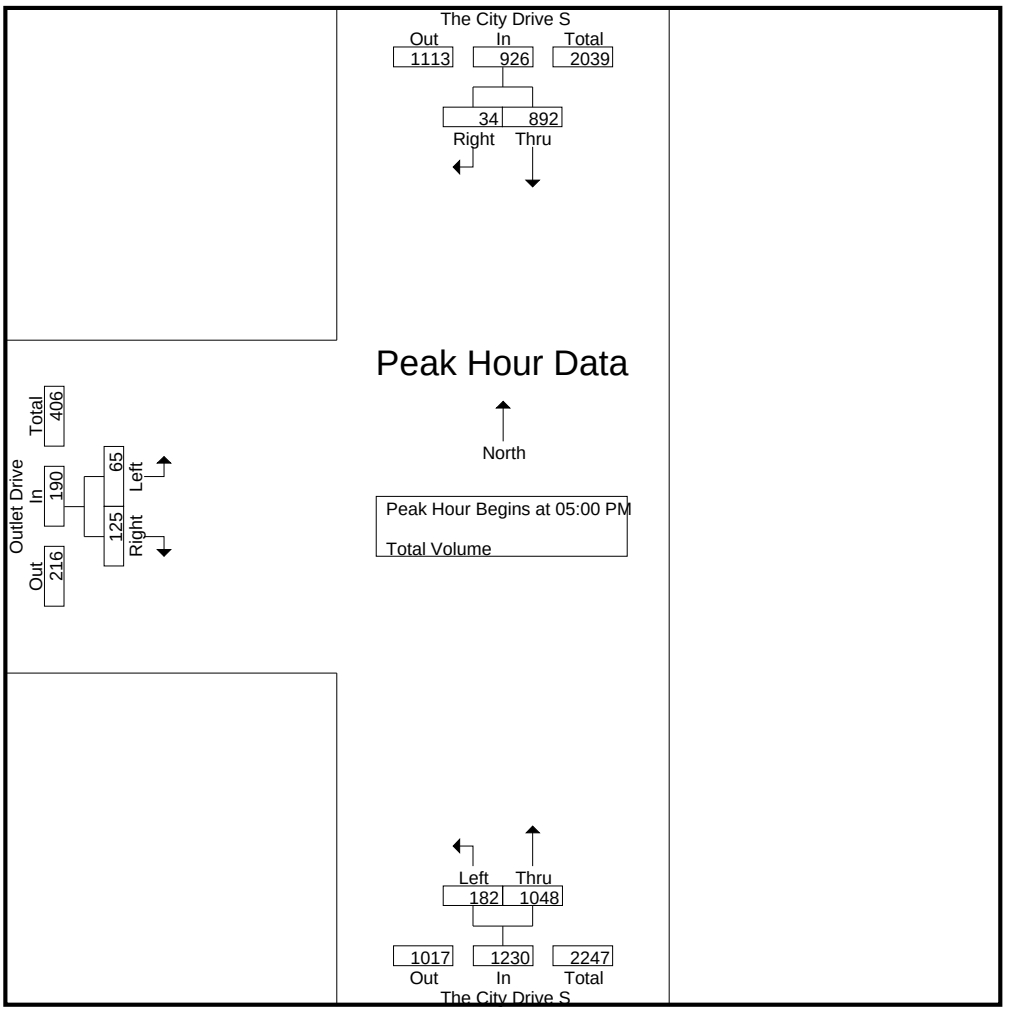
City of Orange
N/S: The City Drive S
E/W: Outlet Drive
Weather: Clear

File Name : 02_ORN_TCDS_Outlet PM
Site Code : 05724917
Start Date : 10/22/2024
Page No : 2



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

	04:30 PM			05:00 PM			04:00 PM		
+0 mins.	266	6	272	48	234	282	15	38	53
+15 mins.	213	**16**	229	**49**	253	302	**17**	27	44
+30 mins.	**281**	9	**290**	43	**306**	**349**	17	**42**	**59**
+45 mins.	249	6	255	42	255	297	13	28	41
Total Volume	1009	37	1046	182	1048	1230	62	135	197
% App. Total	96.5	3.5		14.8	85.2		31.5	68.5	
PHF	.898	.578	.902	.929	.856	.881	.912	.804	.835

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City of Orange
N/S: The City Drive S
E/W: Metropolitan Drive
Weather: Clear

File Name : 01_ORN_TCDS_Metro AM
Site Code : 05724917
Start Date : 10/22/2024
Page No : 1

Groups Printed- Total Volume

	The City Drive S Southbound			The City Drive S Northbound			Metropolitan Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	101	26	127	6	147	153	58	112	170	450
07:15 AM	105	52	157	7	155	162	92	123	215	534
07:30 AM	112	46	158	10	143	153	79	125	204	515
07:45 AM	124	42	166	10	183	193	93	144	237	596
Total	442	166	608	33	628	661	322	504	826	2095
08:00 AM	119	44	163	6	176	182	94	150	244	589
08:15 AM	117	31	148	12	168	180	112	136	248	576
08:30 AM	144	28	172	7	168	175	93	101	194	541
08:45 AM	148	48	196	12	164	176	75	80	155	527
Total	528	151	679	37	676	713	374	467	841	2233
Grand Total	970	317	1287	70	1304	1374	696	971	1667	4328
Apprch %	75.4	24.6		5.1	94.9		41.8	58.2		
Total %	22.4	7.3	29.7	1.6	30.1	31.7	16.1	22.4	38.5	

	The City Drive S Southbound			The City Drive S Northbound			Metropolitan Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	124	42	166	10	**183**	**193**	93	144	237	**596**
08:00 AM	119	**44**	163	6	176	182	94	**150**	244	589
08:15 AM	117	31	148	**12**	168	180	**112**	136	**248**	576
08:30 AM	**144**	28	**172**	7	168	175	93	101	194	541
Total Volume	504	145	649	35	695	730	392	531	923	2302
% App. Total	77.7	22.3		4.8	95.2		42.5	57.5		
PHF	.875	.824	.943	.729	.949	.946	.875	.885	.930	.966

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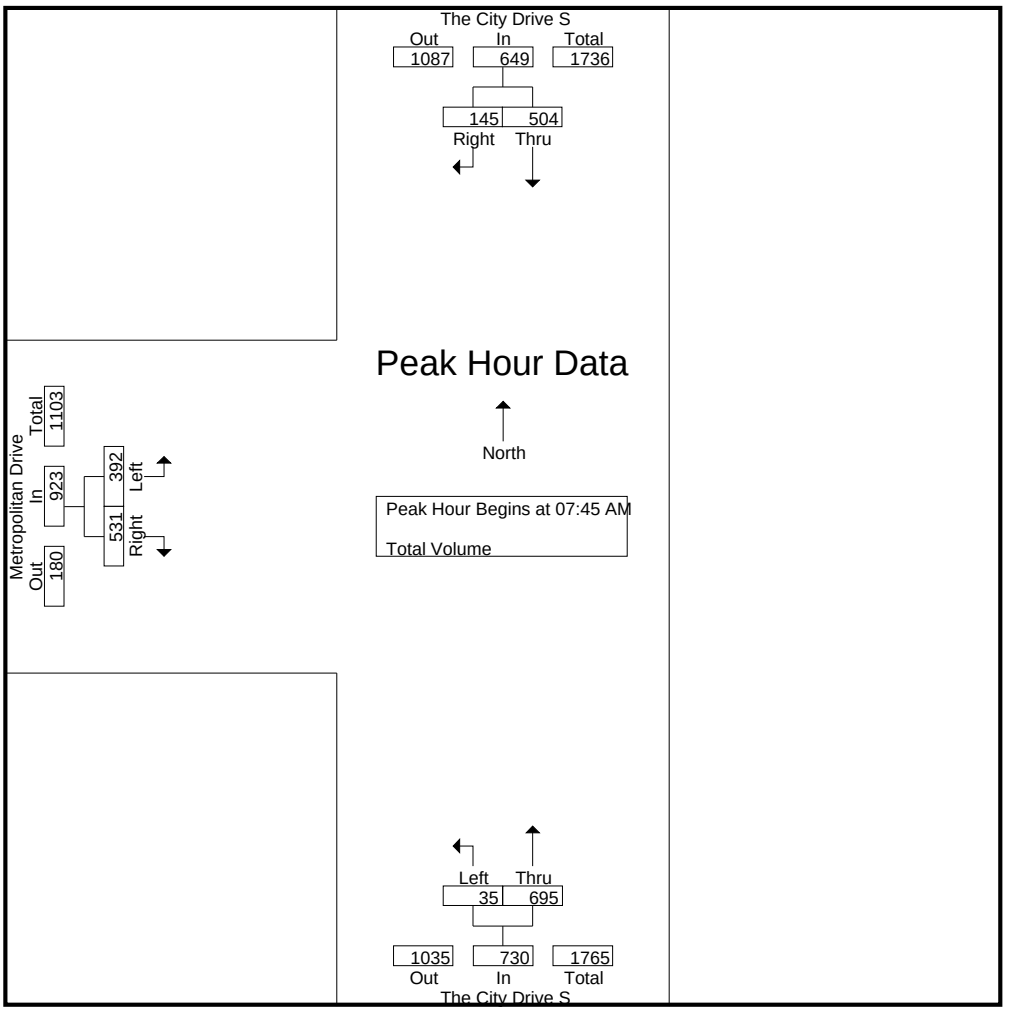
City of Orange
N/S: The City Drive S
E/W: Metropolitan Drive
Weather: Clear

File Name : 01_ORN_TCDS_Metro AM
Site Code : 05724917
Start Date : 10/22/2024
Page No : 2



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

	08:00 AM			07:45 AM			07:30 AM		
+0 mins.	119	44	163	10	**183**	**193**	79	125	204
+15 mins.	117	31	148	6	176	182	93	144	237
+30 mins.	144	28	172	**12**	168	180	94	**150**	244
+45 mins.	**148**	**48**	**196**	7	168	175	**112**	136	**248**
Total Volume	528	151	679	35	695	730	378	555	933
% App. Total	77.8	22.2		4.8	95.2		40.5	59.5	
PHF	.892	.786	.866	.729	.949	.946	.844	.925	.941

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City of Orange
N/S: The City Drive S
E/W: Metropolitan Drive
Weather: Clear

File Name : 01_ORN_TCDS_Metro PM
Site Code : 05724917
Start Date : 10/22/2024
Page No : 1

Groups Printed- Total Volume

	The City Drive S Southbound			The City Drive S Northbound			Metropolitan Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	169	84	253	17	201	218	28	92	120	591
04:15 PM	155	88	243	28	204	232	32	83	115	590
04:30 PM	202	108	310	19	214	233	23	111	134	677
04:45 PM	153	113	266	19	232	251	31	96	127	644
Total	679	393	1072	83	851	934	114	382	496	2502
05:00 PM	206	136	342	28	266	294	34	118	152	788
05:15 PM	174	111	285	30	281	311	33	89	122	718
05:30 PM	137	94	231	25	292	317	33	95	128	676
05:45 PM	136	74	210	23	295	318	44	99	143	671
Total	653	415	1068	106	1134	1240	144	401	545	2853
Grand Total	1332	808	2140	189	1985	2174	258	783	1041	5355
Apprch %	62.2	37.8		8.7	91.3		24.8	75.2		
Total %	24.9	15.1	40	3.5	37.1	40.6	4.8	14.6	19.4	

	The City Drive S Southbound			The City Drive S Northbound			Metropolitan Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	**206**	**136**	**342**	28	266	294	34	**118**	**152**	**788**
05:15 PM	174	111	285	**30**	281	311	33	89	122	718
05:30 PM	137	94	231	25	292	317	33	95	128	676
05:45 PM	136	74	210	23	**295**	**318**	**44**	99	143	671
Total Volume	653	415	1068	106	1134	1240	144	401	545	2853
% App. Total	61.1	38.9		8.5	91.5		26.4	73.6		
PHF	.792	.763	.781	.883	.961	.975	.818	.850	.896	.905

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City of Orange
N/S: The City Drive S
E/W: Metropolitan Drive
Weather: Clear

File Name : 01_ORN_TCDS_Metro PM
Site Code : 05724917
Start Date : 10/22/2024
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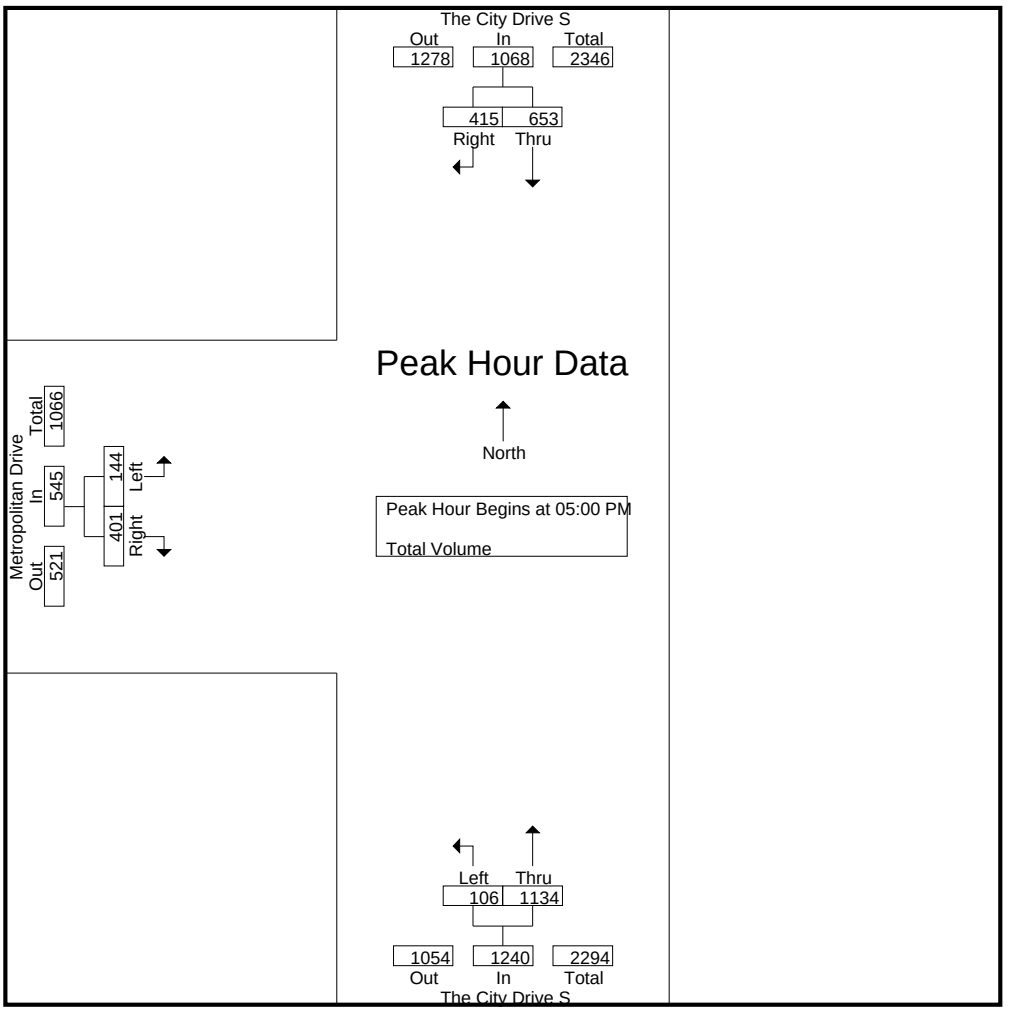

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			05:00 PM			05:00 PM		
+0 mins.	202	108	310	28	266	294	34	**118**	**152**
+15 mins.	153	113	266	**30**	281	311	33	89	122
+30 mins.	**206**	**136**	**342**	25	292	317	33	95	128
+45 mins.	174	111	285	23	**295**	**318**	**44**	99	143
Total Volume	735	468	1203	106	1134	1240	144	401	545
% App. Total	61.1	38.9		8.5	91.5		26.4	73.6	
PHF	.892	.860	.879	.883	.961	.975	.818	.850	.896

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City of Orange
N/S: The City Drive S
E/W: SR-22 Eastbound Ramps
Weather: Clear

File Name : 03_ORN_TCDS_22E AM
Site Code : 05724917
Start Date : 10/22/2024
Page No : 1

Groups Printed- Total Volume

	The City Drive S Southbound				City Centre 1 Driveway Westbound				The City Drive S Northbound				SR-22 Eastbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	6	124	101	231	0	0	0	0	58	62	0	120	94	1	15	110	461
07:15 AM	9	111	92	212	0	3	2	5	40	71	0	111	90	1	17	108	436
07:30 AM	5	129	86	220	0	7	0	7	81	76	1	158	79	0	15	94	479
07:45 AM	13	179	92	284	1	1	0	2	88	93	4	185	115	7	22	144	615
Total	33	543	371	947	1	11	2	14	267	302	5	574	378	9	69	456	1991
08:00 AM	17	147	111	275	1	0	0	1	53	92	1	146	105	1	19	125	547
08:15 AM	10	142	108	260	1	3	1	5	44	77	3	124	98	1	14	113	502
08:30 AM	21	130	94	245	1	1	1	3	48	88	1	137	82	2	19	103	488
08:45 AM	5	132	105	242	0	1	0	1	41	83	2	126	102	6	28	136	505
Total	53	551	418	1022	3	5	2	10	186	340	7	533	387	10	80	477	2042
Grand Total	86	1094	789	1969	4	16	4	24	453	642	12	1107	765	19	149	933	4033
Apprch %	4.4	55.6	40.1		16.7	66.7	16.7		40.9	58	1.1		82	2	16		
Total %	2.1	27.1	19.6	48.8	0.1	0.4	0.1	0.6	11.2	15.9	0.3	27.4	19	0.5	3.7	23.1	

	The City Drive S Southbound				City Centre 1 Driveway Westbound				The City Drive S Northbound				SR-22 Eastbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	13	**179**	92	**284**	**1**	1	0	2	**88**	**93**	**4**	**185**	**115**	**7**	**22**	**144**	**615**
08:00 AM	17	147	**111**	275	1	0	0	1	53	92	1	146	105	1	19	125	547
08:15 AM	10	142	108	260	1	**3**	**1**	**5**	44	77	3	124	98	1	14	113	502
08:30 AM	**21**	130	94	245	1	1	1	3	48	88	1	137	82	2	19	103	488
Total Volume	61	598	405	1064	4	5	2	11	233	350	9	592	400	11	74	485	2152
% App. Total	5.7	56.2	38.1		36.4	45.5	18.2		39.4	59.1	1.5		82.5	2.3	15.3		
PHF	.726	.835	.912	.937	1.00	.417	.500	.550	.662	.941	.563	.800	.870	.393	.841	.842	.875

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City of Orange
N/S: The City Drive S
E/W: SR-22 Eastbound Ramps
Weather: Clear

File Name : 03_ORN_TCDS_22E AM
Site Code : 05724917
Start Date : 10/22/2024
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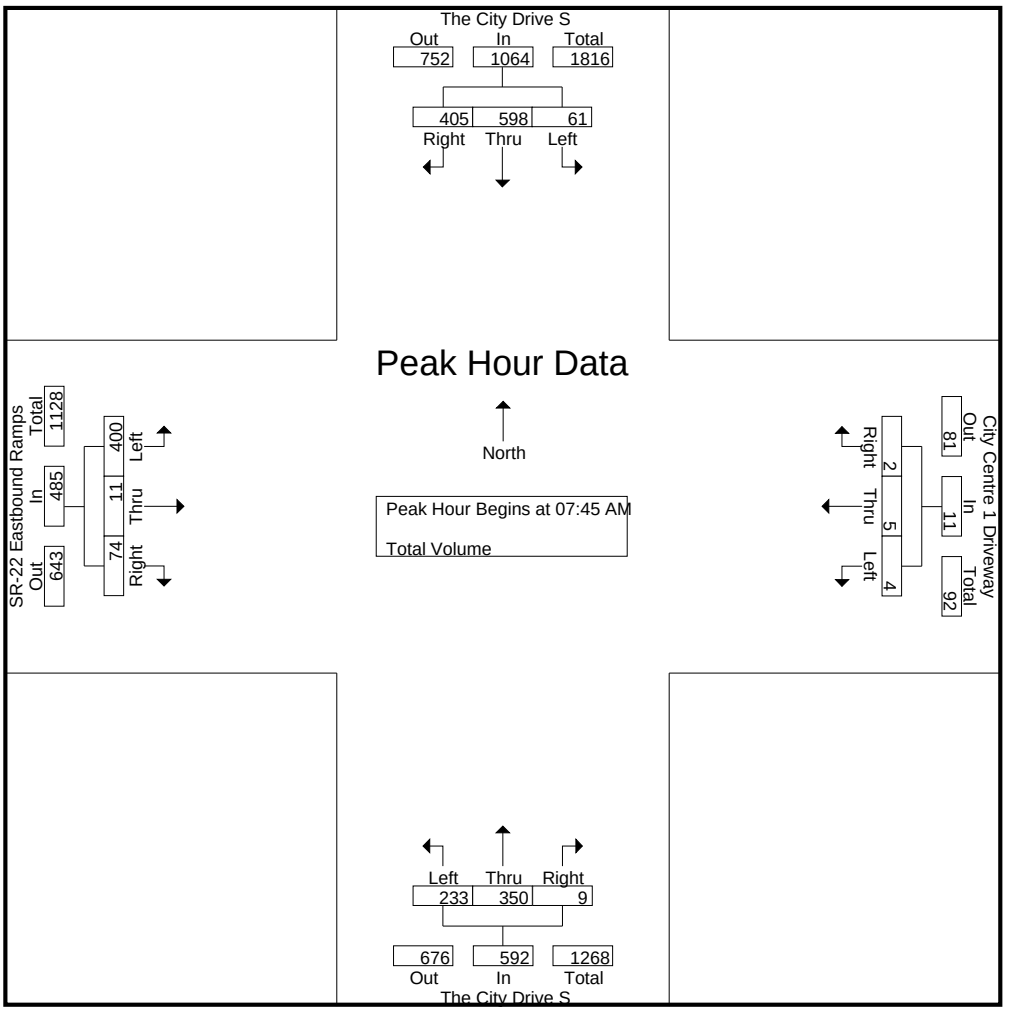

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:15 AM				07:30 AM				07:45 AM			
+0 mins.	13	**179**	92	**284**	0	3	**2**	5	81	76	1	158	**115**	**7**	**22**	**144**
+15 mins.	17	147	**111**	275	0	**7**	0	**7**	**88**	**93**	**4**	**185**	105	1	19	125
+30 mins.	10	142	108	260	**1**	1	0	2	53	92	1	146	98	1	14	113
+45 mins.	**21**	130	94	245	1	0	0	1	44	77	3	124	82	2	19	103
Total Volume	61	598	405	1064	2	11	2	15	266	338	9	613	400	11	74	485
% App. Total	5.7	56.2	38.1		13.3	73.3	13.3		43.4	55.1	1.5		82.5	2.3	15.3	
PHF	.726	.835	.912	.937	.500	.393	.250	.536	.756	.909	.563	.828	.870	.393	.841	.842

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City of Orange
N/S: The City Drive S
E/W: SR-22 Eastbound Ramps
Weather: Clear

File Name : 03_ORN_TCDS_22E PM
Site Code : 05724917
Start Date : 10/22/2024
Page No : 1

Groups Printed- Total Volume

	The City Drive S Southbound				City Centre 1 Driveway Westbound				The City Drive S Northbound				SR-22 Eastbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	8	154	94	256	0	4	6	10	57	124	0	181	79	1	25	105	552
04:15 PM	3	148	82	233	0	4	3	7	34	107	1	142	95	1	24	120	502
04:30 PM	7	177	115	299	3	14	8	25	43	143	2	188	98	1	25	124	636
04:45 PM	1	132	91	224	2	6	7	15	42	141	0	183	79	2	25	106	528
Total	19	611	382	1012	5	28	24	57	176	515	3	694	351	5	99	455	2218
05:00 PM	3	157	118	278	4	8	11	23	48	150	0	198	124	0	23	147	646
05:15 PM	5	152	113	270	1	6	4	11	40	188	0	228	100	0	31	131	640
05:30 PM	3	159	95	257	0	5	5	10	49	185	1	235	137	0	38	175	677
05:45 PM	3	124	83	210	2	4	3	9	39	181	3	223	121	2	25	148	590
Total	14	592	409	1015	7	23	23	53	176	704	4	884	482	2	117	601	2553
Grand Total	33	1203	791	2027	12	51	47	110	352	1219	7	1578	833	7	216	1056	4771
Apprch %	1.6	59.3	39		10.9	46.4	42.7		22.3	77.2	0.4		78.9	0.7	20.5		
Total %	0.7	25.2	16.6	42.5	0.3	1.1	1	2.3	7.4	25.6	0.1	33.1	17.5	0.1	4.5	22.1	

	The City Drive S Southbound				City Centre 1 Driveway Westbound				The City Drive S Northbound				SR-22 Eastbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	3	157	**118**	**278**	**4**	**8**	**11**	**23**	48	150	0	198	124	0	23	147	646
05:15 PM	**5**	152	113	270	1	6	4	11	40	**188**	0	228	100	0	31	131	640
05:30 PM	3	**159**	95	257	0	5	5	10	**49**	185	1	**235**	**137**	0	**38**	**175**	**677**
05:45 PM	3	124	83	210	2	4	3	9	39	181	**3**	223	121	**2**	25	148	590
Total Volume	14	592	409	1015	7	23	23	53	176	704	4	884	482	2	117	601	2553
% App. Total	1.4	58.3	40.3		13.2	43.4	43.4		19.9	79.6	0.5		80.2	0.3	19.5		
PHF	.700	.931	.867	.913	.438	.719	.523	.576	.898	.936	.333	.940	.880	.250	.770	.859	.943

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City of Orange
N/S: The City Drive S
E/W: SR-22 Eastbound Ramps
Weather: Clear

File Name : 03_ORN_TCDS_22E PM
Site Code : 05724917
Start Date : 10/22/2024
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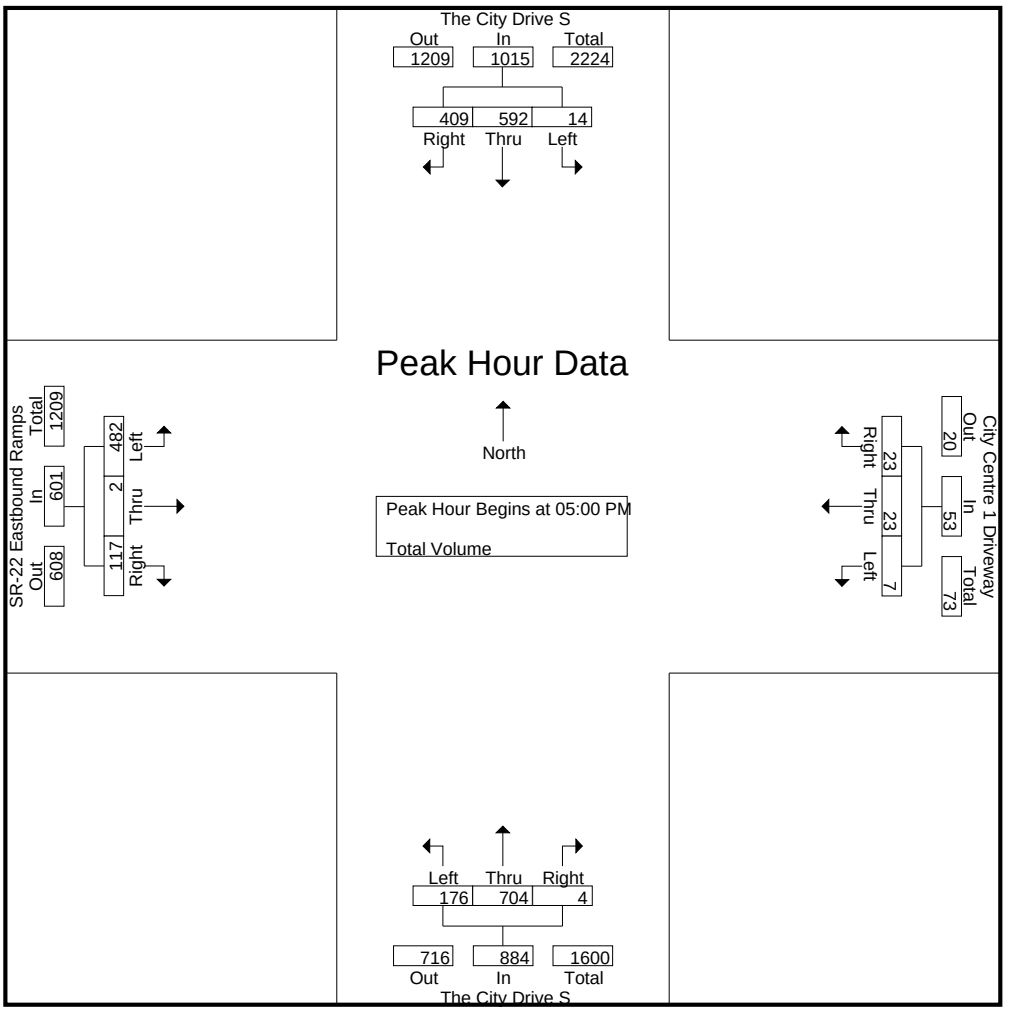

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				05:00 PM				05:00 PM			
+0 mins.	**7**	**177**	115	**299**	3	**14**	8	**25**	48	150	0	198	124	0	23	147
+15 mins.	1	132	91	224	2	6	7	15	40	**188**	0	228	100	0	31	131
+30 mins.	3	157	**118**	278	**4**	8	**11**	23	**49**	185	1	**235**	**137**	0	**38**	**175**
+45 mins.	5	152	113	270	1	6	4	11	39	181	**3**	223	121	**2**	25	148
Total Volume	16	618	437	1071	10	34	30	74	176	704	4	884	482	2	117	601
% App. Total	1.5	57.7	40.8		13.5	45.9	40.5		19.9	79.6	0.5		80.2	0.3	19.5	
PHF	.571	.873	.926	.895	.625	.607	.682	.740	.898	.936	.333	.940	.880	.250	.770	.859

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City of Orange
N/S: Design Drive/SR-22 WB Ramps
E/W: Metropolitan Drive
Weather: Clear

File Name : 04_ORN_22W_Metro AM
Site Code : 05724917
Start Date : 10/22/2024
Page No : 1

Groups Printed- Total Volume

	Design Drive Southbound				Metropolitan Drive Westbound				SR-22 Westbound Ramps Northbound				Metropolitan Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	28	5	0	33	58	2	84	144	0	88	2	90	267
07:15 AM	0	0	0	0	42	16	1	59	77	9	128	214	0	97	18	115	388
07:30 AM	0	1	2	3	46	9	0	55	83	6	110	199	0	99	15	114	371
07:45 AM	0	0	1	1	33	15	3	51	111	7	150	268	0	108	12	120	440
Total	0	1	3	4	149	45	4	198	329	24	472	825	0	392	47	439	1466
08:00 AM	0	0	0	0	43	10	0	53	80	13	150	243	0	106	6	112	408
08:15 AM	0	0	1	1	32	15	1	48	100	14	151	265	0	85	10	95	409
08:30 AM	0	0	4	4	23	10	4	37	66	10	140	216	0	64	20	84	341
08:45 AM	0	1	6	7	39	16	4	59	70	16	116	202	1	64	8	73	341
Total	0	1	11	12	137	51	9	197	316	53	557	926	1	319	44	364	1499
Grand Total	0	2	14	16	286	96	13	395	645	77	1029	1751	1	711	91	803	2965
Apprch %	0	12.5	87.5		72.4	24.3	3.3		36.8	4.4	58.8		0.1	88.5	11.3		
Total %	0	0.1	0.5	0.5	9.6	3.2	0.4	13.3	21.8	2.6	34.7	59.1	0	24	3.1	27.1	

	Design Drive Southbound				Metropolitan Drive Westbound				SR-22 Westbound Ramps Northbound				Metropolitan Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	**1**	**2**	**3**	**46**	9	0	**55**	83	6	110	199	0	99	**15**	114	371
07:45 AM	0	0	1	1	33	**15**	**3**	51	**111**	7	150	**268**	0	**108**	12	**120**	**440**
08:00 AM	0	0	0	0	43	10	0	53	80	13	150	243	0	106	6	112	408
08:15 AM	0	0	1	1	32	15	1	48	100	**14**	**151**	265	0	85	10	95	409
Total Volume	0	1	4	5	154	49	4	207	374	40	561	975	0	398	43	441	1628
% App. Total	0	20	80		74.4	23.7	1.9		38.4	4.1	57.5		0	90.2	9.8		
PHF	.000	.250	.500	.417	.837	.817	.333	.941	.842	.714	.929	.910	.000	.921	.717	.919	.925

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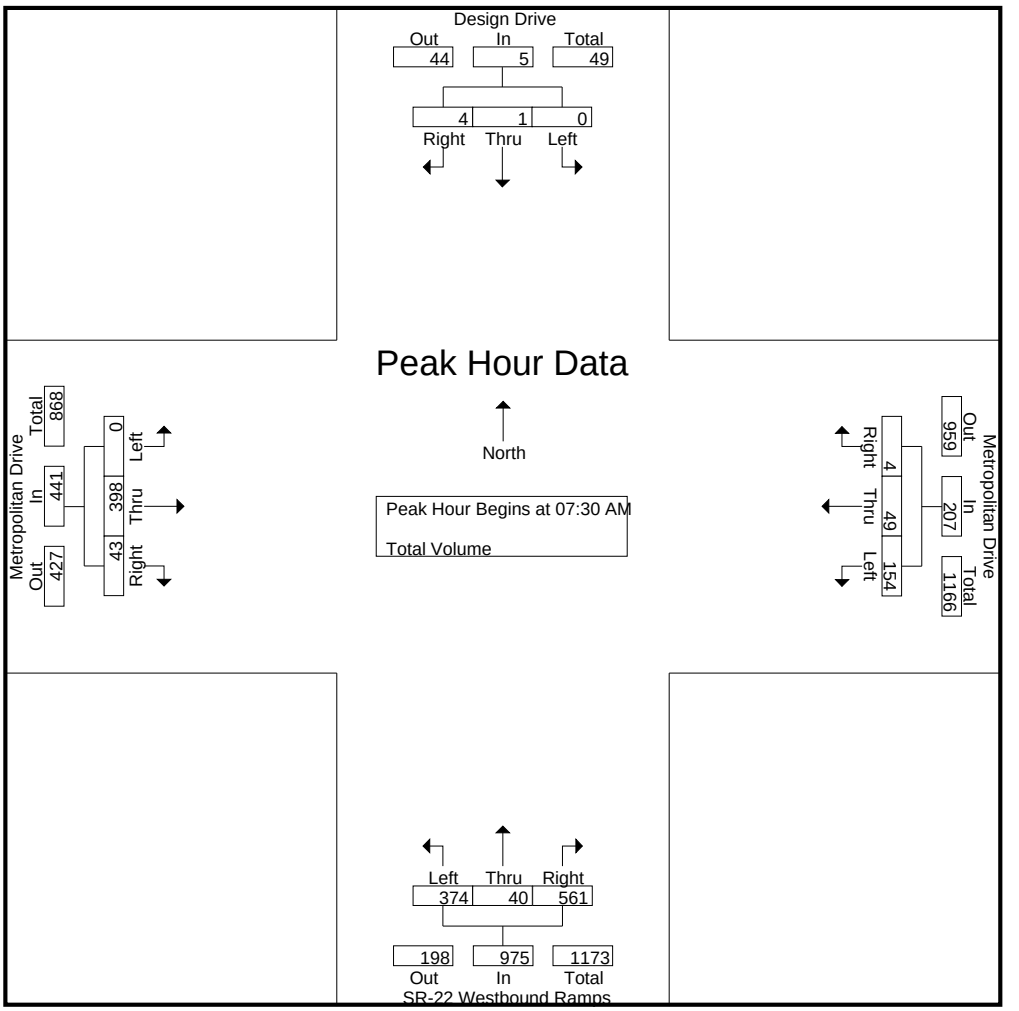
City of Orange
N/S: Design Drive/SR-22 WB Ramps
E/W: Metropolitan Drive
Weather: Clear

File Name : 04_ORN_22W_Metro AM
Site Code : 05724917
Start Date : 10/22/2024
Page No : 2



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

	08:00 AM				07:15 AM				07:45 AM				07:15 AM			
+0 mins.	0	0	0	0	42	**16**	1	**59**	**111**	7	150	**268**	0	97	**18**	115
+15 mins.	0	0	1	1	**46**	9	0	55	80	13	150	243	0	99	15	114
+30 mins.	0	0	4	4	33	15	**3**	51	100	**14**	**151**	265	0	**108**	12	**120**
+45 mins.	0	**1**	**6**	**7**	43	10	0	53	66	10	140	216	0	106	6	112
Total Volume	0	1	11	12	164	50	4	218	357	44	591	992	0	410	51	461
% App. Total	0	8.3	91.7		75.2	22.9	1.8		36	4.4	59.6		0	88.9	11.1	
PHF	.000	.250	.458	.429	.891	.781	.333	.924	.804	.786	.978	.925	.000	.949	.708	.960

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City of Orange
N/S: Design Drive/SR-22 WB Ramps
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Weather: Clear

File Name : 04_ORN_22W_Metro PM
Site Code : 05724917
Start Date : 10/22/2024
Page No : 1

Groups Printed- Total Volume

	Design Drive Southbound				Metropolitan Drive Westbound				SR-22 Westbound Ramps Northbound				Metropolitan Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	11	11	79	24	2	105	86	26	59	171	0	80	29	109	396
04:15 PM	0	0	5	5	97	20	4	121	75	19	62	156	0	66	15	81	363
04:30 PM	0	0	7	7	111	17	4	132	85	29	49	163	0	98	30	128	430
04:45 PM	0	0	5	5	106	21	0	127	109	18	51	178	0	60	19	79	389
Total	0	0	28	28	393	82	10	485	355	92	221	668	0	304	93	397	1578
05:00 PM	0	0	6	6	134	26	3	163	116	22	55	193	1	101	32	134	496
05:15 PM	0	0	8	8	105	27	10	142	107	27	53	187	1	82	28	111	448
05:30 PM	0	0	13	13	98	25	3	126	108	25	53	186	1	79	30	110	435
05:45 PM	0	0	9	9	79	19	6	104	88	24	60	172	0	84	11	95	380
Total	0	0	36	36	416	97	22	535	419	98	221	738	3	346	101	450	1759
Grand Total	0	0	64	64	809	179	32	1020	774	190	442	1406	3	650	194	847	3337
Apprch %	0	0	100		79.3	17.5	3.1		55	13.5	31.4		0.4	76.7	22.9		
Total %	0	0	1.9	1.9	24.2	5.4	1	30.6	23.2	5.7	13.2	42.1	0.1	19.5	5.8	25.4	

	Design Drive Southbound				Metropolitan Drive Westbound				SR-22 Westbound Ramps Northbound				Metropolitan Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	5	5	106	21	0	127	109	18	51	178	0	60	19	79	389
05:00 PM	0	0	6	6	**134**	26	3	**163**	**116**	22	**55**	**193**	**1**	**101**	**32**	**134**	**496**
05:15 PM	0	0	8	8	105	**27**	**10**	142	107	**27**	53	187	1	82	28	111	448
05:30 PM	0	0	**13**	**13**	98	25	3	126	108	25	53	186	1	79	30	110	435
Total Volume	0	0	32	32	443	99	16	558	440	92	212	744	3	322	109	434	1768
% App. Total	0	0	100		79.4	17.7	2.9		59.1	12.4	28.5		0.7	74.2	25.1		
PHF	.000	.000	.615	.615	.826	.917	.400	.856	.948	.852	.964	.964	.750	.797	.852	.810	.891

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City of Orange
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File Name : 04_ORN_22W_Metro PM
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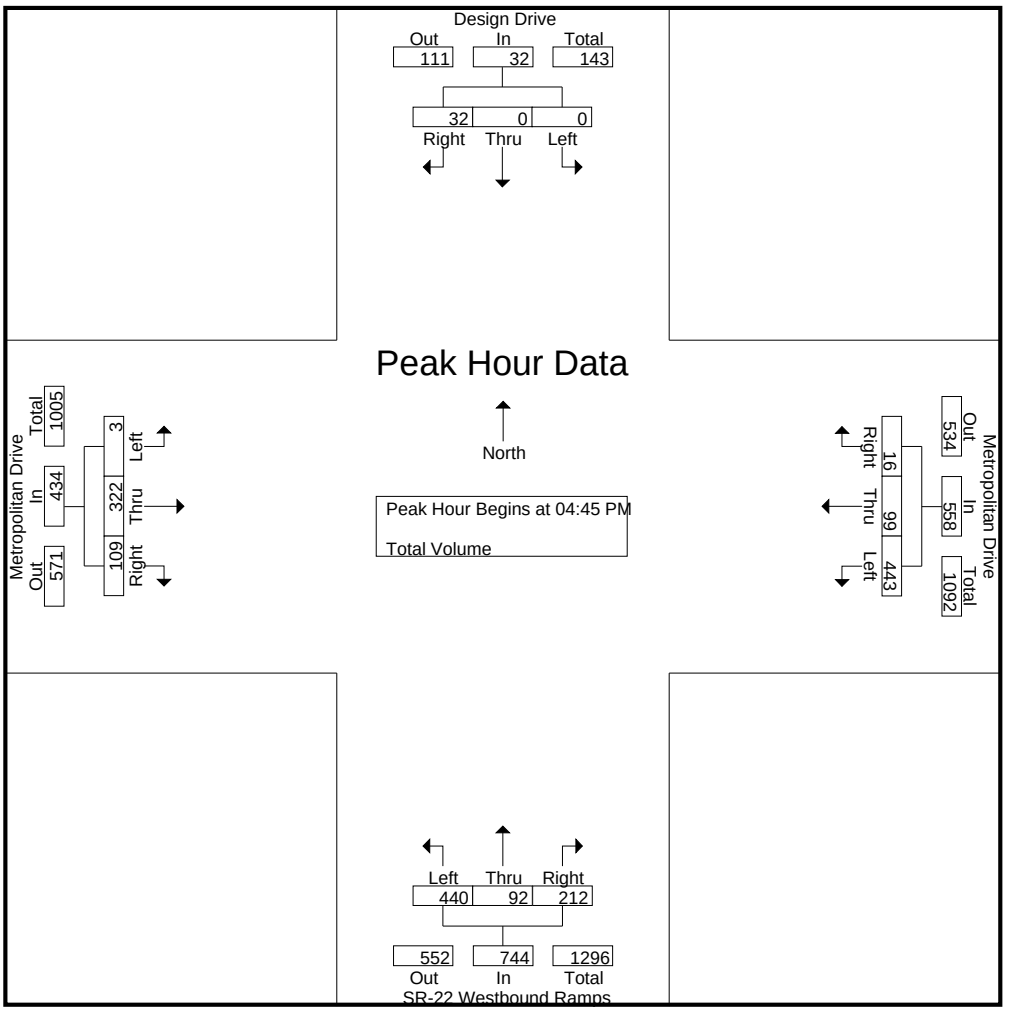
Page No : 2



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

	05:00 PM				04:30 PM				04:45 PM				04:30 PM			
+0 mins.	0	0	6	6	111	17	4	132	109	18	51	178	0	98	30	128
+15 mins.	0	0	8	8	106	21	0	127	**116**	22	**55**	**193**	0	60	19	79
+30 mins.	0	0	**13**	**13**	**134**	26	3	**163**	107	**27**	53	187	**1**	**101**	**32**	**134**
+45 mins.	0	0	9	9	105	**27**	**10**	142	108	25	53	186	1	82	28	111
Total Volume	0	0	36	36	456	91	17	564	440	92	212	744	2	341	109	452
% App. Total	0	0	100		80.9	16.1	3		59.1	12.4	28.5		0.4	75.4	24.1	
PHF	.000	.000	.692	.692	.851	.843	.425	.865	.948	.852	.964	.964	.500	.844	.852	.843

APPENDIX C

INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

APPENDIX C-I

EXISTING TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 1: The City Drive at Outlet Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.209

Intersection Setup

Name	The City Drive		The City Drive		Outlet Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	The City Drive		The City Drive		Outlet Drive	
Base Volume Input [veh/h]	34	1063	637	16	10	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	1063	637	16	10	19
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	266	159	4	3	5
Total Analysis Volume [veh/h]	34	1063	637	16	10	19
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Overlap
Signal Group	1	6	2	0	3	8
Auxiliary Signal Groups						1,8
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.16	0.12	0.01	0.00	0.00
Intersection LOS	A					
Intersection V/C	0.209					

Intersection Level Of Service Report
Intersection 2: The City Drive at Metropolitan Drive/Project Driveway No.1

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.335

Intersection Setup

Name	The City Drive		The City Drive		MetropolitanDrive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	1	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	The City Drive		The City Drive		MetropolitanDrive	
Base Volume Input [veh/h]	35	702	509	146	396	536
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	702	509	146	396	536
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	176	127	37	99	134
Total Analysis Volume [veh/h]	35	702	509	146	396	536
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Overlap	Split	Overlap
Signal Group	1	6	2	2	3	8
Auxiliary Signal Groups				2,3		1,8
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.14	0.10	0.00	0.12	0.15
Intersection LOS	A					
Intersection V/C	0.335					

Intersection Level Of Service Report
Intersection 3: The City Drive at SR-22 EB Ramps

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.493

Intersection Setup

Name	The City Drive			The City Drive			SR-22 EB Ramps					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	The City Drive			The City Drive			SR-22 EB Ramps					
Base Volume Input [veh/h]	235	354	9	62	604	409	404	11	75	4	5	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	235	354	9	62	604	409	404	11	75	4	5	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	59	89	2	16	151	102	101	3	19	1	1	1
Total Analysis Volume [veh/h]	235	354	9	62	604	409	404	11	75	4	5	2
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Unsigna	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

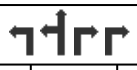
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.07	0.07	0.04	0.18	0.00	0.12	0.10	0.10	0.00	0.01	0.00
Intersection LOS	A											
Intersection V/C	0.493											

Intersection Level Of Service Report
Intersection 4: SR-22 WB Ramps/Designer Drive at Metropolitan Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.339

Intersection Setup

Name	SR-22 WB Ramps			Designer Drive			Metropolitan Drive			Metropolitan Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	0	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name	SR-22 WB Ramps			Designer Drive			Metropolitan Drive			Metropolitan Drive		
Base Volume Input [veh/h]	378	40	567	0	0	4	0	402	43	156	49	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	378	40	567	0	0	4	0	402	43	156	49	4
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	95	10	142	0	0	1	0	101	11	39	12	1
Total Analysis Volume [veh/h]	378	40	567	0	0	4	0	402	43	156	49	4
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Permiss	Split	Permiss	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	0	6	6	0	0	2	0	8	8	7	4	0
Auxiliary Signal Groups			6,7						6,8			
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.12	0.12	0.00	0.00	0.00	0.00	0.12	0.00	0.05	0.02	0.02
Intersection LOS	A											
Intersection V/C	0.339											

Intersection Level Of Service Report
Intersection 1: The City Drive at Outlet Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.241

Intersection Setup

Name	The City Drive		The City Drive		Outlet Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	The City Drive		The City Drive		Outlet Drive	
Base Volume Input [veh/h]	35	1274	906	16	10	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	1274	906	16	10	20
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	319	227	4	3	5
Total Analysis Volume [veh/h]	35	1274	906	16	10	20
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Overlap
Signal Group	1	6	2	0	3	8
Auxiliary Signal Groups						1,8
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.19	0.18	0.01	0.00	0.00
Intersection LOS	A					
Intersection V/C	0.241					

Intersection Level Of Service Report
Intersection 2: The City Drive at Metropolitan Drive/Project Driveway No.1

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.364

Intersection Setup

Name	The City Drive		The City Drive		MetropolitanDrive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	1	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	The City Drive		The City Drive		MetropolitanDrive	
Base Volume Input [veh/h]	73	858	713	211	451	567
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	73	858	713	211	451	567
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	215	178	53	113	142
Total Analysis Volume [veh/h]	73	858	713	211	451	567
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Overlap	Split	Overlap
Signal Group	1	6	2	2	3	8
Auxiliary Signal Groups				2,3		1,8
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.17	0.14	0.00	0.13	0.15
Intersection LOS	A					
Intersection V/C	0.364					

Intersection Level Of Service Report
Intersection 3: The City Drive at SR-22 EB Ramps

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.597

Intersection Setup

Name	The City Drive			The City Drive			SR-22 EB Ramps					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	The City Drive			The City Drive			SR-22 EB Ramps					
Base Volume Input [veh/h]	242	441	15	85	744	482	457	22	77	22	54	57
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	242	441	15	85	744	482	457	22	77	22	54	57
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	110	4	21	186	121	114	6	19	6	14	14
Total Analysis Volume [veh/h]	242	441	15	85	744	482	457	22	77	22	54	57
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Unsigna	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

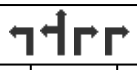
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.09	0.09	0.05	0.22	0.00	0.13	0.11	0.11	0.01	0.04	0.03
Intersection LOS	A											
Intersection V/C	0.597											

Intersection Level Of Service Report
Intersection 4: SR-22 WB Ramps/Designer Drive at Metropolitan Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.377

Intersection Setup

Name	SR-22 WB Ramps			Designer Drive			Metropolitan Drive			Metropolitan Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	0	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name	SR-22 WB Ramps			Designer Drive			Metropolitan Drive			Metropolitan Drive		
Base Volume Input [veh/h]	389	41	642	0	0	4	0	414	44	259	50	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	389	41	642	0	0	4	0	414	44	259	50	4
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	97	10	161	0	0	1	0	104	11	65	13	1
Total Analysis Volume [veh/h]	389	41	642	0	0	4	0	414	44	259	50	4
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Permiss	Split	Permiss	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	0	6	6	0	0	2	0	8	8	7	4	0
Auxiliary Signal Groups			6,7						6,8			
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.13	0.11	0.00	0.00	0.00	0.00	0.12	0.00	0.08	0.02	0.02
Intersection LOS	A											
Intersection V/C	0.377											

APPENDIX C-II

YEAR 2028 TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 1: The City Drive at Outlet Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.241

Intersection Setup

Name	The City Drive		The City Drive		Outlet Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	The City Drive		The City Drive		Outlet Drive	
Base Volume Input [veh/h]	35	1274	906	16	10	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	1274	906	16	10	20
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	319	227	4	3	5
Total Analysis Volume [veh/h]	35	1274	906	16	10	20
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Overlap
Signal Group	1	6	2	0	3	8
Auxiliary Signal Groups						1,8
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.19	0.18	0.01	0.00	0.00
Intersection LOS	A					
Intersection V/C	0.241					

Intersection Level Of Service Report
Intersection 2: The City Drive at Metropolitan Drive/Project Driveway No.1

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.364

Intersection Setup

Name	The City Drive		The City Drive		MetropolitanDrive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	1	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	The City Drive		The City Drive		MetropolitanDrive	
Base Volume Input [veh/h]	73	858	713	211	451	567
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	73	858	713	211	451	567
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	215	178	53	113	142
Total Analysis Volume [veh/h]	73	858	713	211	451	567
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Overlap	Split	Overlap
Signal Group	1	6	2	2	3	8
Auxiliary Signal Groups				2,3		1,8
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.17	0.14	0.00	0.13	0.15
Intersection LOS	A					
Intersection V/C	0.364					

Intersection Level Of Service Report
Intersection 3: The City Drive at SR-22 EB Ramps

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.597

Intersection Setup

Name	The City Drive			The City Drive			SR-22 EB Ramps					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	The City Drive			The City Drive			SR-22 EB Ramps					
Base Volume Input [veh/h]	242	441	15	85	744	482	457	22	77	22	54	57
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	242	441	15	85	744	482	457	22	77	22	54	57
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	110	4	21	186	121	114	6	19	6	14	14
Total Analysis Volume [veh/h]	242	441	15	85	744	482	457	22	77	22	54	57
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Unsigna	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

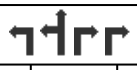
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.09	0.09	0.05	0.22	0.00	0.13	0.11	0.11	0.01	0.04	0.03
Intersection LOS	A											
Intersection V/C	0.597											

Intersection Level Of Service Report
Intersection 4: SR-22 WB Ramps/Designer Drive at Metropolitan Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.377

Intersection Setup

Name	SR-22 WB Ramps			Designer Drive			Metropolitan Drive			Metropolitan Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	0	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name	SR-22 WB Ramps			Designer Drive			Metropolitan Drive			Metropolitan Drive		
Base Volume Input [veh/h]	389	41	642	0	0	4	0	414	44	259	50	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	389	41	642	0	0	4	0	414	44	259	50	4
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	97	10	161	0	0	1	0	104	11	65	13	1
Total Analysis Volume [veh/h]	389	41	642	0	0	4	0	414	44	259	50	4
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Permiss	Split	Permiss	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	0	6	6	0	0	2	0	8	8	7	4	0
Auxiliary Signal Groups			6,7						6,8			
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.13	0.11	0.00	0.00	0.00	0.00	0.12	0.00	0.08	0.02	0.02
Intersection LOS	A											
Intersection V/C	0.377											

Intersection Level Of Service Report
Intersection 1: The City Drive at Outlet Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.357

Intersection Setup

Name	The City Drive		The City Drive		Outlet Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	The City Drive		The City Drive		Outlet Drive	
Base Volume Input [veh/h]	190	1400	1180	35	68	130
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	190	1400	1180	35	68	130
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	48	350	295	9	17	33
Total Analysis Volume [veh/h]	190	1400	1180	35	68	130
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Overlap
Signal Group	1	6	2	0	3	8
Auxiliary Signal Groups						1,8
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.21	0.23	0.02	0.02	0.00
Intersection LOS	A					
Intersection V/C	0.357					

Intersection Level Of Service Report
Intersection 2: The City Drive at Metropolitan Drive/Project Driveway No.1

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.426

Intersection Setup

Name	The City Drive		The City Drive		MetropolitanDrive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	1	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	The City Drive		The City Drive		MetropolitanDrive	
Base Volume Input [veh/h]	133	1414	873	491	224	468
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	133	1414	873	491	224	468
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	354	218	123	56	117
Total Analysis Volume [veh/h]	133	1414	873	491	224	468
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Overlap	Split	Overlap
Signal Group	1	6	2	2	3	8
Auxiliary Signal Groups				2,3		1,8
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.28	0.17	0.08	0.07	0.10
Intersection LOS	A					
Intersection V/C	0.426					

Intersection Level Of Service Report
Intersection 3: The City Drive at SR-22 EB Ramps

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.596

Intersection Setup

Name	The City Drive			The City Drive			SR-22 EB Ramps					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	The City Drive			The City Drive			SR-22 EB Ramps					
Base Volume Input [veh/h]	183	881	23	84	729	486	577	40	122	18	54	58
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	183	881	23	84	729	486	577	40	122	18	54	58
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	46	220	6	21	182	122	144	10	31	5	14	15
Total Analysis Volume [veh/h]	183	881	23	84	729	486	577	40	122	18	54	58
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Unsigna	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

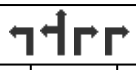
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.18	0.18	0.05	0.21	0.00	0.17	0.14	0.14	0.01	0.04	0.03
Intersection LOS	A											
Intersection V/C	0.596											

Intersection Level Of Service Report
Intersection 4: SR-22 WB Ramps/Designer Drive at Metropolitan Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.490

Intersection Setup

Name	SR-22 WB Ramps			Designer Drive			Metropolitan Drive			Metropolitan Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	0	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name	SR-22 WB Ramps			Designer Drive			Metropolitan Drive			Metropolitan Drive		
Base Volume Input [veh/h]	457	96	346	0	0	33	0	335	113	542	103	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	457	96	346	0	0	33	0	335	113	542	103	16
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	114	24	87	0	0	8	0	84	28	136	26	4
Total Analysis Volume [veh/h]	457	96	346	0	0	33	0	335	113	542	103	16
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Permiss	Split	Permiss	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	0	6	6	0	0	2	0	8	8	7	4	0
Auxiliary Signal Groups			6,7						6,8			
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.16	0.00	0.00	0.00	0.02	0.00	0.10	0.00	0.16	0.04	0.04
Intersection LOS	A											
Intersection V/C	0.490											

APPENDIX C-III

YEAR 2028 PLUS PROJECT TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 1: The City Drive at Outlet Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.243

Intersection Setup

Name	The City Drive		The City Drive		Outlet Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	The City Drive		The City Drive		Outlet Drive	
Base Volume Input [veh/h]	35	1277	916	16	10	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	1277	916	16	10	20
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	319	229	4	3	5
Total Analysis Volume [veh/h]	35	1277	916	16	10	20
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Overlap
Signal Group	1	6	2	0	3	8
Auxiliary Signal Groups						1,8
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.19	0.18	0.01	0.00	0.00
Intersection LOS	A					
Intersection V/C	0.243					

Intersection Level Of Service Report
Intersection 2: The City Drive at Metropolitan Drive/Project Driveway No.1

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.381

Intersection Setup

Name	The City Drive			The City Drive			MetropolitanDrive			Project Driveway No.1		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	The City Drive			The City Drive			MetropolitanDrive			Project Driveway No.1		
Base Volume Input [veh/h]	73	862	23	10	713	211	451	26	567	10	5	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	73	862	23	10	713	211	451	26	567	10	5	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	216	6	3	178	53	113	7	142	3	1	0
Total Analysis Volume [veh/h]	73	862	23	10	713	211	451	26	567	10	5	1
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	2	3	8	8	7	4	0
Auxiliary Signal Groups						2,3			1,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.17	0.17	0.01	0.14	0.00	0.13	0.02	0.15	0.01	0.00	0.00
Intersection LOS	A											
Intersection V/C	0.381											

Intersection Level Of Service Report
Intersection 3: The City Drive at SR-22 EB Ramps

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.603

Intersection Setup

Name	The City Drive			The City Drive			SR-22 EB Ramps					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	The City Drive			The City Drive			SR-22 EB Ramps					
Base Volume Input [veh/h]	242	451	15	85	747	489	476	22	77	22	54	57
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	242	451	15	85	747	489	476	22	77	22	54	57
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	113	4	21	187	122	119	6	19	6	14	14
Total Analysis Volume [veh/h]	242	451	15	85	747	489	476	22	77	22	54	57
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Unsigna	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

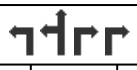
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.09	0.09	0.05	0.22	0.00	0.14	0.11	0.11	0.01	0.04	0.03
Intersection LOS	B											
Intersection V/C	0.603											

Intersection Level Of Service Report
Intersection 4: SR-22 WB Ramps/Designer Drive at Metropolitan Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.378

Intersection Setup

Name	SR-22 WB Ramps			Designer Drive			Metropolitan Drive			Metropolitan Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	0	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name	SR-22 WB Ramps			Designer Drive			Metropolitan Drive			Metropolitan Drive		
Base Volume Input [veh/h]	389	41	668	0	0	4	0	414	44	264	50	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	389	41	668	0	0	4	0	414	44	264	50	4
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	97	10	167	0	0	1	0	104	11	66	13	1
Total Analysis Volume [veh/h]	389	41	668	0	0	4	0	414	44	264	50	4
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Permiss	Split	Permiss	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	0	6	6	0	0	2	0	8	8	7	4	0
Auxiliary Signal Groups			6,7						6,8			
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.13	0.12	0.00	0.00	0.00	0.00	0.12	0.00	0.08	0.02	0.02
Intersection LOS	A											
Intersection V/C	0.378											

Intersection Level Of Service Report
Intersection 1: The City Drive at Outlet Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.358

Intersection Setup

Name	The City Drive		The City Drive		Outlet Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	The City Drive		The City Drive		Outlet Drive	
Base Volume Input [veh/h]	190	1410	1184	35	68	130
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	190	1410	1184	35	68	130
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	48	353	296	9	17	33
Total Analysis Volume [veh/h]	190	1410	1184	35	68	130
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Overlap
Signal Group	1	6	2	0	3	8
Auxiliary Signal Groups						1,8
Lead / Lag	Lead	-	-	-	Lead	-

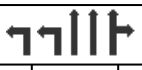
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.21	0.23	0.02	0.02	0.00
Intersection LOS	A					
Intersection V/C	0.358					

Intersection Level Of Service Report
Intersection 2: The City Drive at Metropolitan Drive/Project Driveway No.1

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.457

Intersection Setup

Name	The City Drive			The City Drive			MetropolitanDrive			Project Driveway No.1		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	The City Drive			The City Drive			MetropolitanDrive			Project Driveway No.1		
Base Volume Input [veh/h]	133	1415	12	8	869	491	224	10	468	41	20	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	133	1415	12	8	869	491	224	10	468	41	20	7
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	354	3	2	217	123	56	3	117	10	5	2
Total Analysis Volume [veh/h]	133	1415	12	8	869	491	224	10	468	41	20	7
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	2	3	8	8	7	4	0
Auxiliary Signal Groups						2,3			1,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.28	0.28	0.00	0.17	0.08	0.07	0.01	0.10	0.02	0.02	0.02
Intersection LOS	A											
Intersection V/C	0.457											

Intersection Level Of Service Report
Intersection 3: The City Drive at SR-22 EB Ramps

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.601

Intersection Setup

Name	The City Drive			The City Drive			SR-22 EB Ramps					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	The City Drive			The City Drive			SR-22 EB Ramps					
Base Volume Input [veh/h]	183	885	23	84	739	513	584	40	122	18	54	58
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	183	885	23	84	739	513	584	40	122	18	54	58
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	46	221	6	21	185	128	146	10	31	5	14	15
Total Analysis Volume [veh/h]	183	885	23	84	739	513	584	40	122	18	54	58
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Unsigna	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

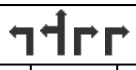
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.18	0.18	0.05	0.22	0.00	0.17	0.15	0.15	0.01	0.04	0.03
Intersection LOS	B											
Intersection V/C	0.601											

Intersection Level Of Service Report
Intersection 4: SR-22 WB Ramps/Designer Drive at Metropolitan Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.496

Intersection Setup

Name	SR-22 WB Ramps			Designer Drive			Metropolitan Drive			Metropolitan Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	0	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name	SR-22 WB Ramps			Designer Drive			Metropolitan Drive			Metropolitan Drive		
Base Volume Input [veh/h]	457	96	356	0	0	33	0	335	113	562	103	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	457	96	356	0	0	33	0	335	113	562	103	16
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	114	24	89	0	0	8	0	84	28	141	26	4
Total Analysis Volume [veh/h]	457	96	356	0	0	33	0	335	113	562	103	16
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Permiss	Split	Permiss	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	0	6	6	0	0	2	0	8	8	7	4	0
Auxiliary Signal Groups			6,7						6,8			
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.16	0.00	0.00	0.00	0.02	0.00	0.10	0.00	0.17	0.04	0.04
Intersection LOS	A											
Intersection V/C	0.496											

APPENDIX C-IV

YEAR 2050 BUILDOUT TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 1: The City Drive at Outlet Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.250

Intersection Setup

Name	The City Drive		The City Drive		Outlet Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	The City Drive		The City Drive		Outlet Drive	
Base Volume Input [veh/h]	37	1338	925	16	10	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	1338	925	16	10	21
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	335	231	4	3	5
Total Analysis Volume [veh/h]	37	1338	925	16	10	21
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Overlap
Signal Group	1	6	2	0	3	8
Auxiliary Signal Groups						1,8
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.20	0.18	0.01	0.00	0.00
Intersection LOS	A					
Intersection V/C	0.250					

Intersection Level Of Service Report
Intersection 2: The City Drive at Metropolitan Drive/Project Driveway No.1

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.380

Intersection Setup

Name	The City Drive		The City Drive		MetropolitanDrive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	1	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	The City Drive		The City Drive		MetropolitanDrive	
Base Volume Input [veh/h]	166	901	723	222	474	616
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	166	901	723	222	474	616
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	225	181	56	119	154
Total Analysis Volume [veh/h]	166	901	723	222	474	616
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Overlap	Split	Overlap
Signal Group	1	6	2	2	3	8
Auxiliary Signal Groups				2,3		1,8
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.18	0.14	0.00	0.14	0.13
Intersection LOS	A					
Intersection V/C	0.380					

Intersection Level Of Service Report
Intersection 3: The City Drive at SR-22 EB Ramps

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.624

Intersection Setup

Name	The City Drive			The City Drive			SR-22 EB Ramps					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	The City Drive			The City Drive			SR-22 EB Ramps					
Base Volume Input [veh/h]	254	657	16	89	781	594	480	23	81	23	57	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	254	657	16	89	781	594	480	23	81	23	57	60
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	64	164	4	22	195	149	120	6	20	6	14	15
Total Analysis Volume [veh/h]	254	657	16	89	781	594	480	23	81	23	57	60
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Unsigna	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

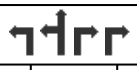
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.13	0.13	0.05	0.23	0.00	0.14	0.11	0.11	0.01	0.05	0.04
Intersection LOS	B											
Intersection V/C	0.624											

Intersection Level Of Service Report
Intersection 4: SR-22 WB Ramps/Designer Drive at Metropolitan Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.490

Intersection Setup

Name	SR-22 WB Ramps			Designer Drive			Metropolitan Drive			Metropolitan Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	0	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name	SR-22 WB Ramps			Designer Drive			Metropolitan Drive			Metropolitan Drive		
Base Volume Input [veh/h]	408	43	647	0	0	4	0	764	72	272	135	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	408	43	647	0	0	4	0	764	72	272	135	4
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	102	11	162	0	0	1	0	191	18	68	34	1
Total Analysis Volume [veh/h]	408	43	647	0	0	4	0	764	72	272	135	4
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Permiss	Split	Permiss	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	0	6	6	0	0	2	0	8	8	7	4	0
Auxiliary Signal Groups			6,7						6,8			
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.13	0.11	0.00	0.00	0.00	0.00	0.22	0.00	0.08	0.04	0.04
Intersection LOS	A											
Intersection V/C	0.490											

Intersection Level Of Service Report
Intersection 1: The City Drive at Outlet Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.373

Intersection Setup

Name	The City Drive		The City Drive		Outlet Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	The City Drive		The City Drive		Outlet Drive	
Base Volume Input [veh/h]	200	1470	1239	37	71	137
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	200	1470	1239	37	71	137
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	50	368	310	9	18	34
Total Analysis Volume [veh/h]	200	1470	1239	37	71	137
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Overlap
Signal Group	1	6	2	0	3	8
Auxiliary Signal Groups						1,8
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.22	0.24	0.02	0.02	0.00
Intersection LOS	A					
Intersection V/C	0.373					

Intersection Level Of Service Report
Intersection 2: The City Drive at Metropolitan Drive/Project Driveway No.1

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.464

Intersection Setup

Name	The City Drive		The City Drive		MetropolitanDrive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	1	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	The City Drive		The City Drive		MetropolitanDrive	
Base Volume Input [veh/h]	309	1485	876	516	235	725
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	309	1485	876	516	235	725
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	77	371	219	129	59	181
Total Analysis Volume [veh/h]	309	1485	876	516	235	725
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Overlap	Split	Overlap
Signal Group	1	6	2	2	3	8
Auxiliary Signal Groups				2,3		1,8
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.29	0.17	0.08	0.07	0.12
Intersection LOS	A					
Intersection V/C	0.464					

Intersection Level Of Service Report
Intersection 3: The City Drive at SR-22 EB Ramps

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.659

Intersection Setup

Name	The City Drive			The City Drive			SR-22 EB Ramps					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	The City Drive			The City Drive			SR-22 EB Ramps					
Base Volume Input [veh/h]	192	904	24	88	888	510	606	42	128	19	57	61
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	192	904	24	88	888	510	606	42	128	19	57	61
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	48	226	6	22	222	128	152	11	32	5	14	15
Total Analysis Volume [veh/h]	192	904	24	88	888	510	606	42	128	19	57	61
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Unsigna	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

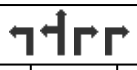
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.18	0.18	0.05	0.26	0.00	0.18	0.15	0.15	0.01	0.04	0.04
Intersection LOS	B											
Intersection V/C	0.659											

Intersection Level Of Service Report
Intersection 4: SR-22 WB Ramps/Designer Drive at Metropolitan Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.525

Intersection Setup

Name	SR-22 WB Ramps			Designer Drive			Metropolitan Drive			Metropolitan Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	0	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name	SR-22 WB Ramps			Designer Drive			Metropolitan Drive			Metropolitan Drive		
Base Volume Input [veh/h]	500	101	363	0	0	35	0	376	119	569	275	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	500	101	363	0	0	35	0	376	119	569	275	16
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	125	25	91	0	0	9	0	94	30	142	69	4
Total Analysis Volume [veh/h]	500	101	363	0	0	35	0	376	119	569	275	16
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Permiss	Split	Permiss	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	0	6	6	0	0	2	0	8	8	7	4	0
Auxiliary Signal Groups			6,7						6,8			
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.18	0.00	0.00	0.00	0.02	0.00	0.11	0.00	0.17	0.09	0.09
Intersection LOS	A											
Intersection V/C	0.525											

APPENDIX C-V

YEAR 2050 BUILDOUT PLUS PROJECT TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 1: The City Drive at Outlet Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.250

Intersection Setup

Name	The City Drive		The City Drive		Outlet Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	The City Drive		The City Drive		Outlet Drive	
Base Volume Input [veh/h]	37	1341	935	16	10	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	1341	935	16	10	21
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	335	234	4	3	5
Total Analysis Volume [veh/h]	37	1341	935	16	10	21
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Overlap
Signal Group	1	6	2	0	3	8
Auxiliary Signal Groups						1,8
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

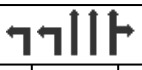
V/C, Movement V/C Ratio	0.01	0.20	0.18	0.01	0.00	0.00
Intersection LOS	A					
Intersection V/C	0.250					

Intersection Level Of Service Report

Intersection 2: The City Drive at Metropolitan Drive/Project Driveway No.1

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.519

Intersection Setup

Name	The City Drive			The City Drive			MetropolitanDrive			Project Driveway No.1		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	The City Drive			The City Drive			MetropolitanDrive			Project Driveway No.1		
Base Volume Input [veh/h]	166	905	88	82	723	222	474	368	616	16	22	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	166	905	88	82	723	222	474	368	616	16	22	5
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	226	22	21	181	56	119	92	154	4	6	1
Total Analysis Volume [veh/h]	166	905	88	82	723	222	474	368	616	16	22	5
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	2	3	8	8	7	4	0
Auxiliary Signal Groups						2,3			1,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.19	0.19	0.05	0.14	0.00	0.14	0.22	0.13	0.01	0.02	0.02
Intersection LOS	A											
Intersection V/C	0.519											

Intersection Level Of Service Report
Intersection 3: The City Drive at SR-22 EB Ramps

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.631

Intersection Setup

Name	The City Drive			The City Drive			SR-22 EB Ramps					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	The City Drive			The City Drive			SR-22 EB Ramps					
Base Volume Input [veh/h]	254	667	16	89	784	601	499	23	81	23	57	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	254	667	16	89	784	601	499	23	81	23	57	60
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	64	167	4	22	196	150	125	6	20	6	14	15
Total Analysis Volume [veh/h]	254	667	16	89	784	601	499	23	81	23	57	60
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Unsigna	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

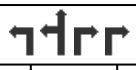
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.13	0.13	0.05	0.23	0.00	0.15	0.12	0.12	0.01	0.05	0.04
Intersection LOS	B											
Intersection V/C	0.631											

Intersection Level Of Service Report
Intersection 4: SR-22 WB Ramps/Designer Drive at Metropolitan Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.491

Intersection Setup

Name	SR-22 WB Ramps			Designer Drive			Metropolitan Drive			Metropolitan Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	0	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name	SR-22 WB Ramps			Designer Drive			Metropolitan Drive			Metropolitan Drive		
Base Volume Input [veh/h]	408	43	673	0	0	4	0	764	72	277	135	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	408	43	673	0	0	4	0	764	72	277	135	4
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	102	11	168	0	0	1	0	191	18	69	34	1
Total Analysis Volume [veh/h]	408	43	673	0	0	4	0	764	72	277	135	4
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Permiss	Split	Permiss	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	0	6	6	0	0	2	0	8	8	7	4	0
Auxiliary Signal Groups			6,7						6,8			
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.13	0.12	0.00	0.00	0.00	0.00	0.22	0.00	0.08	0.04	0.04
Intersection LOS	A											
Intersection V/C	0.491											

Intersection Level Of Service Report
Intersection 1: The City Drive at Outlet Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.373

Intersection Setup

Name	The City Drive		The City Drive		Outlet Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	The City Drive		The City Drive		Outlet Drive	
Base Volume Input [veh/h]	200	1480	1243	37	71	137
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	200	1480	1243	37	71	137
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	50	370	311	9	18	34
Total Analysis Volume [veh/h]	200	1480	1243	37	71	137
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Overlap
Signal Group	1	6	2	0	3	8
Auxiliary Signal Groups						1,8
Lead / Lag	Lead	-	-	-	Lead	-

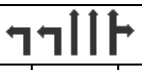
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.22	0.24	0.02	0.02	0.00
Intersection LOS	A					
Intersection V/C	0.373					

Intersection Level Of Service Report
Intersection 2: The City Drive at Metropolitan Drive/Project Driveway No.1

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.690

Intersection Setup

Name	The City Drive			The City Drive			MetropolitanDrive			Project Driveway No.1		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	The City Drive			The City Drive			MetropolitanDrive			Project Driveway No.1		
Base Volume Input [veh/h]	309	1486	70	189	872	516	235	193	725	92	223	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	309	1486	70	189	872	516	235	193	725	92	223	40
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	77	372	18	47	218	129	59	48	181	23	56	10
Total Analysis Volume [veh/h]	309	1486	70	189	872	516	235	193	725	92	223	40
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	2	3	8	8	7	4	0
Auxiliary Signal Groups						2,3			1,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.31	0.31	0.11	0.17	0.08	0.07	0.11	0.12	0.05	0.15	0.15
Intersection LOS	B											
Intersection V/C	0.690											

Intersection Level Of Service Report
Intersection 3: The City Drive at SR-22 EB Ramps

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.664

Intersection Setup

Name	The City Drive			The City Drive			SR-22 EB Ramps					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	The City Drive			The City Drive			SR-22 EB Ramps					
Base Volume Input [veh/h]	192	908	24	88	898	537	613	42	128	19	57	61
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	192	908	24	88	898	537	613	42	128	19	57	61
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	48	227	6	22	225	134	153	11	32	5	14	15
Total Analysis Volume [veh/h]	192	908	24	88	898	537	613	42	128	19	57	61
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Unsigna	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

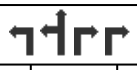
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.18	0.18	0.05	0.26	0.00	0.18	0.15	0.15	0.01	0.04	0.04
Intersection LOS	B											
Intersection V/C	0.664											

Intersection Level Of Service Report
Intersection 4: SR-22 WB Ramps/Designer Drive at Metropolitan Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.531

Intersection Setup

Name	SR-22 WB Ramps			Designer Drive			Metropolitan Drive			Metropolitan Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	0	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

Volumes

Name	SR-22 WB Ramps			Designer Drive			Metropolitan Drive			Metropolitan Drive		
Base Volume Input [veh/h]	500	101	373	0	0	35	0	376	119	589	275	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	500	101	373	0	0	35	0	376	119	589	275	16
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	125	25	93	0	0	9	0	94	30	147	69	4
Total Analysis Volume [veh/h]	500	101	373	0	0	35	0	376	119	589	275	16
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Permiss	Split	Permiss	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	0	6	6	0	0	2	0	8	8	7	4	0
Auxiliary Signal Groups			6,7						6,8			
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.18	0.00	0.00	0.00	0.02	0.00	0.11	0.00	0.17	0.09	0.09
Intersection LOS	A											
Intersection V/C	0.531											

APPENDIX D

PROJECT DRIVEWAY LEVEL OF SERVICE CALCULATION WORKSHEETS

APPENDIX D-I

YEAR 2028 PLUS PROJECT TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 5: The City Drive at Project Driveway No.2

Control Type:	Two-way stop	Delay (sec / veh):	15.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	The City Drive		The City Drive		Project Driveway No.2	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	The City Drive		The City Drive		Project Driveway No.2	
Base Volume Input [veh/h]	1312	3	0	935	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1312	3	0	935	0	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	328	1	0	234	0	0
Total Analysis Volume [veh/h]	1312	3	0	935	0	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	15.34
Movement LOS	A	A		A		C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.22
d_A, Approach Delay [s/veh]	0.00		0.00		15.34	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.01					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 6: The City Drive at Project Driveway No.3

Control Type:	Two-way stop	Delay (sec / veh):	12.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	The City Drive		The City Drive		Project Driveway No,3	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	The City Drive		The City Drive		Project Driveway No,3	
Base Volume Input [veh/h]	957	3	0	1289	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	957	3	0	1289	0	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	239	1	0	322	0	0
Total Analysis Volume [veh/h]	957	3	0	1289	0	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	12.93
Movement LOS	A	A		A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.17
d_A, Approach Delay [s/veh]	0.00		0.00		12.93	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.01					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: The City Drive at Project Driveway No.2

Control Type:	Two-way stop	Delay (sec / veh):	18.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.018

Intersection Setup

Name	The City Drive		The City Drive		Project Driveway No.2	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	The City Drive		The City Drive		Project Driveway No.2	
Base Volume Input [veh/h]	1647	1	0	1367	0	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1647	1	0	1367	0	5
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	412	0	0	342	0	1
Total Analysis Volume [veh/h]	1647	1	0	1367	0	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.01	0.00	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	18.51
Movement LOS	A	A		A		C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.06
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	1.41
d_A, Approach Delay [s/veh]	0.00		0.00		18.51	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.03					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 6: The City Drive at Project Driveway No.3

Control Type:	Two-way stop	Delay (sec / veh):	17.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

Intersection Setup

Name	The City Drive		The City Drive		Project Driveway No,3	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	The City Drive		The City Drive		Project Driveway No,3	
Base Volume Input [veh/h]	1558	1	0	1378	0	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1558	1	0	1378	0	4
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	390	0	0	345	0	1
Total Analysis Volume [veh/h]	1558	1	0	1378	0	4
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.01	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	17.57
Movement LOS	A	A		A		C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.04
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	1.05
d_A, Approach Delay [s/veh]	0.00		0.00		17.57	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.02					
Intersection LOS	C					

APPENDIX D-I

YEAR 2050 BUILDOUT PLUS PROJECT TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 5: The City Drive at Project Driveway No.2

Control Type:	Two-way stop	Delay (sec / veh):	15.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	The City Drive		The City Drive		Project Driveway No.2	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	The City Drive		The City Drive		Project Driveway No.2	
Base Volume Input [veh/h]	1381	3	0	1027	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1381	3	0	1027	0	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	345	1	0	257	0	0
Total Analysis Volume [veh/h]	1381	3	0	1027	0	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	15.90
Movement LOS	A	A		A		C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.23
d_A, Approach Delay [s/veh]	0.00		0.00		15.90	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.01					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 6: The City Drive at Project Driveway No.3

Control Type:	Two-way stop	Delay (sec / veh):	13.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	The City Drive		The City Drive		Project Driveway No,3	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	The City Drive		The City Drive		Project Driveway No,3	
Base Volume Input [veh/h]	1093	3	0	1354	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1093	3	0	1354	0	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	273	1	0	339	0	0
Total Analysis Volume [veh/h]	1093	3	0	1354	0	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	13.77
Movement LOS	A	A		A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.18
d_A, Approach Delay [s/veh]	0.00		0.00		13.77	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.01					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: The City Drive at Project Driveway No.2

Control Type:	Two-way stop	Delay (sec / veh):	19.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.020

Intersection Setup

Name	The City Drive		The City Drive		Project Driveway No.2	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	The City Drive		The City Drive		Project Driveway No.2	
Base Volume Input [veh/h]	1760	1	0	1577	0	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1760	1	0	1577	0	5
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	440	0	0	394	0	1
Total Analysis Volume [veh/h]	1760	1	0	1577	0	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.02	0.00	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	19.75
Movement LOS	A	A		A		C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.06
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	1.53
d_A, Approach Delay [s/veh]	0.00		0.00		19.75	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.03					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 6: The City Drive at Project Driveway No.3

Control Type:	Two-way stop	Delay (sec / veh):	20.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.017

Intersection Setup

Name	The City Drive		The City Drive		Project Driveway No,3	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	The City Drive		The City Drive		Project Driveway No,3	
Base Volume Input [veh/h]	1804	1	0	1689	0	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1804	1	0	1689	0	4
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	451	0	0	422	0	1
Total Analysis Volume [veh/h]	1804	1	0	1689	0	4
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.02	0.00	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	20.20
Movement LOS	A	A		A		C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.05
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	1.26
d_A, Approach Delay [s/veh]	0.00		0.00		20.20	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.02					
Intersection LOS	C					

APPENDIX E

SIMTRAFFIC QUEUEING WORKSHEETS

Intersection: 1: The City Drive & Outlet Drive

Movement	EB	EB	EB	EB	NB	NB	NB	NB	NB	NB	SB	SB
Directions Served	L	L	R	R	L	L	T	T	T	T	T	T
Maximum Queue (ft)	32	9	39	11	44	73	34	52	29	6	126	54
Average Queue (ft)	7	1	12	0	7	36	3	5	1	0	29	10
95th Queue (ft)	25	6	34	5	30	69	17	27	11	4	85	39
Link Distance (ft)	554	554	554	554			353	353	353	353	617	617
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)					360	360						
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 1: The City Drive & Outlet Drive

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	134	28
Average Queue (ft)	29	2
95th Queue (ft)	92	14
Link Distance (ft)	617	617
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: The City Drive & Metropolitan Drive/Project Dwy No. 1

Movement	EB	EB	EB	EB	EB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	L	T	R	R	L	TR	L	L	T	T	TR
Maximum Queue (ft)	145	395	482	345	188	52	75	132	112	170	187	176
Average Queue (ft)	124	196	247	148	77	13	25	69	32	90	95	75
95th Queue (ft)	174	333	408	309	143	40	59	123	77	160	172	156
Link Distance (ft)		486	486			523	523			265	265	265
Upstream Blk Time (%)		0	1									
Queuing Penalty (veh)		0	4									
Storage Bay Dist (ft)	85			285	285			255	255			
Storage Blk Time (%)	23	38	7	0	0							
Queuing Penalty (veh)	54	90	43	0	0							

Intersection: 2: The City Drive & Metropolitan Drive/Project Dwy No. 1

Movement	SB	SB	SB	SB	SB	SB
Directions Served	L	T	T	T	R	R
Maximum Queue (ft)	143	208	193	222	90	40
Average Queue (ft)	61	111	93	111	34	8
95th Queue (ft)	112	179	173	193	72	31
Link Distance (ft)		263	263	263	263	263
Upstream Blk Time (%)				0		
Queuing Penalty (veh)				0		
Storage Bay Dist (ft)	200					
Storage Blk Time (%)		0				
Queuing Penalty (veh)		0				

Intersection: 3: The City Drive & SR-22 EB Ramps

Movement	EB	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	LTR	R	LT	R	L	T	T	TR	L	T	T
Maximum Queue (ft)	323	286	190	135	68	239	392	274	127	215	338	335
Average Queue (ft)	205	171	38	58	29	159	170	97	31	78	194	205
95th Queue (ft)	296	264	144	112	55	248	319	213	89	166	295	297
Link Distance (ft)	456	456		465	465		504	504	504		458	458
Upstream Blk Time (%)							0					
Queuing Penalty (veh)							0					
Storage Bay Dist (ft)			135			180				180		
Storage Blk Time (%)		17	1			9	3				8	
Queuing Penalty (veh)		7	2			21	8				7	

Intersection: 3: The City Drive & SR-22 EB Ramps

Movement	SB
Directions Served	R
Maximum Queue (ft)	367
Average Queue (ft)	141
95th Queue (ft)	330
Link Distance (ft)	458
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: SR-22 WB Ramps & Metropolitan Drive

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	T	T	R	L	L	T	TR	L	LT	R	R	R
Maximum Queue (ft)	328	424	302	134	147	64	48	165	447	449	150	18
Average Queue (ft)	140	250	35	57	85	15	10	135	237	243	138	2
95th Queue (ft)	276	401	166	109	130	45	36	210	378	441	172	11
Link Distance (ft)	547	547				486	486		447	447		486
Upstream Blk Time (%)		0							1	2		
Queuing Penalty (veh)		0							0	0		
Storage Bay Dist (ft)			300	320	320			105			90	
Storage Blk Time (%)		4						4	46	12	31	
Queuing Penalty (veh)		3						10	94	41	105	

Intersection: 5: The City Drive & Project Dwy No. 2

Movement	WB	SB
Directions Served	R	T
Maximum Queue (ft)	30	6
Average Queue (ft)	2	0
95th Queue (ft)	14	4
Link Distance (ft)	550	353
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: The City Drive & Project Dwy No. 3

Movement	WB
Directions Served	R
Maximum Queue (ft)	23
Average Queue (ft)	1
95th Queue (ft)	8
Link Distance (ft)	530
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 490

Intersection: 1: The City Drive & Outlet Drive

Movement	EB	EB	EB	EB	NB	NB	NB	NB	NB	NB	SB	SB
Directions Served	L	L	R	R	L	L	T	T	T	T	T	T
Maximum Queue (ft)	101	23	133	27	149	161	102	130	128	130	239	233
Average Queue (ft)	45	5	50	2	52	76	32	57	51	40	123	77
95th Queue (ft)	90	19	99	15	119	135	84	118	113	104	213	180
Link Distance (ft)	554	554	554	554			353	353	353	353	617	617
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)					360	360						
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 1: The City Drive & Outlet Drive

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	325	47
Average Queue (ft)	153	11
95th Queue (ft)	268	36
Link Distance (ft)	617	617
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: The City Drive & Metropolitan Drive/Project Dwy No. 1

Movement	EB	EB	EB	EB	EB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	L	T	R	R	L	TR	L	L	T	T	TR
Maximum Queue (ft)	144	204	256	253	211	546	563	255	264	324	286	286
Average Queue (ft)	68	99	118	131	87	425	499	192	198	259	228	208
95th Queue (ft)	131	163	204	220	166	749	650	281	329	350	307	300
Link Distance (ft)		486	486			523	523			265	265	265
Upstream Blk Time (%)						56	72	1	8	29	3	2
Queuing Penalty (veh)						0	0	0	0	175	20	13
Storage Bay Dist (ft)	85			285	285			255	255			
Storage Blk Time (%)	5	16	0	0				3	13	31		
Queuing Penalty (veh)	5	19	1	0				16	65	96		

Intersection: 2: The City Drive & Metropolitan Drive/Project Dwy No. 1

Movement	SB	SB	SB	SB	SB	SB
Directions Served	L	T	T	T	R	R
Maximum Queue (ft)	234	265	203	189	131	95
Average Queue (ft)	130	104	91	88	58	25
95th Queue (ft)	222	212	181	176	110	66
Link Distance (ft)		263	263	263	263	263
Upstream Blk Time (%)	1	1	0			
Queuing Penalty (veh)	0	3	0			
Storage Bay Dist (ft)	200					
Storage Blk Time (%)	4	1				
Queuing Penalty (veh)	13	2				

Intersection: 3: The City Drive & SR-22 EB Ramps

Movement	EB	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	LTR	R	LT	R	L	T	T	TR	L	T	T
Maximum Queue (ft)	458	428	195	132	82	240	440	384	256	239	411	410
Average Queue (ft)	291	242	77	62	32	173	301	208	100	98	240	253
95th Queue (ft)	431	376	213	118	65	281	470	355	240	220	366	371
Link Distance (ft)	456	456		465	465		504	504	504		458	458
Upstream Blk Time (%)	1	0					10	0			0	0
Queuing Penalty (veh)	0	0					0	0			1	1
Storage Bay Dist (ft)			135			180				180		
Storage Blk Time (%)		30	1			5	28			0	14	
Queuing Penalty (veh)		19	3			16	53			1	12	

Intersection: 3: The City Drive & SR-22 EB Ramps

Movement	SB
Directions Served	R
Maximum Queue (ft)	270
Average Queue (ft)	78
95th Queue (ft)	231
Link Distance (ft)	458
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: SR-22 WB Ramps & Metropolitan Drive

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	T	T	R	L	L	T	TR	L	LT	R	R	R
Maximum Queue (ft)	249	344	139	197	199	89	94	165	468	455	144	75
Average Queue (ft)	67	200	40	110	127	42	45	148	302	66	63	24
95th Queue (ft)	171	303	115	174	182	79	80	207	447	264	128	65
Link Distance (ft)	547	547				486	486		447	447		486
Upstream Blk Time (%)									2	0		
Queuing Penalty (veh)									0	0		
Storage Bay Dist (ft)			300	320	320			105			90	
Storage Blk Time (%)		1						6	51	1	4	
Queuing Penalty (veh)		2						22	127	2	8	

Intersection: 5: The City Drive & Project Dwy No. 2

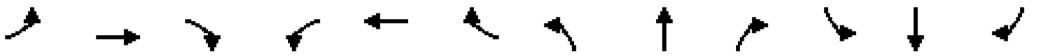
Movement	WB	SB	SB
Directions Served	R	T	T
Maximum Queue (ft)	31	81	40
Average Queue (ft)	3	6	2
95th Queue (ft)	19	52	29
Link Distance (ft)	550	353	353
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: The City Drive & Project Dwy No. 3

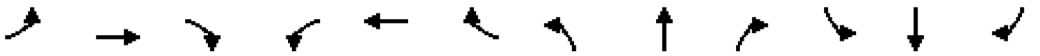
Movement	WB	NB	NB	NB	SB	SB
Directions Served	R	T	T	TR	T	T
Maximum Queue (ft)	48	397	361	271	22	17
Average Queue (ft)	7	187	136	35	1	1
95th Queue (ft)	39	499	409	164	16	9
Link Distance (ft)	530	458	458	458	265	265
Upstream Blk Time (%)		6	0			
Queuing Penalty (veh)		31	1			
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Network Summary

Network wide Queuing Penalty: 725



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	193	725	92	223	40	309	1486	70	189	872	516
Future Volume (vph)	235	193	725	92	223	40	309	1486	70	189	872	516
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	85		285	0		0	255		0	200		0
Storage Lanes	1		2	1		0	2		0	1		2
Taper Length (ft)	60			60			60			60		
Lane Util. Factor	0.97	1.00	0.88	1.00	1.00	1.00	0.97	0.91	0.91	1.00	0.91	0.88
Frt			0.850		0.977			0.993				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	2787	1770	1820	0	3433	5050	0	1770	5085	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1863	2787	1770	1820	0	3433	5050	0	1770	5085	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			200		6			7				68
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		624			599			381			340	
Travel Time (s)		14.2			13.6			7.4			6.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	235	193	725	92	223	40	309	1486	70	189	872	516
Shared Lane Traffic (%)												
Lane Group Flow (vph)	235	193	725	92	263	0	309	1556	0	189	872	516
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	5	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	35.0	35.0	10.0	11.0	11.0		10.0	30.0		10.0	36.0	35.0
Total Split (s)	35.0	35.0	17.0	17.0	17.0		17.0	51.0		17.0	51.0	35.0
Total Split (%)	29.2%	29.2%	14.2%	14.2%	14.2%		14.2%	42.5%		14.2%	42.5%	29.2%
Maximum Green (s)	30.0	30.0	13.0	12.0	12.0		13.0	46.0		13.0	46.0	30.0
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	5.0	5.0		4.0	5.0		4.0	5.0	5.0
Lead/Lag	Lag	Lead	Lag	Lag	Lead		Lag	Lag		Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	None
Walk Time (s)	7.0	7.0						7.0			7.0	7.0
Flash Don't Walk (s)	23.0	23.0						18.0			24.0	23.0
Pedestrian Calls (#/hr)	5	5						5			5	5
Act Effct Green (s)	18.4	18.9	36.9	11.4	12.0		13.0	52.1		18.5	57.6	81.0
Actuated g/C Ratio	0.15	0.16	0.31	0.10	0.10		0.11	0.43		0.15	0.48	0.68
v/c Ratio	0.45	0.66	0.73	0.55	1.41		0.83	0.71		0.69	0.36	0.27
Control Delay (s/veh)	45.4	49.8	22.9	64.3	250.4		63.1	22.4		54.8	13.5	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	45.4	49.8	22.9	64.3	250.4		63.1	22.4		54.8	13.5	2.9
LOS	D	D	C	E	F		E	C		D	B	A
Approach Delay (s/veh)		32.0			202.2			29.1			15.0	
Approach LOS		C			F			C			B	
Queue Length 50th (ft)	91	150	234	69	~271		126	238		136	150	19
Queue Length 95th (ft)	123	212	276	125	#443		m#196	408		#304	226	31
Internal Link Dist (ft)		544			519			301			260	
Turn Bay Length (ft)	85		285				255			200		
Base Capacity (vph)	858	465	996	181	187		371	2198		272	2441	1903
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	0.27	0.42	0.73	0.51	1.41		0.83	0.71		0.69	0.36	0.27

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 105			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.41			
Intersection Signal Delay (s/veh): 37.7		Intersection LOS: D	
Intersection Capacity Utilization 77.4%		ICU Level of Service D	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.

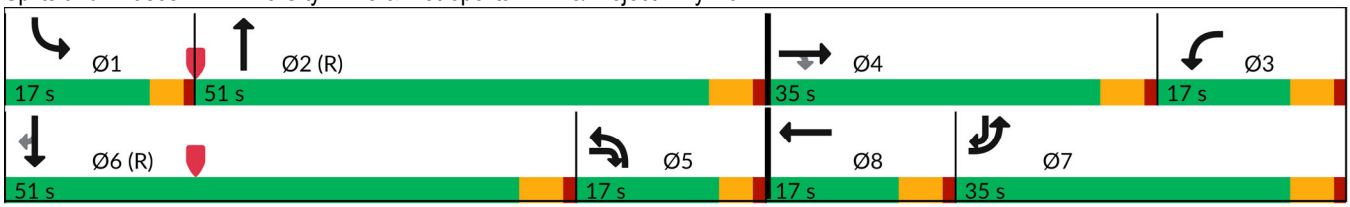
Queue shown is maximum after two cycles.

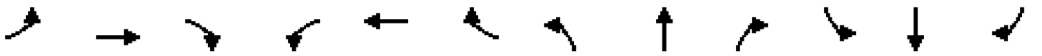
\# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

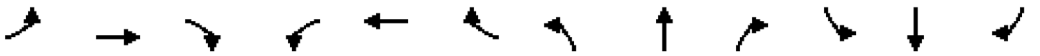
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: The City Drive & Metropolitan Drive/Project Dwy No. 1





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	193	725	92	223	40	309	1486	70	189	872	516
Future Volume (vph)	235	193	725	92	223	40	309	1486	70	189	872	516
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	85		285	0		0	255		0	200		0
Storage Lanes	1		2	1		0	2		0	1		2
Taper Length (ft)	60			60			60			60		
Lane Util. Factor	0.97	1.00	0.88	1.00	0.95	0.95	0.97	0.91	0.91	1.00	0.91	0.88
Frt			0.850		0.977			0.993				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	2787	1770	3458	0	3433	5050	0	1770	5085	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1863	2787	1770	3458	0	3433	5050	0	1770	5085	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			200		14			7				68
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		624			599			381			340	
Travel Time (s)		14.2			13.6			7.4			6.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	235	193	725	92	223	40	309	1486	70	189	872	516
Shared Lane Traffic (%)												
Lane Group Flow (vph)	235	193	725	92	263	0	309	1556	0	189	872	516
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	5	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	35.0	35.0	10.0	11.0	11.0		10.0	30.0		10.0	36.0	35.0
Total Split (s)	35.0	35.0	17.0	17.0	17.0		17.0	51.0		17.0	51.0	35.0
Total Split (%)	29.2%	29.2%	14.2%	14.2%	14.2%		14.2%	42.5%		14.2%	42.5%	29.2%
Maximum Green (s)	30.0	30.0	13.0	12.0	12.0		13.0	46.0		13.0	46.0	30.0
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	5.0	5.0		4.0	5.0		4.0	5.0	5.0
Lead/Lag	Lag	Lead	Lag	Lag	Lead		Lag	Lag		Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	None
Walk Time (s)	7.0	7.0						7.0			7.0	7.0
Flash Don't Walk (s)	23.0	23.0						18.0			24.0	23.0
Pedestrian Calls (#/hr)	5	5						5			5	5
Act Effct Green (s)	18.3	18.9	36.9	11.0	11.6		13.0	52.5		18.5	58.0	81.4
Actuated g/C Ratio	0.15	0.16	0.31	0.09	0.10		0.11	0.44		0.15	0.48	0.68
v/c Ratio	0.45	0.66	0.73	0.57	0.76		0.83	0.70		0.69	0.35	0.27
Control Delay (s/veh)	45.3	49.8	22.9	65.7	64.4		63.1	22.0		54.8	13.3	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	45.3	49.8	22.9	65.7	64.4		63.1	22.0		54.8	13.3	2.9
LOS	D	D	C	E	E		E	C		D	B	A
Approach Delay (s/veh)		32.0			64.7			28.8			14.9	
Approach LOS		C			E			C			B	
Queue Length 50th (ft)	91	150	234	69	100		126	238		136	150	19
Queue Length 95th (ft)	123	212	276	125	#154		m#196	408		#304	226	31
Internal Link Dist (ft)		544			519			301			260	
Turn Bay Length (ft)	85		285				255			200		
Base Capacity (vph)	858	465	996	181	358		371	2215		272	2458	1911
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	0.27	0.42	0.73	0.51	0.73		0.83	0.70		0.69	0.35	0.27

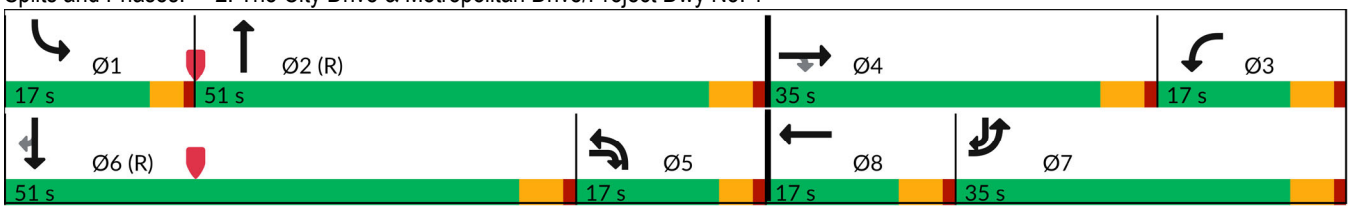
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay (s/veh): 27.7		Intersection LOS: C	
Intersection Capacity Utilization 71.8%		ICU Level of Service C	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

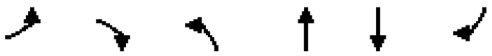
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: The City Drive & Metropolitan Drive/Project Dwy No. 1



APPENDIX F

SYNCHRO INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

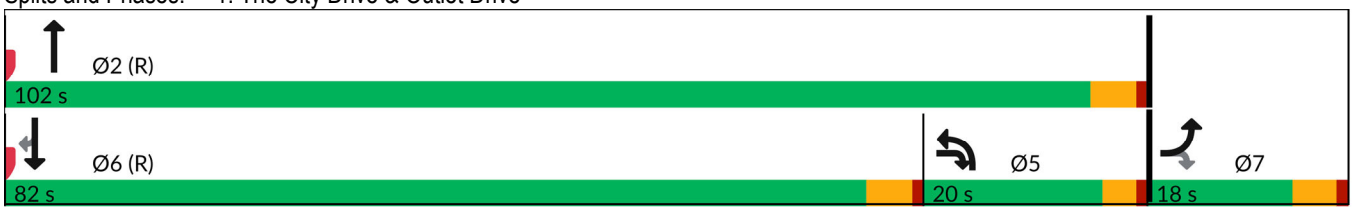


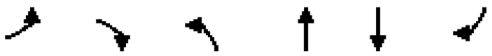
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	10	21	37	1341	935	16
Future Volume (vph)	10	21	37	1341	935	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	360			0
Storage Lanes	2	2	2			1
Taper Length (ft)	60		60			
Lane Util. Factor	0.97	0.88	0.97	0.86	0.91	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3433	2787	3433	6408	5085	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	3433	2787	3433	6408	5085	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		21				16
Link Speed (mph)	30			35	35	
Link Distance (ft)	645			439	656	
Travel Time (s)	14.7			8.6	12.8	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	21	37	1341	935	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	10	21	37	1341	935	16
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	pm+ov	Prot	NA	NA	Perm
Protected Phases	7	5	5	2	6	
Permitted Phases		7				6

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	7	5	5	2	6	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	10.0	10.0	11.0	33.0	33.0
Total Split (s)	18.0	20.0	20.0	102.0	82.0	82.0
Total Split (%)	15.0%	16.7%	16.7%	85.0%	68.3%	68.3%
Maximum Green (s)	13.0	16.0	16.0	97.0	77.0	77.0
Yellow Time (s)	4.0	3.0	3.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	4.0	5.0	5.0	5.0
Lead/Lag		Lag	Lag		Lead	Lead
Lead-Lag Optimize?		Yes	Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Walk Time (s)					7.0	7.0
Flash Don't Walk (s)					21.0	21.0
Pedestrian Calls (#/hr)					5	5
Act Effct Green (s)	6.1	16.3	14.0	116.7	97.7	97.7
Actuated g/C Ratio	0.05	0.14	0.12	0.97	0.81	0.81
v/c Ratio	0.06	0.05	0.09	0.22	0.23	0.01
Control Delay (s/veh)	54.9	15.3	43.3	0.1	3.8	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	54.9	15.3	43.3	0.1	3.8	2.1
LOS	D	B	D	A	A	A
Approach Delay (s/veh)	28.1			1.2	3.8	
Approach LOS	C			A	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 77 (64%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.23			
Intersection Signal Delay (s/veh): 2.6		Intersection LOS: A	
Intersection Capacity Utilization 32.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: The City Drive & Outlet Drive





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	21	37	1341	935	16
Future Volume (veh/h)	10	21	37	1341	935	16
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	21	37	1341	935	16
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	111	651	695	5691	3276	1017
Arrive On Green	0.03	0.03	0.40	1.00	0.64	0.64
Sat Flow, veh/h	3456	2790	3456	6696	5274	1585
Grp Volume(v), veh/h	10	21	37	1341	935	16
Grp Sat Flow(s),veh/h/ln	1728	1395	1728	1609	1702	1585
Q Serve(g_s), s	0.3	0.0	0.8	0.0	9.6	0.3
Cycle Q Clear(g_c), s	0.3	0.0	0.8	0.0	9.6	0.3
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	111	651	695	5691	3276	1017
V/C Ratio(X)	0.09	0.03	0.05	0.24	0.29	0.02
Avail Cap(c_a), veh/h	374	863	695	5691	3276	1017
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.4	35.5	28.9	0.0	9.4	3.6
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.1	0.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.4	0.3	0.0	3.4	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	56.7	35.6	28.9	0.1	9.7	3.6
LnGrp LOS	E	D	C	A	A	A
Approach Vol, veh/h	31			1378	951	
Approach Delay, s/veh	42.4			0.9	9.5	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		111.1		8.9	29.1	82.0
Change Period (Y+Rc), s		5.0		5.0	5.0	* 5
Max Green Setting (Gmax), s		97.0		13.0	16.0	* 77
Max Q Clear Time (g_c+I1), s		2.0		2.3	2.8	11.6
Green Ext Time (p_c), s		14.2		0.0	0.0	8.1

Intersection Summary	
HCM 7th Control Delay, s/veh	4.9
HCM 7th LOS	A

Notes

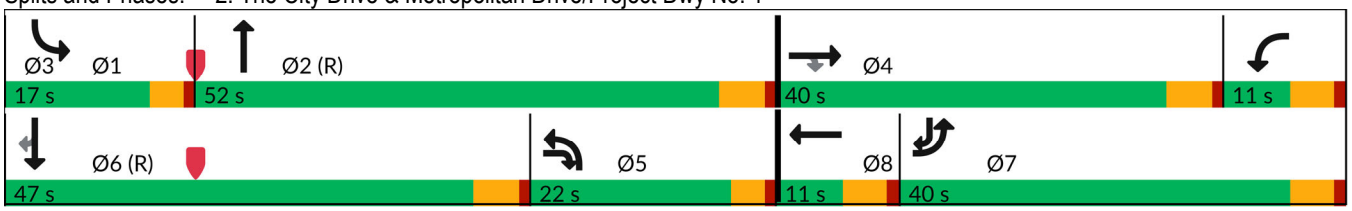
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

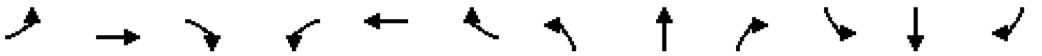
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	474	368	616	16	22	5	166	905	88	82	723	222
Future Volume (vph)	474	368	616	16	22	5	166	905	88	82	723	222
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	85		285	0		0	255		0	200		0
Storage Lanes	1		2	1		0	2		0	1		2
Taper Length (ft)	60			60			60			60		
Lane Util. Factor	0.97	1.00	0.88	1.00	1.00	1.00	0.97	0.91	0.91	1.00	0.91	0.88
Frt			0.850		0.972			0.987				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	2787	1770	1811	0	3433	5019	0	1770	5085	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1863	2787	1770	1811	0	3433	5019	0	1770	5085	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			279		5			16				222
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		624			599			381			340	
Travel Time (s)		14.2			13.6			7.4			6.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	474	368	616	16	22	5	166	905	88	82	723	222
Shared Lane Traffic (%)												
Lane Group Flow (vph)	474	368	616	16	27	0	166	993	0	82	723	222
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	5	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	40.0	40.0	10.0	11.0	11.0		10.0	30.0		10.0	36.0	40.0
Total Split (s)	40.0	40.0	22.0	11.0	11.0		22.0	52.0		17.0	47.0	40.0
Total Split (%)	33.3%	33.3%	18.3%	9.2%	9.2%		18.3%	43.3%		14.2%	39.2%	33.3%
Maximum Green (s)	35.0	35.0	18.0	6.0	6.0		18.0	47.0		13.0	42.0	35.0
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	5.0	5.0		4.0	5.0		4.0	5.0	5.0
Lead/Lag	Lag	Lead	Lag	Lag	Lead		Lag	Lag		Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	None
Walk Time (s)	7.0	7.0						7.0			7.0	7.0
Flash Don't Walk (s)	23.0	23.0						18.0			24.0	23.0
Pedestrian Calls (#/hr)	5	5						5			5	5
Act Effct Green (s)	27.3	29.2	52.2	6.4	6.0		18.0	63.8		10.5	54.1	86.4
Actuated g/C Ratio	0.23	0.24	0.44	0.05	0.05		0.15	0.53		0.09	0.45	0.72
v/c Ratio	0.61	0.81	0.45	0.17	0.28		0.32	0.37		0.53	0.32	0.11
Control Delay (s/veh)	39.3	48.0	6.9	58.6	55.1		40.3	12.7		60.7	20.1	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	39.3	48.0	6.9	58.6	55.1		40.3	12.7		60.7	20.1	0.8
LOS	D	D	A	E	E		D	B		E	C	A
Approach Delay (s/veh)		27.8			56.4			16.6			19.2	
Approach LOS		C			E			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 112 (93%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay (s/veh): 22.2		Intersection LOS: C	
Intersection Capacity Utilization 56.3%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 2: The City Drive & Metropolitan Drive/Project Dwy No. 1





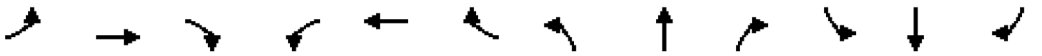
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	474	368	616	16	22	5	166	905	88	82	723	222
Future Volume (veh/h)	474	368	616	16	22	5	166	905	88	82	723	222
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	474	368	616	16	22	5	166	905	88	82	723	222
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	830	449	1209	89	74	17	667	2335	226	103	1787	1647
Arrive On Green	0.08	0.08	0.08	0.05	0.05	0.05	0.19	0.49	0.49	0.12	0.70	0.70
Sat Flow, veh/h	3456	1870	2790	1781	1475	335	3456	4733	459	1781	5106	2790
Grp Volume(v), veh/h	474	368	616	16	0	27	166	650	343	82	723	222
Grp Sat Flow(s),veh/h/ln	1728	1870	1395	1781	0	1810	1728	1702	1788	1781	1702	1395
Q Serve(g_s), s	15.9	23.2	1.3	1.0	0.0	1.7	4.9	14.3	14.4	5.4	7.1	0.0
Cycle Q Clear(g_c), s	15.9	23.2	1.3	1.0	0.0	1.7	4.9	14.3	14.4	5.4	7.1	0.0
Prop In Lane	1.00		1.00	1.00		0.19	1.00		0.26	1.00		1.00
Lane Grp Cap(c), veh/h	830	449	1209	89	0	91	667	1680	882	103	1787	1647
V/C Ratio(X)	0.57	0.82	0.51	0.18	0.00	0.30	0.25	0.39	0.39	0.79	0.40	0.13
Avail Cap(c_a), veh/h	1008	546	1352	89	0	91	667	1680	882	193	1787	1647
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.88	0.88	0.88	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.3	52.7	31.9	54.6	0.0	55.0	41.0	19.0	19.1	52.3	12.8	4.8
Incr Delay (d2), s/veh	0.5	7.2	0.3	1.0	0.0	1.8	0.2	0.7	1.3	12.7	0.7	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	12.6	8.2	0.5	0.0	0.8	2.1	5.7	6.2	2.6	2.3	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	49.8	59.8	32.2	55.6	0.0	56.8	41.2	19.7	20.3	65.1	13.4	5.0
LnGrp LOS	D	E	C	E		E	D	B	C	E	B	A
Approach Vol, veh/h		1458			43			1159			1027	
Approach Delay, s/veh		44.9			56.3			23.0			15.7	
Approach LOS		D			E			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	64.2	11.0	33.8	28.2	47.0	33.8	11.0
Change Period (Y+Rc), s	4.0	5.0	5.0	5.0	5.0	* 5	5.0	5.0
Max Green Setting (Gmax), s	13.0	47.0	6.0	35.0	18.0	* 42	35.0	6.0
Max Q Clear Time (g_c+I1), s	7.4	16.4	3.0	25.2	6.9	9.1	17.9	3.7
Green Ext Time (p_c), s	0.1	7.4	0.0	3.6	0.4	6.6	1.6	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	30.0
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

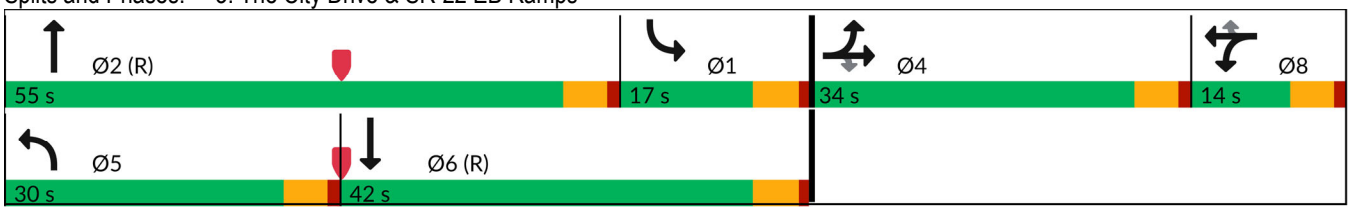


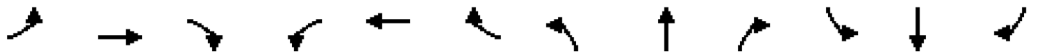
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	499	23	81	23	57	60	254	667	16	89	784	601
Future Volume (vph)	499	23	81	23	57	60	254	667	16	89	784	601
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		135	0		0	180		0	180		0
Storage Lanes	1		1	0		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Lane Util. Factor	0.95	0.91	0.95	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt		0.995	0.850			0.850		0.996				0.850
Flt Protected	0.950	0.958			0.986		0.950			0.950		
Satd. Flow (prot)	1681	1616	1504	0	1837	1583	1770	5065	0	1770	3539	1583
Flt Permitted	0.950	0.958			0.986		0.950			0.950		
Satd. Flow (perm)	1681	1616	1504	0	1837	1583	1770	5065	0	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1	155			155		4				480
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		511			527			549			542	
Travel Time (s)		11.6			12.0			10.7			10.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	499	23	81	23	57	60	254	667	16	89	784	601
Shared Lane Traffic (%)	47%		10%									
Lane Group Flow (vph)	264	266	73	0	80	60	254	683	0	89	784	601
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	Free
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8						Free

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	33.0	33.0	33.0	11.0	11.0	11.0	11.0	11.0		11.0	33.0	
Total Split (s)	34.0	34.0	34.0	14.0	14.0	14.0	30.0	55.0		17.0	42.0	
Total Split (%)	28.3%	28.3%	28.3%	11.7%	11.7%	11.7%	25.0%	45.8%		14.2%	35.0%	
Maximum Green (s)	29.0	29.0	29.0	9.0	9.0	9.0	25.0	50.0		12.0	37.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0	7.0								7.0	
Flash Don't Walk (s)	16.0	16.0	16.0								21.0	
Pedestrian Calls (#/hr)	5	5	5								5	
Act Effct Green (s)	24.5	24.5	24.5		8.8	8.8	21.3	54.7		12.0	45.4	120.0
Actuated g/C Ratio	0.20	0.20	0.20		0.07	0.07	0.18	0.46		0.10	0.38	1.00
v/c Ratio	0.77	0.81	0.17		0.59	0.23	0.81	0.30		0.50	0.59	0.38
Control Delay (s/veh)	59.9	63.5	0.8		71.9	2.1	67.0	21.7		53.7	27.6	1.8
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	59.9	63.5	0.8		71.9	2.1	67.0	21.7		53.7	27.6	1.8
LOS	E	E	A		E	A	E	C		D	C	A
Approach Delay (s/veh)		54.3			42.0			33.9			18.6	
Approach LOS		D			D			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 18 (15%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay (s/veh): 31.0		Intersection LOS: C	
Intersection Capacity Utilization 70.2%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: The City Drive & SR-22 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	499	23	81	23	57	60	254	667	16	89	784	601
Future Volume (veh/h)	499	23	81	23	57	60	254	667	16	89	784	601
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	533	0	62	23	57	60	254	667	16	89	784	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	625	0	278	32	78	94	284	2137	51	324	1560	
Arrive On Green	0.18	0.00	0.18	0.06	0.06	0.06	0.16	0.42	0.42	0.18	0.44	0.00
Sat Flow, veh/h	3563	0	1585	530	1314	1585	1781	5130	123	1781	3554	1585
Grp Volume(v), veh/h	533	0	62	80	0	60	254	442	241	89	784	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1844	0	1585	1781	1702	1848	1781	1777	1585
Q Serve(g_s), s	17.4	0.0	4.0	5.1	0.0	4.4	16.8	10.4	10.5	5.2	19.1	0.0
Cycle Q Clear(g_c), s	17.4	0.0	4.0	5.1	0.0	4.4	16.8	10.4	10.5	5.2	19.1	0.0
Prop In Lane	1.00		1.00	0.29		1.00	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	625	0	278	110	0	94	284	1418	770	324	1560	
V/C Ratio(X)	0.85	0.00	0.22	0.73	0.00	0.64	0.89	0.31	0.31	0.27	0.50	
Avail Cap(c_a), veh/h	861	0	383	138	0	119	371	1418	770	324	1560	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	48.0	0.0	42.5	55.5	0.0	55.2	49.4	23.5	23.5	42.3	24.2	0.0
Incr Delay (d2), s/veh	6.2	0.0	0.4	13.5	0.0	7.1	19.2	0.6	1.1	0.5	1.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.2	0.0	1.6	2.8	0.0	2.0	8.9	4.3	4.7	2.3	8.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	54.1	0.0	42.9	69.0	0.0	62.3	68.6	24.0	24.5	42.7	25.4	0.0
LnGrp LOS	D		D	E		E	E	C	C	D	C	
Approach Vol, veh/h		595			140			937			873	
Approach Delay, s/veh		53.0			66.1			36.2			27.2	
Approach LOS		D			E			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	26.8	55.0		26.0	24.1	57.7		12.1				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	12.0	50.0		29.0	25.0	37.0		9.0				
Max Q Clear Time (g_c+I1), s	7.2	12.5		19.4	18.8	21.1		7.1				
Green Ext Time (p_c), s	0.1	4.8		1.6	0.4	4.8		0.1				

Intersection Summary			
HCM 7th Control Delay, s/veh		38.7	
HCM 7th LOS		D	

Notes

User approved volume balancing among the lanes for turning movement.

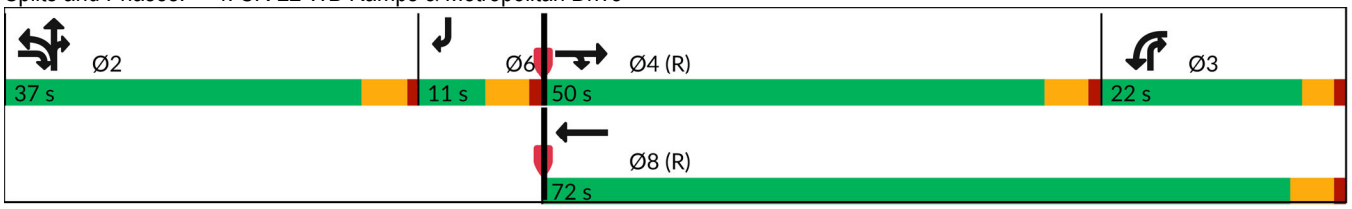
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	764	72	277	135	4	408	43	673	0	0	4
Future Volume (vph)	0	764	72	277	135	4	408	43	673	0	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	320		0	105		90	0		0
Storage Lanes	0		1	2		0	1		1	0		1
Taper Length (ft)	60			60			60			60		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	0.95	0.95	0.95	0.88	1.00	1.00	1.00
Frt			0.850		0.996				0.850			0.865
Flt Protected				0.950			0.950	0.961				
Satd. Flow (prot)	0	3539	1583	3433	3525	0	1681	1701	2787	0	0	1611
Flt Permitted				0.950			0.950	0.961				
Satd. Flow (perm)	0	3539	1583	3433	3525	0	1681	1701	2787	0	0	1611
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			72		4				338			578
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		615			624			528			556	
Travel Time (s)		14.0			14.2			12.0			12.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	764	72	277	135	4	408	43	673	0	0	4
Shared Lane Traffic (%)							45%					
Lane Group Flow (vph)	0	764	72	277	139	0	224	227	673	0	0	4
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2	1	1	2		1	2	1			1
Detector Template		Thru	Right	Left	Thru		Left	Thru	Right			Right
Leading Detector (ft)		100	20	20	100		20	100	20			20
Trailing Detector (ft)		0	0	0	0		0	0	0			0
Detector 1 Position(ft)		0	0	0	0		0	0	0			0
Detector 1 Size(ft)		6	20	20	6		20	6	20			20
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0		0.0	0.0	0.0			0.0
Detector 1 Queue (s)		0.0	0.0	0.0	0.0		0.0	0.0	0.0			0.0
Detector 1 Delay (s)		0.0	0.0	0.0	0.0		0.0	0.0	0.0			0.0
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type		NA	pt+ov	Prot	NA		Split	NA	pt+ov			Prot
Protected Phases		4	4 2	3	8		2	2	2 3			6
Permitted Phases												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		4	4 2	3	8		2	2	2 3			6
Switch Phase												
Minimum Initial (s)		6.0		6.0	6.0		6.0	6.0				6.0
Minimum Split (s)		11.0		10.0	23.0		11.0	11.0				11.0
Total Split (s)		50.0		22.0	72.0		37.0	37.0				11.0
Total Split (%)		41.7%		18.3%	60.0%		30.8%	30.8%				9.2%
Maximum Green (s)		45.0		18.0	67.0		32.0	32.0				6.0
Yellow Time (s)		4.0		3.0	4.0		4.0	4.0				4.0
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0				1.0
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0				0.0
Total Lost Time (s)		5.0		4.0	5.0		5.0	5.0				5.0
Lead/Lag		Lead		Lag								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0				3.0
Recall Mode		C-Max		None	C-Max		Max	Max				None
Walk Time (s)					7.0							
Flash Don't Walk (s)					11.0							
Pedestrian Calls (#/hr)					5							
Act Effct Green (s)		53.8	89.8	18.0	75.8		32.0	32.0	54.0			6.0
Actuated g/C Ratio		0.45	0.75	0.15	0.63		0.27	0.27	0.45			0.05
v/c Ratio		0.48	0.06	0.54	0.06		0.50	0.50	0.47			0.01
Control Delay (s/veh)		25.2	1.0	35.2	3.8		41.8	41.8	11.8			0.0
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0	0.0			0.0
Total Delay (s/veh)		25.2	1.0	35.2	3.8		41.8	41.8	11.8			0.0
LOS		C	A	D	A		D	D	B			A
Approach Delay (s/veh)		23.1			24.7			23.9				
Approach LOS		C			C			C				

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 116 (97%), Referenced to phase 4:EBT and 8:WBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay (s/veh): 23.7		Intersection LOS: C	
Intersection Capacity Utilization 53.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 4: SR-22 WB Ramps & Metropolitan Drive



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	764	72	277	135	4	408	43	673	0	0	4
Future Volume (veh/h)	0	764	72	277	135	4	408	43	673	0	0	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870	1870	1870	1870	0	0	1870
Adj Flow Rate, veh/h	0	764	72	277	135	4	439	0	673	0	0	4
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	0	0	2
Cap, veh/h	0	1333	1017	806	2291	68	950	0	1585	0	0	0
Arrive On Green	0.00	0.38	0.38	0.39	1.00	1.00	0.27	0.00	0.27	0.00	0.00	0.00
Sat Flow, veh/h	0	3647	1585	3456	3524	104	3563	0	3170		0	
Grp Volume(v), veh/h	0	764	72	277	68	71	439	0	673		0.0	
Grp Sat Flow(s),veh/h/ln	0	1777	1585	1728	1777	1852	1781	0	1585			
Q Serve(g_s), s	0.0	20.5	2.0	6.8	0.0	0.0	12.4	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	20.5	2.0	6.8	0.0	0.0	12.4	0.0	0.0			
Prop In Lane	0.00		1.00	1.00		0.06	1.00		1.00			
Lane Grp Cap(c), veh/h	0	1333	1017	806	1155	1204	950	0	1585			
V/C Ratio(X)	0.00	0.57	0.07	0.34	0.06	0.06	0.46	0.00	0.42			
Avail Cap(c_a), veh/h	0	1333	1017	806	1155	1204	950	0	1585			
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	1.00	0.99	0.99	0.99	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	29.9	8.1	30.1	0.0	0.0	36.8	0.0	19.0			
Incr Delay (d2), s/veh	0.0	1.8	0.1	0.2	0.1	0.1	1.6	0.0	0.8			
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	9.1	1.4	2.7	0.0	0.0	5.6	0.0	6.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	31.7	8.2	30.4	0.1	0.1	38.4	0.0	19.9			
LnGrp LOS		C	A	C	A	A	D		B			
Approach Vol, veh/h		836			416			1112				
Approach Delay, s/veh		29.6			20.3			27.2				
Approach LOS		C			C			C				

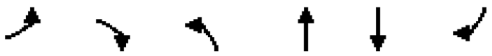
Timer - Assigned Phs		2	3	4				8				
Phs Duration (G+Y+Rc), s		37.0	33.0	50.0				83.0				
Change Period (Y+Rc), s		5.0	5.0	* 5				5.0				
Max Green Setting (Gmax), s		32.0	18.0	* 45				67.0				
Max Q Clear Time (g_c+I1), s		14.4	8.8	22.5				2.0				
Green Ext Time (p_c), s		4.5	0.6	5.8				0.8				

Intersection Summary												
HCM 7th Control Delay, s/veh			26.8									
HCM 7th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

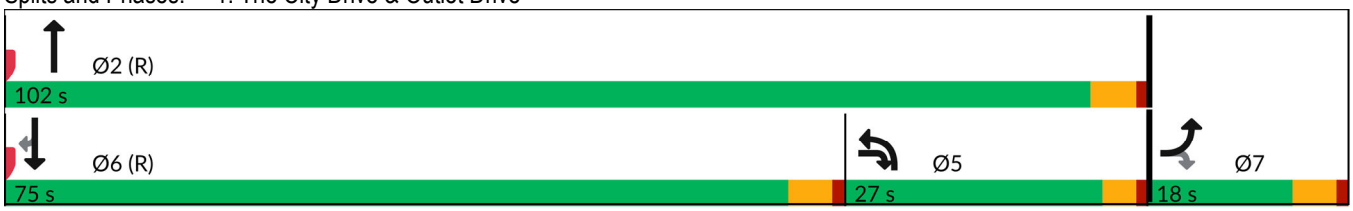


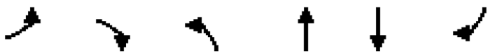
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	71	137	200	1480	1243	37
Future Volume (vph)	71	137	200	1480	1243	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	360			0
Storage Lanes	2	2	2			1
Taper Length (ft)	60		60			
Lane Util. Factor	0.97	0.88	0.97	0.86	0.91	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3433	2787	3433	6408	5085	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	3433	2787	3433	6408	5085	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		111				37
Link Speed (mph)	30			35	35	
Link Distance (ft)	645			439	656	
Travel Time (s)	14.7			8.6	12.8	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	71	137	200	1480	1243	37
Shared Lane Traffic (%)						
Lane Group Flow (vph)	71	137	200	1480	1243	37
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	pm+ov	Prot	NA	NA	Perm
Protected Phases	7	5	5	2	6	
Permitted Phases		7				6

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	7	5	5	2	6	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	10.0	10.0	11.0	33.0	33.0
Total Split (s)	18.0	27.0	27.0	102.0	75.0	75.0
Total Split (%)	15.0%	22.5%	22.5%	85.0%	62.5%	62.5%
Maximum Green (s)	13.0	23.0	23.0	97.0	70.0	70.0
Yellow Time (s)	4.0	3.0	3.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	4.0	5.0	5.0	5.0
Lead/Lag		Lag	Lag		Lead	Lead
Lead-Lag Optimize?		Yes	Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Walk Time (s)					7.0	7.0
Flash Don't Walk (s)					21.0	21.0
Pedestrian Calls (#/hr)					5	5
Act Effct Green (s)	7.9	33.7	23.0	105.3	77.3	77.3
Actuated g/C Ratio	0.07	0.28	0.19	0.88	0.64	0.64
v/c Ratio	0.31	0.16	0.30	0.26	0.38	0.04
Control Delay (s/veh)	56.7	8.7	25.4	1.8	11.0	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	56.7	8.7	25.4	1.8	11.0	3.0
LOS	E	A	C	A	B	A
Approach Delay (s/veh)	25.1			4.6	10.8	
Approach LOS	C			A	B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 71 (59%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.38			
Intersection Signal Delay (s/veh): 8.4		Intersection LOS: A	
Intersection Capacity Utilization 46.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: The City Drive & Outlet Drive





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	71	137	200	1480	1243	37
Future Volume (veh/h)	71	137	200	1480	1243	37
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	71	137	200	1480	1243	37
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	173	814	835	5576	2979	925
Arrive On Green	0.05	0.05	0.48	1.00	0.58	0.58
Sat Flow, veh/h	3456	2790	3456	6696	5274	1585
Grp Volume(v), veh/h	71	137	200	1480	1243	37
Grp Sat Flow(s),veh/h/ln	1728	1395	1728	1609	1702	1585
Q Serve(g_s), s	2.4	0.0	4.1	0.0	16.1	0.8
Cycle Q Clear(g_c), s	2.4	0.0	4.1	0.0	16.1	0.8
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	173	814	835	5576	2979	925
V/C Ratio(X)	0.41	0.17	0.24	0.27	0.42	0.04
Avail Cap(c_a), veh/h	374	977	835	5576	2979	925
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.3	31.7	24.6	0.0	13.8	4.9
Incr Delay (d2), s/veh	1.6	0.1	0.1	0.1	0.4	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.3	1.6	0.0	6.0	1.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	56.9	31.8	24.7	0.1	14.2	5.0
LnGrp LOS	E	C	C	A	B	A
Approach Vol, veh/h	208			1680	1280	
Approach Delay, s/veh	40.3			3.0	13.9	
Approach LOS	D			A	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		109.0		11.0	34.0	75.0
Change Period (Y+Rc), s		5.0		5.0	5.0	* 5
Max Green Setting (Gmax), s		97.0		13.0	23.0	* 70
Max Q Clear Time (g_c+I1), s		2.0		4.4	6.1	18.1
Green Ext Time (p_c), s		17.0		0.5	0.6	12.2

Intersection Summary	
HCM 7th Control Delay, s/veh	9.9
HCM 7th LOS	A

Notes

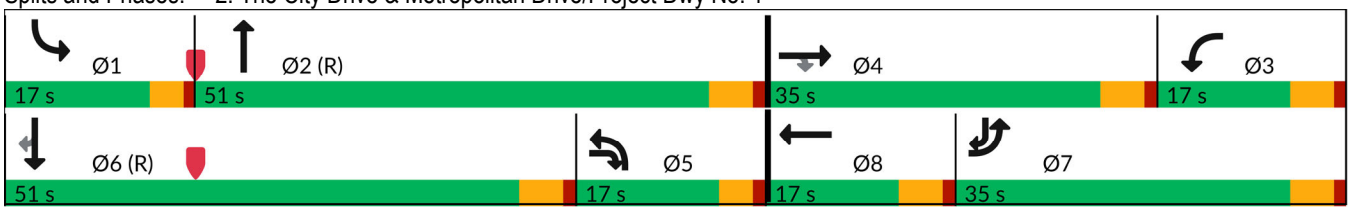
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

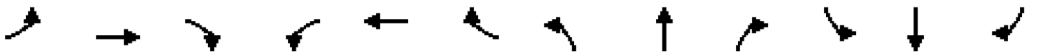
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	193	725	92	223	40	309	1486	70	189	872	516
Future Volume (vph)	235	193	725	92	223	40	309	1486	70	189	872	516
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	85		285	0		0	255		0	200		0
Storage Lanes	1		2	1		0	2		0	1		2
Taper Length (ft)	60			60			60			60		
Lane Util. Factor	0.97	1.00	0.88	1.00	1.00	1.00	0.97	0.91	0.91	1.00	0.91	0.88
Frt			0.850		0.977			0.993				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	2787	1770	1820	0	3433	5050	0	1770	5085	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1863	2787	1770	1820	0	3433	5050	0	1770	5085	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			200		6			7				68
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		624			599			381			340	
Travel Time (s)		14.2			13.6			7.4			6.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	235	193	725	92	223	40	309	1486	70	189	872	516
Shared Lane Traffic (%)												
Lane Group Flow (vph)	235	193	725	92	263	0	309	1556	0	189	872	516
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	5	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	35.0	35.0	10.0	11.0	11.0		10.0	30.0		10.0	36.0	35.0
Total Split (s)	35.0	35.0	17.0	17.0	17.0		17.0	51.0		17.0	51.0	35.0
Total Split (%)	29.2%	29.2%	14.2%	14.2%	14.2%		14.2%	42.5%		14.2%	42.5%	29.2%
Maximum Green (s)	30.0	30.0	13.0	12.0	12.0		13.0	46.0		13.0	46.0	30.0
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	5.0	5.0		4.0	5.0		4.0	5.0	5.0
Lead/Lag	Lag	Lead	Lag	Lag	Lead		Lag	Lag		Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	None
Walk Time (s)	7.0	7.0						7.0			7.0	7.0
Flash Don't Walk (s)	23.0	23.0						18.0			24.0	23.0
Pedestrian Calls (#/hr)	5	5						5			5	5
Act Effct Green (s)	18.4	18.9	36.9	11.4	12.0		13.0	52.1		18.5	57.6	81.0
Actuated g/C Ratio	0.15	0.16	0.31	0.10	0.10		0.11	0.43		0.15	0.48	0.68
v/c Ratio	0.45	0.66	0.73	0.55	1.41		0.83	0.71		0.69	0.36	0.27
Control Delay (s/veh)	45.4	49.8	22.9	64.3	250.4		63.1	22.4		54.8	13.5	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	45.4	49.8	22.9	64.3	250.4		63.1	22.4		54.8	13.5	2.9
LOS	D	D	C	E	F		E	C		D	B	A
Approach Delay (s/veh)		32.0			202.2			29.1			15.0	
Approach LOS		C			F			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 105			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.41			
Intersection Signal Delay (s/veh): 37.7		Intersection LOS: D	
Intersection Capacity Utilization 77.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 2: The City Drive & Metropolitan Drive/Project Dwy No. 1





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	235	193	725	92	223	40	309	1486	70	189	872	516
Future Volume (veh/h)	235	193	725	92	223	40	309	1486	70	189	872	516
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	235	193	725	92	223	40	309	1486	70	189	872	516
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	412	283	1066	121	154	28	797	2568	121	193	1957	1402
Arrive On Green	0.04	0.05	0.05	0.07	0.10	0.10	0.31	0.68	0.68	0.14	0.51	0.51
Sat Flow, veh/h	3456	1870	2790	1781	1544	277	3456	4997	235	1781	5106	2790
Grp Volume(v), veh/h	235	193	725	92	0	263	309	1012	544	189	872	516
Grp Sat Flow(s),veh/h/ln	1728	1870	1395	1781	0	1821	1728	1702	1828	1781	1702	1395
Q Serve(g_s), s	8.0	12.2	2.1	6.1	0.0	12.0	8.4	18.7	18.7	12.7	13.0	0.0
Cycle Q Clear(g_c), s	8.0	12.2	2.1	6.1	0.0	12.0	8.4	18.7	18.7	12.7	13.0	0.0
Prop In Lane	1.00		1.00	1.00		0.15	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	412	283	1066	121	0	182	797	1750	940	193	1957	1402
V/C Ratio(X)	0.57	0.68	0.68	0.76	0.00	1.44	0.39	0.58	0.58	0.98	0.45	0.37
Avail Cap(c_a), veh/h	864	468	1341	178	0	182	797	1750	940	193	1957	1402
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.33	1.33	1.33	1.33	1.33	1.33
Upstream Filter(I)	0.96	0.96	0.96	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.6	54.2	36.2	55.0	0.0	54.0	34.9	12.2	12.2	51.2	21.3	13.8
Incr Delay (d2), s/veh	1.2	2.8	1.0	10.4	0.0	228.2	0.3	1.4	2.6	58.6	0.7	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	6.4	10.3	3.1	0.0	17.0	3.4	5.7	6.4	8.5	4.8	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	55.8	56.9	37.1	65.4	0.0	282.2	35.2	13.6	14.8	109.8	22.1	14.6
LnGrp LOS	E	E	D	E		F	D	B	B	F	C	B
Approach Vol, veh/h		1153			355			1865			1577	
Approach Delay, s/veh		44.2			226.0			17.5			30.1	
Approach LOS		D			F			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	66.7	13.2	23.2	32.7	51.0	19.3	17.0
Change Period (Y+Rc), s	4.0	5.0	5.0	5.0	5.0	* 5	5.0	5.0
Max Green Setting (Gmax), s	13.0	46.0	12.0	30.0	13.0	* 46	30.0	12.0
Max Q Clear Time (g_c+I1), s	14.7	20.7	8.1	14.2	10.4	15.0	10.0	14.0
Green Ext Time (p_c), s	0.0	12.3	0.1	4.0	0.3	9.8	0.7	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	42.7
HCM 7th LOS	D

Notes

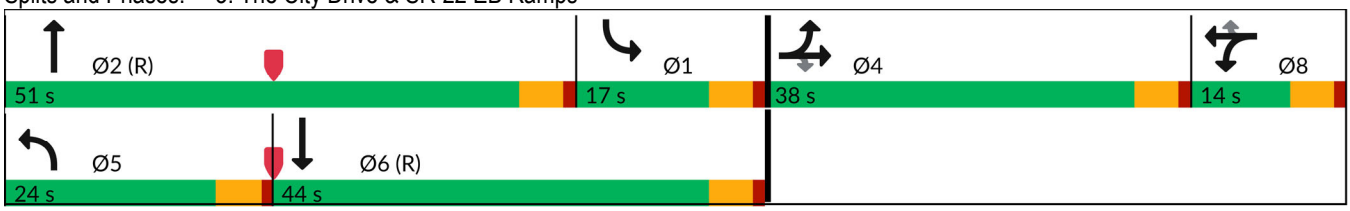
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

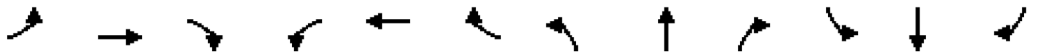
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	613	42	128	19	57	61	192	908	24	88	898	537
Future Volume (vph)	613	42	128	19	57	61	192	908	24	88	898	537
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		135	0		0	180		0	180		0
Storage Lanes	1		1	0		1	1		0	1		1
Taper Length (ft)	60			60			60			60		
Lane Util. Factor	0.95	0.91	0.95	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt		0.994	0.850			0.850		0.996				0.850
Flt Protected	0.950	0.960			0.988		0.950			0.950		
Satd. Flow (prot)	1681	1618	1504	0	1840	1583	1770	5065	0	1770	3539	1583
Flt Permitted	0.950	0.960			0.988		0.950			0.950		
Satd. Flow (perm)	1681	1618	1504	0	1840	1583	1770	5065	0	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2	155			155		4				375
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		511			527			549			542	
Travel Time (s)		11.6			12.0			10.7			10.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	613	42	128	19	57	61	192	908	24	88	898	537
Shared Lane Traffic (%)	46%		10%									
Lane Group Flow (vph)	331	337	115	0	76	61	192	932	0	88	898	537
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	Free
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8						Free

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	33.0	33.0	33.0	11.0	11.0	11.0	11.0	11.0		11.0	33.0	
Total Split (s)	38.0	38.0	38.0	14.0	14.0	14.0	24.0	51.0		17.0	44.0	
Total Split (%)	31.7%	31.7%	31.7%	11.7%	11.7%	11.7%	20.0%	42.5%		14.2%	36.7%	
Maximum Green (s)	33.0	33.0	33.0	9.0	9.0	9.0	19.0	46.0		12.0	39.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0	7.0								7.0	
Flash Don't Walk (s)	16.0	16.0	16.0								21.0	
Pedestrian Calls (#/hr)	5	5	5								5	
Act Effct Green (s)	29.5	29.5	29.5		8.5	8.5	16.8	52.2		12.0	47.5	120.0
Actuated g/C Ratio	0.25	0.25	0.25		0.07	0.07	0.14	0.44		0.10	0.40	1.00
v/c Ratio	0.80	0.84	0.24		0.58	0.24	0.78	0.42		0.50	0.64	0.34
Control Delay (s/veh)	57.2	61.8	3.1		71.9	2.2	70.7	25.6		64.1	37.8	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 (s/veh)	57.2	61.8	3.1		71.9	2.2	70.7	25.6		64.1	37.8	0.7
LOS	E	E	A		E	A	E	C		E	D	A
Approach Delay (s/veh)		51.2			40.9			33.3			26.3	
Approach LOS		D			D			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 18 (15%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay (s/veh): 34.5		Intersection LOS: C	
Intersection Capacity Utilization 74.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: The City Drive & SR-22 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	613	42	128	19	57	61	192	908	24	88	898	537
Future Volume (veh/h)	613	42	128	19	57	61	192	908	24	88	898	537
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	670	0	99	19	57	61	192	908	24	88	898	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	770	0	343	26	79	91	221	1961	52	315	1549	
Arrive On Green	0.22	0.00	0.22	0.06	0.06	0.06	0.12	0.38	0.38	0.35	0.87	0.00
Sat Flow, veh/h	3563	0	1585	462	1385	1585	1781	5115	135	1781	3554	1585
Grp Volume(v), veh/h	670	0	99	76	0	61	192	604	328	88	898	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1847	0	1585	1781	1702	1846	1781	1777	1585
Q Serve(g_s), s	21.8	0.0	6.3	4.9	0.0	4.5	12.7	16.0	16.0	4.3	7.8	0.0
Cycle Q Clear(g_c), s	21.8	0.0	6.3	4.9	0.0	4.5	12.7	16.0	16.0	4.3	7.8	0.0
Prop In Lane	1.00		1.00	0.25		1.00	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	770	0	343	106	0	91	221	1305	708	315	1549	
V/C Ratio(X)	0.87	0.00	0.29	0.72	0.00	0.67	0.87	0.46	0.46	0.28	0.58	
Avail Cap(c_a), veh/h	980	0	436	139	0	119	282	1305	708	315	1549	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	45.4	0.0	39.3	55.6	0.0	55.5	51.6	27.7	27.7	33.3	4.8	0.0
Incr Delay (d2), s/veh	7.1	0.0	0.5	11.6	0.0	9.0	20.2	1.2	2.2	0.5	1.6	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.3	0.0	2.5	2.6	0.0	2.0	6.9	6.6	7.4	1.8	2.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	52.5	0.0	39.8	67.2	0.0	64.5	71.8	28.9	29.9	33.8	6.4	0.0
LnGrp LOS	D		D	E		E	E	C	C	C	A	
Approach Vol, veh/h		769			137			1124			986	
Approach Delay, s/veh		50.8			66.0			36.5			8.9	
Approach LOS		D			E			D			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	26.2	51.0		30.9	19.9	57.3		11.9				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	12.0	46.0		33.0	19.0	39.0		9.0				
Max Q Clear Time (g_c+I1), s	6.3	18.0		23.8	14.7	9.8		6.9				
Green Ext Time (p_c), s	0.1	6.6		2.1	0.2	7.0		0.1				

Intersection Summary	
HCM 7th Control Delay, s/veh	32.5
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

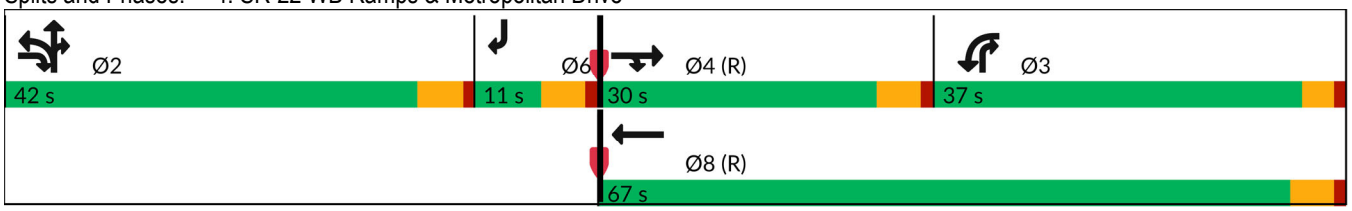
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	376	119	589	275	16	500	101	373	0	0	35
Future Volume (vph)	0	376	119	589	275	16	500	101	373	0	0	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	320		0	105		90	0		0
Storage Lanes	0		1	2		0	1		1	0		1
Taper Length (ft)	60			60			60			60		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	0.95	0.95	0.95	0.88	1.00	1.00	1.00
Frt			0.850		0.992				0.850			0.865
Flt Protected				0.950			0.950	0.968				
Satd. Flow (prot)	0	3539	1583	3433	3511	0	1681	1713	2787	0	0	1611
Flt Permitted				0.950			0.950	0.968				
Satd. Flow (perm)	0	3539	1583	3433	3511	0	1681	1713	2787	0	0	1611
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			119		7				373			385
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		615			624			528			556	
Travel Time (s)		14.0			14.2			12.0			12.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	376	119	589	275	16	500	101	373	0	0	35
Shared Lane Traffic (%)							40%					
Lane Group Flow (vph)	0	376	119	589	291	0	300	301	373	0	0	35
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2	1	1	2		1	2	1			1
Detector Template		Thru	Right	Left	Thru		Left	Thru	Right			Right
Leading Detector (ft)		100	20	20	100		20	100	20			20
Trailing Detector (ft)		0	0	0	0		0	0	0			0
Detector 1 Position(ft)		0	0	0	0		0	0	0			0
Detector 1 Size(ft)		6	20	20	6		20	6	20			20
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0		0.0	0.0	0.0			0.0
Detector 1 Queue (s)		0.0	0.0	0.0	0.0		0.0	0.0	0.0			0.0
Detector 1 Delay (s)		0.0	0.0	0.0	0.0		0.0	0.0	0.0			0.0
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type		NA	pt+ov	Prot	NA		Split	NA	pt+ov			Prot
Protected Phases		4	4 2	3	8		2	2	2 3			6
Permitted Phases												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		4	4 2	3	8		2	2	2 3			6
Switch Phase												
Minimum Initial (s)		6.0		6.0	6.0		6.0	6.0				6.0
Minimum Split (s)		11.0		10.0	23.0		11.0	11.0				11.0
Total Split (s)		30.0		37.0	67.0		42.0	42.0				11.0
Total Split (%)		25.0%		30.8%	55.8%		35.0%	35.0%				9.2%
Maximum Green (s)		25.0		33.0	62.0		37.0	37.0				6.0
Yellow Time (s)		4.0		3.0	4.0		4.0	4.0				4.0
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0				1.0
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0				0.0
Total Lost Time (s)		5.0		4.0	5.0		5.0	5.0				5.0
Lead/Lag		Lead		Lag								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0				3.0
Recall Mode		C-Max		None	C-Max		Max	Max				None
Walk Time (s)					7.0							
Flash Don't Walk (s)					11.0							
Pedestrian Calls (#/hr)					5							
Act Effct Green (s)		29.4	68.4	33.0	66.4		37.0	37.0	74.0			6.0
Actuated g/C Ratio		0.25	0.57	0.28	0.55		0.31	0.31	0.62			0.05
v/c Ratio		0.43	0.12	0.62	0.15		0.58	0.57	0.20			0.08
Control Delay (s/veh)		41.3	1.9	29.3	11.0		40.3	39.9	1.2			0.3
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0	0.0			0.0
Total Delay (s/veh)		41.3	1.9	29.3	11.0		40.3	39.9	1.2			0.3
LOS		D	A	C	B		D	D	A			A
Approach Delay (s/veh)		31.8			23.3			25.2			0.3	
Approach LOS		C			C			C			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 14 (12%), Referenced to phase 4:EBT and 8:WBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay (s/veh): 25.5		Intersection LOS: C	
Intersection Capacity Utilization 55.4%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 4: SR-22 WB Ramps & Metropolitan Drive



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	376	119	589	275	16	500	101	373	0	0	35
Future Volume (veh/h)	0	376	119	589	275	16	500	101	373	0	0	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870	1870	1870	1870	0	0	1870
Adj Flow Rate, veh/h	0	376	119	589	275	16	572	0	373	0	0	35
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	0	0	2
Cap, veh/h	0	740	819	1238	2077	120	1098	0	2113	0	0	0
Arrive On Green	0.00	0.21	0.21	0.60	1.00	1.00	0.31	0.00	0.31	0.00	0.00	0.00
Sat Flow, veh/h	0	3647	1585	3456	3414	198	3563	0	3170		0	
Grp Volume(v), veh/h	0	376	119	589	142	149	572	0	373		0.0	
Grp Sat Flow(s),veh/h/ln	0	1777	1585	1728	1777	1835	1781	0	1585			
Q Serve(g_s), s	0.0	11.2	4.7	11.5	0.0	0.0	15.9	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	11.2	4.7	11.5	0.0	0.0	15.9	0.0	0.0			
Prop In Lane	0.00		1.00	1.00		0.11	1.00		1.00			
Lane Grp Cap(c), veh/h	0	740	819	1238	1081	1116	1098	0	2113			
V/C Ratio(X)	0.00	0.51	0.15	0.48	0.13	0.13	0.52	0.00	0.18			
Avail Cap(c_a), veh/h	0	740	819	1238	1081	1116	1098	0	2113			
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	1.00	0.64	0.64	0.64	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	42.1	15.2	17.8	0.0	0.0	34.2	0.0	7.6			
Incr Delay (d2), s/veh	0.0	2.5	0.4	0.2	0.2	0.2	1.8	0.0	0.2			
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	5.2	3.1	3.8	0.0	0.0	7.1	0.0	1.8			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	44.5	15.5	17.9	0.2	0.2	36.0	0.0	7.7			
LnGrp LOS		D	B	B	A	A	D		A			
Approach Vol, veh/h		495			880			945				
Approach Delay, s/veh		37.6			12.1			24.8				
Approach LOS		D			B			C				

Timer - Assigned Phs	2	3	4				8		
Phs Duration (G+Y+Rc), s	42.0	48.0	30.0				78.0		
Change Period (Y+Rc), s	5.0	5.0	* 5				5.0		
Max Green Setting (Gmax), s	37.0	33.0	* 25				62.0		
Max Q Clear Time (g_c+I1), s	17.9	13.5	13.2				2.0		
Green Ext Time (p_c), s	3.7	2.1	2.2				1.8		

Intersection Summary	
HCM 7th Control Delay, s/veh	22.7
HCM 7th LOS	C

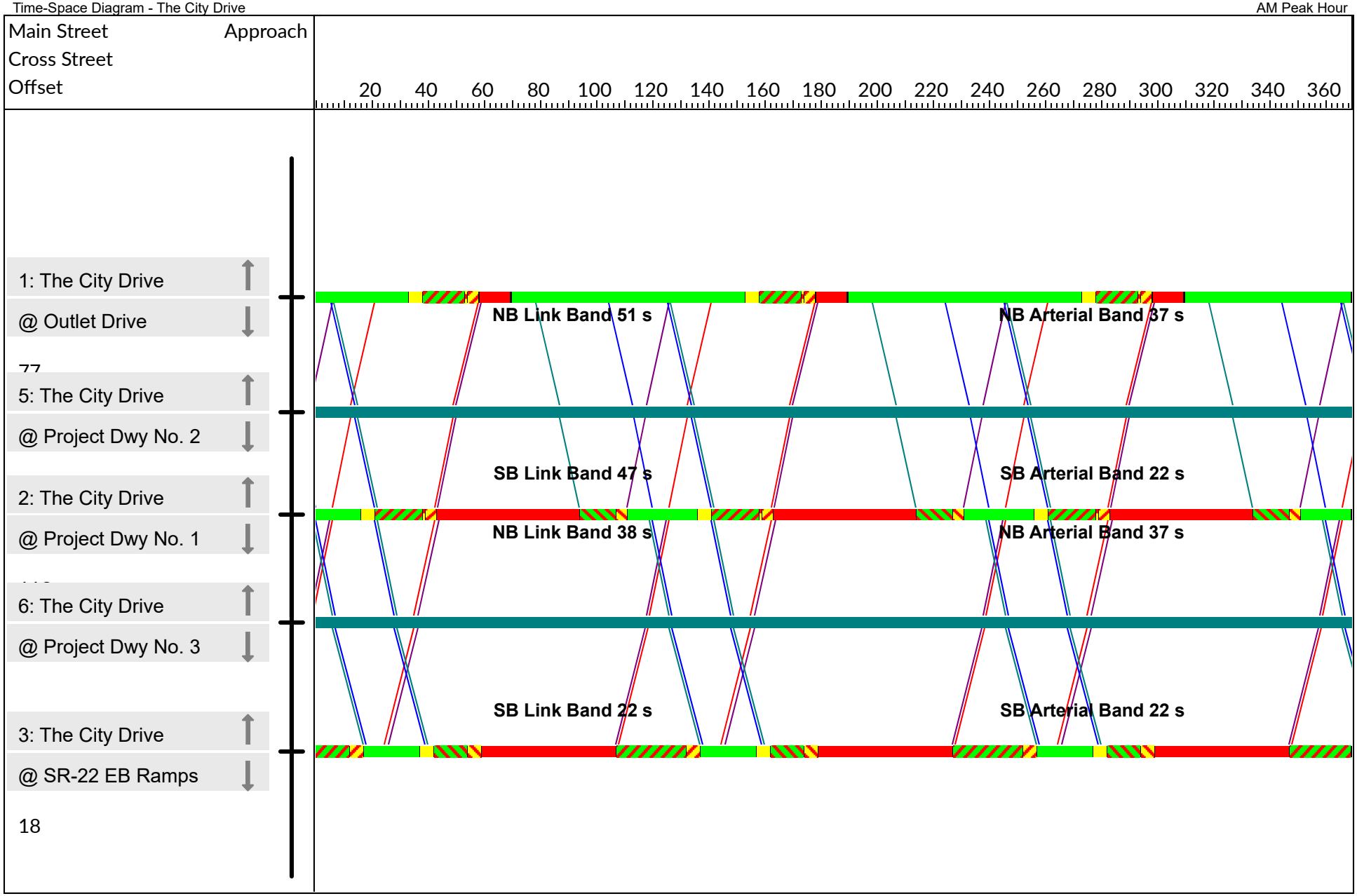
Notes

User approved volume balancing among the lanes for turning movement.

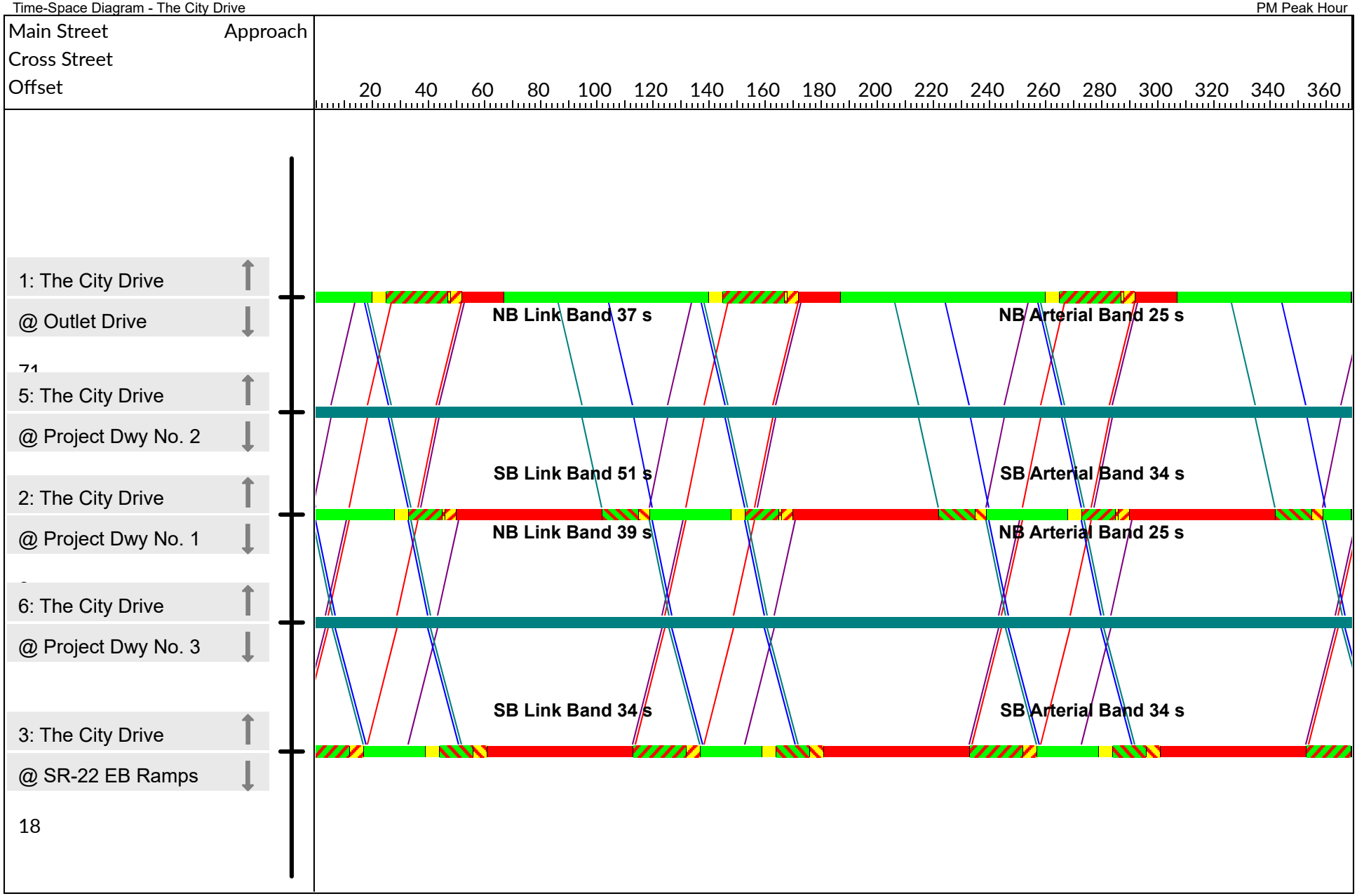
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX G

TIME-SPACE DIAMGRAMS


Main Street
Approach
Cross Street
Offset
20 40 60 80 100 120 140 160 180 200 220 240 260 280 300 320 340 360
1: The City Drive
@ Outlet Drive
77
5: The City Drive
@ Project Dwy No. 2
2: The City Drive
@ Project Dwy No. 1
6: The City Drive
@ Project Dwy No. 3
3: The City Drive
@ SR-22 EB Ramps
18
NB Link Band 51 s
NB Arterial Band 37 s
SB Link Band 47 s
SB Arterial Band 22 s
NB Link Band 38 s
NB Arterial Band 37 s
SB Link Band 22 s
SB Arterial Band 22 s

Time-Space Diagram - The City Drive



APPENDIX J-2

VEHICLE MILES TRAVELED (VMT) SCREENING MEMORANDUM

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Pasadena
Irvine
San Diego

TECHNICAL MEMORANDUM

To:	Deryl Robinson Griffin/Swinterton LLC	Date:	April 14, 2025
From:	Richard E. Barretto, P.E., Principal Linscott, Law and Greenspan, Engineers	LLG Ref:	2.24.6650.2
Subject:	***Vehicle Miles Traveled (VMT) Screening Assessment for the Proposed Workforce Reentry Traffic Support, City of Orange, CA***		

As requested, Linscott, Law & Greenspan, Engineers (LLG) is pleased to submit this Vehicle Miles Traveled (VMT) Screening Assessment Memorandum for the proposed Workforce Reentry Traffic Support Project (hereinafter referred to as Project) in the City of Orange, California. This Screening Memorandum presents the VMT screening criteria, assessment methodology, and conclusion. The approach and methodology outlined in this Screening Memorandum is consistent with the *City of Orange Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment (dated July 2020)*, which provides additional detail on the language and analysis procedures described in this Screening Memorandum.

The following sections of this Technical Memorandum summarize the Project description, present the *City of Orange Traffic Impact Analysis Guidelines for Vehicle Miles Traveled thresholds,* VMT screening criteria, assessment methodology, and conclusion.

PROJECT DESCRIPTION

The Project site is at the County's old animal shelter property located at 561 The City Drive South, Orange. The subject property is approximately 4.604-acre site that has been available for County uses and purposes since OC Animal Care vacated and relocated to a new facility in 2018. The site is directly located east of The City Drive at Metropolitan Drive intersection, north of the Garden Grove (SR-22) Freeway, and west of the Santa Ana River. ***Figure 1***, located at the rear of this letter report, presents a Vicinity Map, which illustrates the general location of the project and the surrounding street system. ***Figure 2*** presents the existing site aerial.

The Project includes the construction of three (3) new buildings consisting of a two-story 37,200 square foot (SF) vocational training, administrative office and classroom building, a one-story 16,166 SF retail/culinary building and a two-story 25,130 SF supportive housing and services building which will include 34 units, of which 20 units will have one (1) bed, 11 units will have two (2) beds and three (3) units will have four (4) beds for a combined total of 54 beds. ***Figure 3*** presents the proposed site plan prepared by the architect, LPA Design Studios dated November 15, 2024**.**

Access to the site is proposed via full access driveway that would be integrated into the existing signal at The City Drive and Metropolitan Drive. Secondary access is proposed via right-turn only driveways located at the northern and southern portion of the site.

PROJECT SCREENING CRITERIA

Project screening is used to determine if a project will be required to conduct a detailed VMT analysis. The following section discusses the various screening methods outlined in the *City of Orange Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment (dated July 2020)*, and outlines whether the Project will screen-out, either in its entirety or partially, based on individual land uses.

The *City of Orange Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment (dated July 2020)* states that there are multiple types of screening that can be applied to screen projects from project-level assessment. If a Land Use Project and/or Transportation Project meets one or more of the criteria provided it is considered to have a less than significant impact on transportation and circulation and no further VMT analysis is required. These screening steps are summarized below:

Step 1: Transit Priority Area (TPA) Screening

The *City of Orange Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment (dated July 2020)* states:

> *"Projects located within a TPA[1] may be presumed to have a less than significant impact absent substantial evidence to the contrary. This presumption may NOT be appropriate if the project:*
>
> 1. *Has a Floor Area Ratio (FAR) of less than 0.75;*
> 2. *Includes more parking for use by residents, customers, or employees of the project than required by the City;*
> 3. *Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Southern California Association of Governments [SCAG]); or*
> 4. *Replaces affordable residential units with a smaller number of moderate- or high-income residential units.*

[1] A TPA is defined as a half mile area around an existing major transit stop or an existing stop along a high-quality transit corridor per the definitions below.

> *To identify if the project is in a TPA, the analyst may review "NOCC+", a spreadsheet tool developed for the use of North County Cities in identifying projects that could be considered for screening from project-generated VMT impacts. Additionally, the analyst should confirm with all local transit providers that no recent changes in transit service have occurred in the Project area."*

Figure 4 presents the TPA Screening Map for the North Orange County Cities. Review of *Figure 4* indicates that the proposed Project site is located within an existing County of Orange Transit Priority Area.

Additionally, according to the site plan, the building area consists of 78,496 SF while the Project site area consists of 200,550 SF, the FAR for the proposed Project can be calculated as follows:

$$Project\ FAR = \frac{78{,}496\ SF}{200{,}550\ SF} = 0.39$$

Based on the above calculation, the proposed Project has a FAR less than 0.75. Therefore, the proposed Project will not screen out under this criteria.

Step 2: Low VMT Area Screening

The *City of Orange Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment (dated July 2020)* states:

> *"Residential and office projects located within a low VMT-generating area may be presumed to have a less than significant impact absent substantial evidence to the contrary. In addition, other employment-related and mixed-use land use projects may qualify for the use of screening if the project can reasonably be expected to generate VMT per resident, per worker, or per service population that is similar to the existing land uses in the low VMT area.*
>
> *For this screening in the North Orange County area, the OCTAM travel forecasting model was used to measure VMT performance for individual jurisdictions and for individual traffic analysis zones (TAZs). TAZs are geographic polygons similar to Census block groups used to represent areas of homogenous travel behavior. Total daily VMT per service population (population plus employment) was estimated for each TAZ. This presumption may not be appropriate if the project land uses would alter the existing built environment in such a way as to increase the rate or length of vehicle trips.*

The Project applicant should document whether or not any increase to the rate or length of vehicle trips is expected.

To identify if the project is in a low VMT-generating area, the analyst may review "NOCC+". Additionally, as noted above, the analyst must identify if the project is consistent with the existing land use (e.g., if the project is proposing single-family housing, there should be existing single-family housing of approximately the same density) within that TAZ and use professional judgement that there is nothing unique about the project that would otherwise be misrepresented utilizing the data from the travel demand model."

Figure 5 presents the Low VMT Area Screening Map for the North Orange County Cities. Review of *Figure 5* indicates that the proposed Project site has a VMT which is higher than the City average. Therefore, the proposed Project will not screen out under this criteria.

Step 3: Project Type Screening

The *City of Orange Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment (dated July 2020)* states:

"Some project types have been identified as having the presumption of a less than significant impact. The following uses can be presumed to have a less than significant impact absent substantial evidence to the contrary as their uses are local serving in nature:

- *Local-serving K-12 public schools*
- *Local parks*
- *Day care centers*
- *Local-serving retail uses less than 50,000 square feet, including:*
  - *Gas Stations*
  - *Banks*
  - *Restaurants*
  - *Shopping Center*
- *Local-serving hotels (e.g., non-destination hotels)*
- *Student housing projects on or adjacent to college campuses*

- *Local-serving assembly uses (places of worship, community organizations)*
- *Community institutions (public libraries, fire stations, local government)*
- *Affordable, supportive or transitional housing*
- *Assisted living facilities*
- *Senior housing (as defined by HUD)*
- *Projects generating less than 110 daily vehicle trips*

The Project's commercial component will provide less than 50,000 SF of retail uses. Additionally, the Project's residential portion would qualify as affordable housing units and therefore is applicable. As such, the retail and residential components will screen out.

CONCLUSION

Consistent with the *City of Orange Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment (dated July 2020)*, the Project meets the screening criteria on the basis that the commercial component providing less than 50,000 SF of retail uses and the Project's residential portion qualifying as affordable housing.

Therefore, in accordance with the *City of Orange Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment (dated July 2020)*, the Proposed Project is exempt from the preparation of any further VMT analysis and may be presumed to have a less than significant CEQA-related transportation impact.

We appreciate the opportunity to provide this Technical Memorandum. Should you have any questions regarding the memorandum, please contact us at (949) 825-6175.

Attachments

Figure 1: Vicinity Map
Figure 2: Existing Aerial Photograph
Figure 3: Proposed Site Plan
Figure 4: TPA Screening Map
Figure 5: Low VMT Area Screening Map

I:\2246650-2 - workforce reentry traffic support, orange\dwg\port 8x11.5.dwg LDP 09:55:19 08-23-2024 saavedra

SOURCE: OPEN STREETS

KEY

(#) = STUDY INTERSECTION

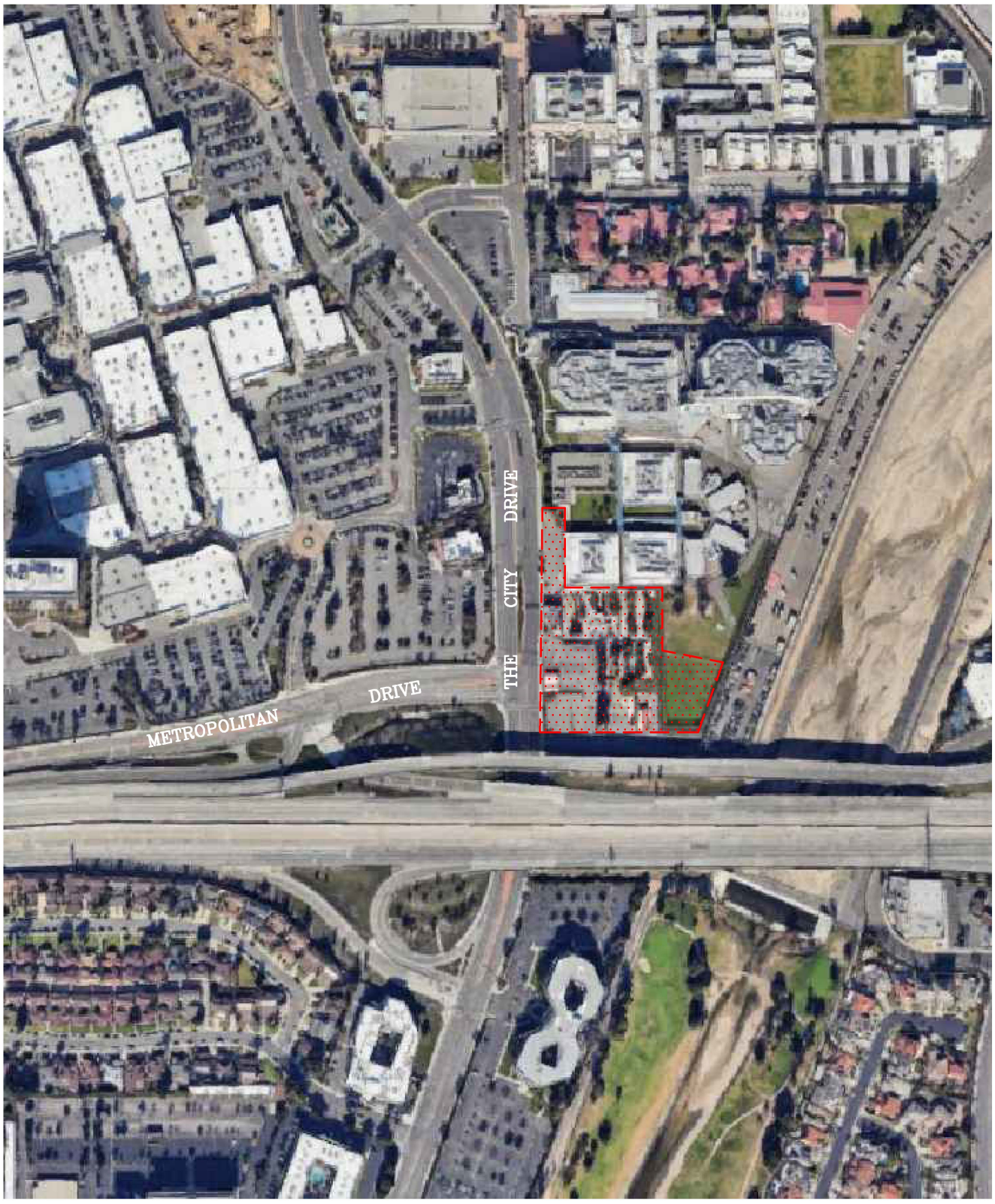
= PROJECT SITE

NO SCALE

FIGURE 1

VICINITY MAP

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE



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SOURCE: GOOGLE

KEY

= PROJECT SITE

LLG

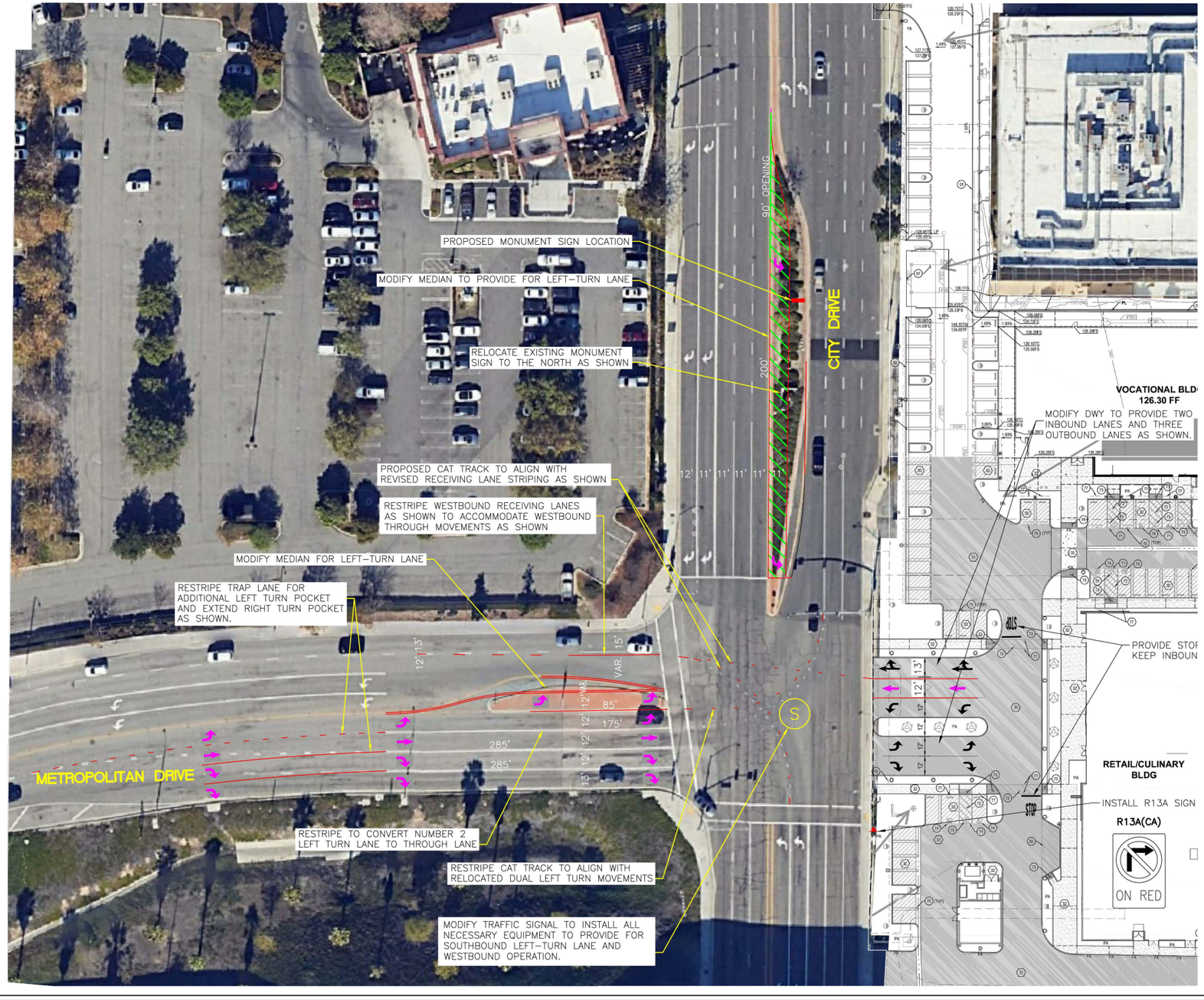
N

NO SCALE

FIGURE 2

EXISTING SITE AERIAL

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE



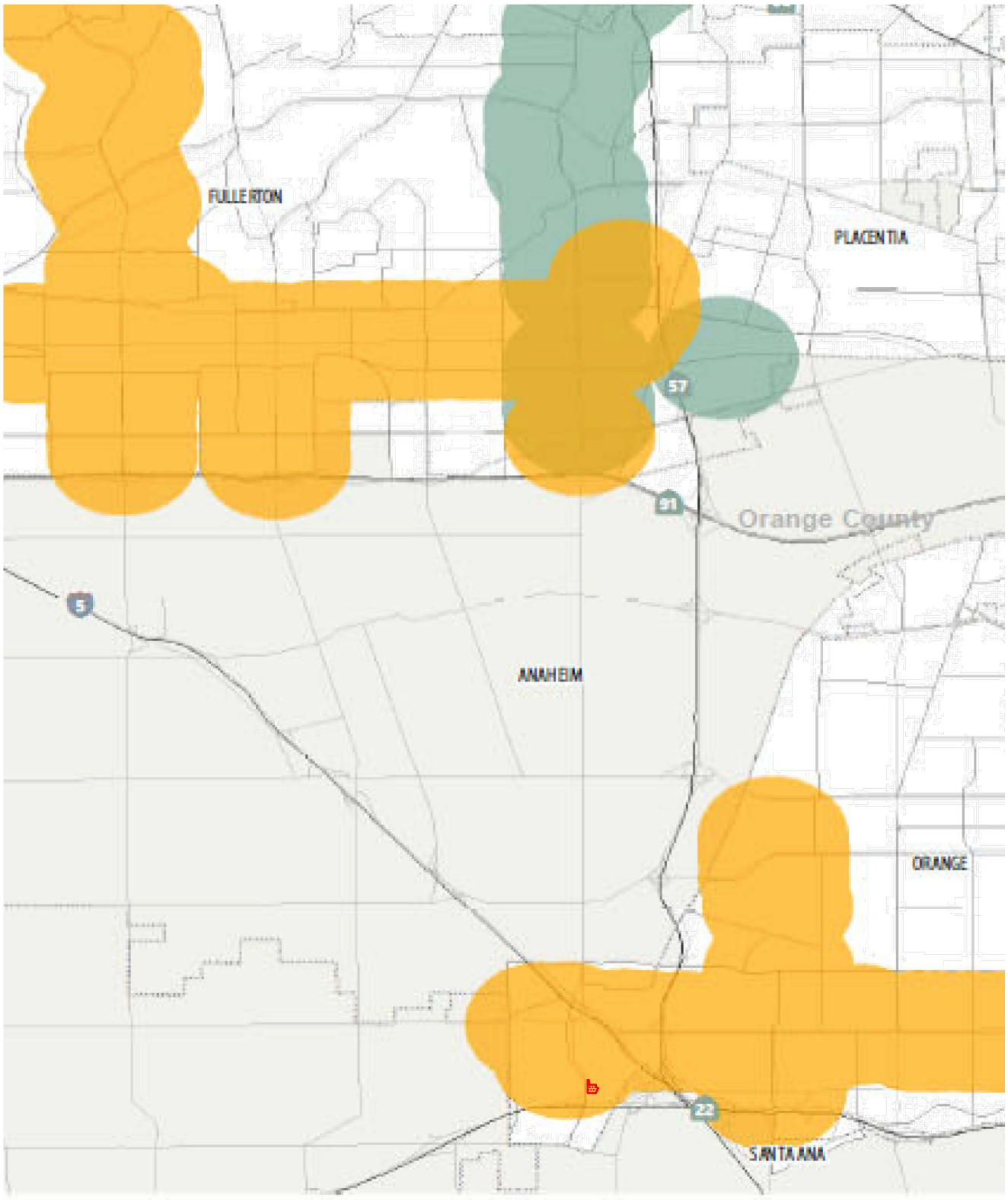
SOURCE: LLG

NO SCALE

FIGURE 3

CONCEPTUAL INTERSECTION DESIGN

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE



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SOURCE: NOCC+

KEY

= PROJECT SITE

Existing Transit Priority Areas

Planned Transit Priority Areas

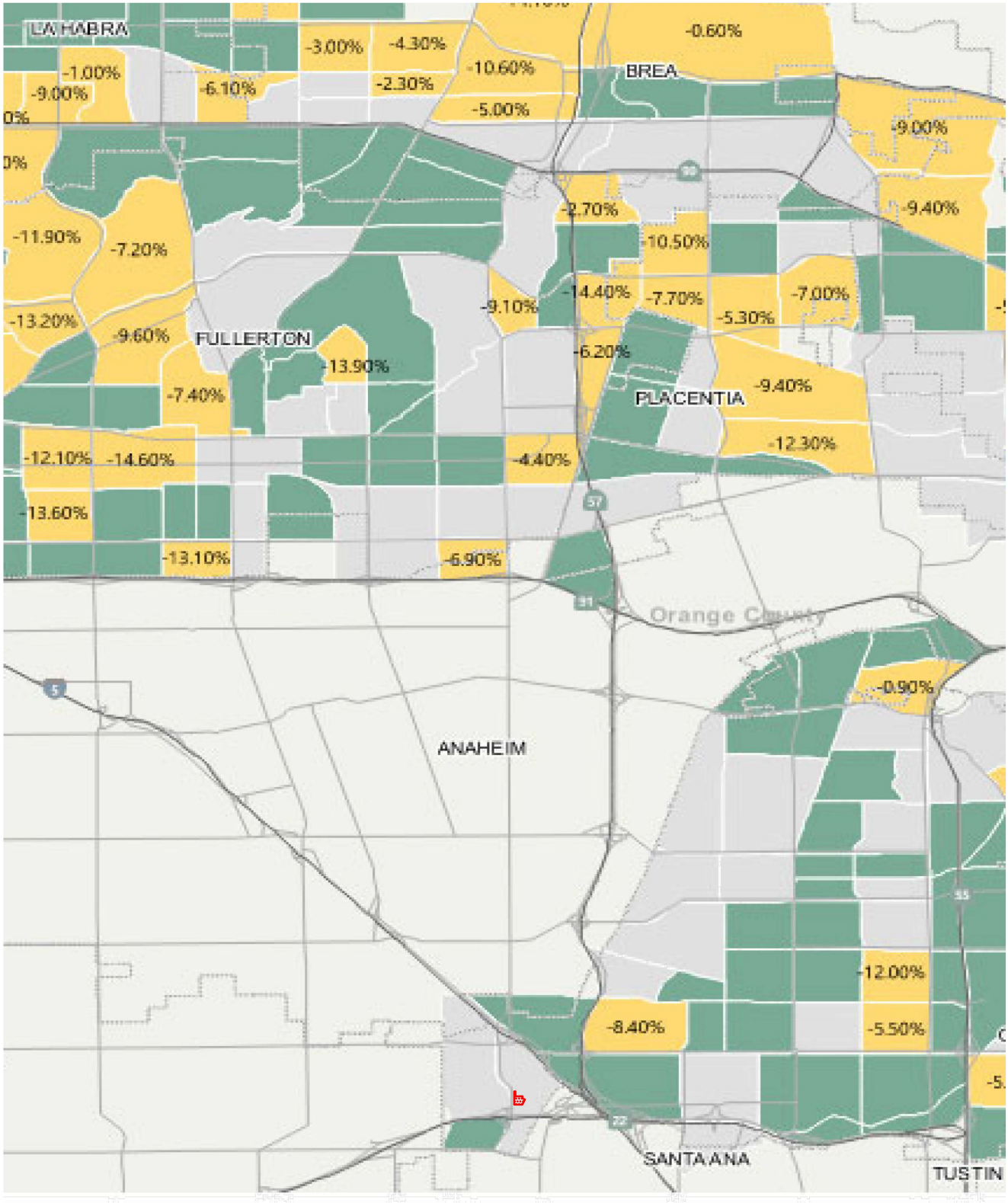
LLG

N NO SCALE

FIGURE 4

TPA SCREENING MAP

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE



I:\2246650-2 - workforce reentry traffic support, orange\vmt\dwg\6650-2 f-5.dwg LDP 15:59:03 04-14-2025 kopulsky

SOURCE: NOCC+

KEY

= PROJECT SITE

= < −15% BELOW CITY AVERAGE

= 0 TO < −15% BELOW CITY AVERAGE

= HIGHER THAN CITY AVERAGE

NO SCALE

FIGURE 5

LOW VMT AREA SCREENING MAP

WORKFORCE REENTRY TRAFFIC SUPPORT, ORANGE