

Appendix

Appendix B Traffic Circulation Study

Appendix

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TRAFFIC CIRCULATION ANALYSIS
WYNDHAM HOTEL PROJECT
Anaheim, California
May 27, 2025
(Revision of April 11, 2025 Report)

Prepared for:
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EXECUTIVE SUMMARY

- **Project Description** – The proposed project site is located at 515 W. Katella Avenue in the City of Anaheim, California. The existing Wyndham Hotel has been approved for 72 rooms and a hotel remodel changed the number of rooms from 72 rooms to 106 rooms and one (1) caretaker room. The proposed Project will consist of a General Plan Amendment and a Specific Plan Amendment to increase the number of rooms allowed on site from 72 rooms to 118 rooms (an addition of 46 rooms). It should be noted that although the site currently has 107 rooms, for the purpose of this analysis an addition of 46 rooms is analyzed. Access to the Project site is currently provided by the existing right-turn in/right-turn out unsignalized driveway along Katella Avenue.
- **Study Scope** – The two (2) key study intersections and one (1) key roadway segment selected for evaluation were determined based on coordination with City of Anaheim Traffic Engineering Department staff. The two (2) key study intersections and one (1) key roadway segment listed below provide regional and local access to the study area and define the extent of the boundaries for this traffic circulation investigation.

<u>Key Study Intersections</u>
1. Harbor Boulevard at Katella Avenue
2. Clementine Street at Katella Avenue
<u>Key Roadway Segments</u>
A. Katella Avenue, between Harbor Boulevard at Clementine Street

- **Existing Traffic Conditions** – The two (2) key study intersections currently operate at acceptable LOS B or better during the AM and PM peak hours. The one (1) key roadway segment currently operates at an acceptable service level on a daily basis.
- **Project Trip Generation** – The proposed Project is forecast to generate approximately 943 daily trips, with 54 trips (30 inbound, 24 outbound) produced in the AM peak hour and 70 trips (36 inbound, 34 outbound) produced in the PM peak hour on a “typical” weekday.

The current General Plan entitlement is forecast to generate approximately 575 daily trips, with 33 trips (18 inbound, 15 outbound) produced in the AM peak hour and 42 trips (21 inbound, 21 outbound) produced in the PM peak hour on a “typical” weekday.

Comparison of the trips generated by the current General Plan entitlement to the trips generated by the proposed Project shows that the proposed Project will generate 368 greater net daily trips, 21 greater net AM peak hour trips, and 28 greater net PM peak hour trips.

- **Existing Plus Project Traffic Conditions** – The proposed Project **will not** cause an operational deficiency at any of the two (2) key study intersections when compared to the LOS standards

defined in this report. The two (2) key study intersections currently operate and are forecast to continue to operate at an acceptable LOS B or better during the AM and PM peak hours with the addition of Project generated traffic to existing traffic.

The proposed Project ***will not*** cause an operational deficiency at the one (1) key roadway segment when compared to the LOS standards defined in this report. The one (1) key roadway segment is forecast to continue to operate at an acceptable LOS C or better on a daily basis with the addition of Project generated traffic to existing traffic.

- ***General Plan Buildout Plus Project Traffic Conditions*** – The proposed Project ***will not*** cause an operational deficiency at any of the two (2) key study intersections when compared to the LOS standards defined in this report. The two (2) key study intersections are forecast to continue to operate at an acceptable LOS with the addition of project generated traffic to General Plan Buildout traffic conditions.

The proposed Project ***will not*** cause an operational deficiency at the one (1) key roadway segment when compared to the LOS standards defined in this report. Although the roadway segment of Katella Avenue, between Harbor Boulevard and Clementine Street, is forecast to operate at an unacceptable LOS D, the Project is expected to add less than the allowable thresholds to the V/C value.

- ***Planned Improvements*** – The following planned improvements are associated with the General Plan Buildout of the City's Circulation Element and have been included in the General Plan Buildout and General Plan Buildout Plus Project traffic conditions:
 - 1. Harbor Boulevard at Katella Avenue: Widen and restripe the west leg of the intersection to convert the exclusive eastbound right-turn lane to a shared eastbound through/right-turn lane and provide a fourth westbound departure lane. Widen and restripe the east leg of the intersection to convert the exclusive westbound right-turn lane to a shared westbound through/right-turn lane. Modify the existing traffic signal.
 - 2. Clementine Street at Katella Avenue: Widen and restripe the west leg of the intersection to convert the exclusive eastbound right-turn lane to a shared eastbound through/right-turn lane. Widen and restripe the east leg of the intersection to convert the exclusive westbound right-turn lane to a shared westbound through/right-turn lane and provide a fourth eastbound departure lane. Modify the existing traffic signal.
 - A. Katella Avenue, between Harbor Boulevard and Clementine Street: Widen and restripe the roadway from six travel lanes to eight travel lanes.
- ***Existing Plus Project Recommended Improvements*** – The results of the intersection capacity analysis and roadway segment analysis show that the proposed Project will not cause an operational deficiency at any of the two (2) key study intersections and one (1) key roadway segment under the Existing Plus Project traffic scenario. As such, no improvements are required under this traffic scenario.

- **General Plan Buildout Plus Project Recommended Improvements** – The results of the intersection capacity analysis and roadway segment analysis show that the proposed Project will not cause an operational deficiency at any of the two (2) key study intersections and one (1) key roadway segment under the General Plan Buildout Plus Project traffic scenario. As such, no improvements are required under this traffic scenario.
- **Congestion Management Program (CMP)** – The Project has direct access to any streets of the CMPHS. Therefore, the appropriate threshold to be applied in this analysis is 1,600 daily trips. The proposed Project is forecast to generate approximately 943 daily trip-ends (368 additional daily trip-ends) and therefore does not require a CMP traffic analysis. The data provided below for the CMP intersection is for informational purposes.

There is one (1) key study intersection within the Project vicinity that is a CMP intersection (i.e. #1 Harbor Boulevard at Katella Avenue). The proposed Project ***will not*** impact the CMP location under Existing Plus Project traffic conditions and General Plan Buildout Plus Project traffic conditions.

- **VMT Assessment** – Based on the City’s guidelines, the proposed Project satisfies Type 1: Transit Priority Area (TPA) Screening. Therefore, this project could be screened from a VMT analysis and could be presumed to have a less than significant impact on VMT per the City’s guidelines.

TRAFFIC CIRCULATION ANALYSIS
WYNDHAM HOTEL PROJECT
Anaheim, California
May 27, 2025
(Revision of April 11, 2025 Report)

1.0 INTRODUCTION

This traffic study addresses the potential traffic and circulation needs associated with Wyndham Hotel Project (hereinafter referred to as Project). The proposed project site is located at 515 W. Katella Avenue in the City of Anaheim, California. The existing Wyndham Hotel has been approved for 72 rooms and a hotel remodel changed the number of rooms from 72 rooms to 106 rooms and one (1) caretaker room. The proposed Project will consist of a General Plan Amendment and a Specific Plan Amendment to increase the number of rooms allowed on site from 72 rooms to 118 rooms (an addition of 46 rooms). Access to the Project site is currently provided by the existing right-turn in/right-turn out unsignalized driveway along Katella Avenue.

This report documents the findings and recommendations of a traffic circulation analysis conducted by Linscott, Law & Greenspan, Engineers (LLG) to determine the potential circulation effects associated with the Project. The traffic analysis evaluates the existing operating conditions at two (2) key study intersections and one (1) key roadway segment within the Project vicinity, estimates the trip generation potential of the Project, and forecasts future operating conditions without and with the proposed Project. Where necessary, intersection improvements/mitigation measures are identified. It should be noted that this traffic study evaluates typical weekday conditions during the AM peak hour and PM peak hour and its findings are utilized to assist the City in planning and/or sizing area roadway infrastructure in the vicinity of the proposed project site.

This traffic report satisfies the *City of Anaheim Criteria for Preparation of Traffic Impact Studies*, the requirements of the *City of Anaheim Traffic Impact Analysis Guidelines for California Environmental Quality Act Analysis*, dated June 2020, and is consistent with the requirements and procedures outlined in the most current *Congestion Management Program (CMP) for Orange County*.

The Project site has been visited and an inventory of adjacent area roadways and intersections was performed. Existing traffic information has been collected at two (2) key study intersections and one (1) key roadway segment on a “typical” weekday for use in the preparation of intersection and roadway segment level of service calculations.

This traffic report analyzes existing and future “typical” weekday daily, AM peak hour and PM peak hour traffic conditions for a long-term (Buildout) traffic setting upon completion of the proposed Project. General Plan Buildout No Project traffic volumes provided by City of Anaheim Public Works Department staff. General Plan Buildout traffic volume forecasts for a “typical” weekday were provided by City of Anaheim Traffic Engineering Department staff from the Anaheim Traffic Analysis Model (ATAM).

1.1 Study Area

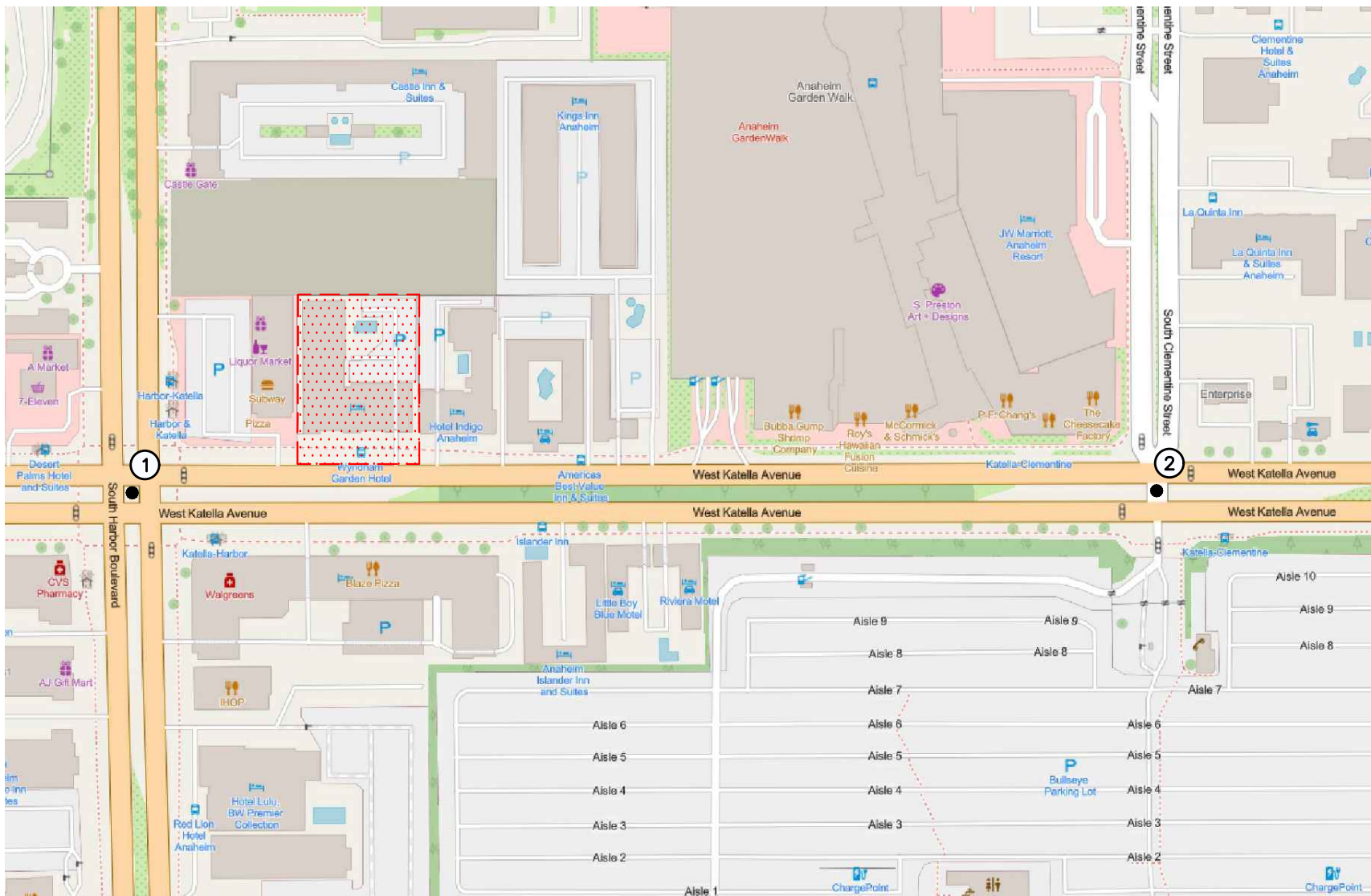
The two (2) key study intersections and one (1) key roadway segment selected for evaluation were determined based on coordination with City of Anaheim Traffic Engineering Department staff. The two (2) key study intersections and one (1) key roadway segment listed below provide regional and local access to the study area and define the extent of the boundaries for this traffic circulation investigation.

<u>Key Study Intersections</u>
1. Harbor Boulevard at Katella Avenue
2. Clementine Street at Katella Avenue
<u>Key Roadway Segments</u>
A. Katella Avenue, between Harbor Boulevard at Clementine Street

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 traffic-related circulation effects associated with area growth and the proposed Project. When necessary, this report recommends intersection and/or roadway segment improvements that may be required to accommodate future traffic volumes and restore/maintain an acceptable Level of Service.

Included in this Traffic Circulation Analysis are:

- Existing traffic counts,
- Estimated project traffic generation/distribution/assignment,
- Estimated cumulative project traffic generation/distribution/assignment,
- Daily, AM and PM peak hour capacity analyses for existing conditions,
- Daily, AM and PM peak hour capacity analyses for existing plus project conditions,
- Daily, AM and PM peak hour capacity analyses for General Plan Buildout conditions without and with project traffic,
- Area-Wide Traffic Improvements,
- Congestion Management Program (CMP) Analysis, and
- VMT Assessment.



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NO SCALE

SOURCE: GOOGLE

KEY



= STUDY INTERSECTION



= PROJECT SITE

FIGURE 1-1

VICINITY MAP
WYNDHAM HOTEL PROJECT, ANAHEIM

2.0 PROJECT DESCRIPTION

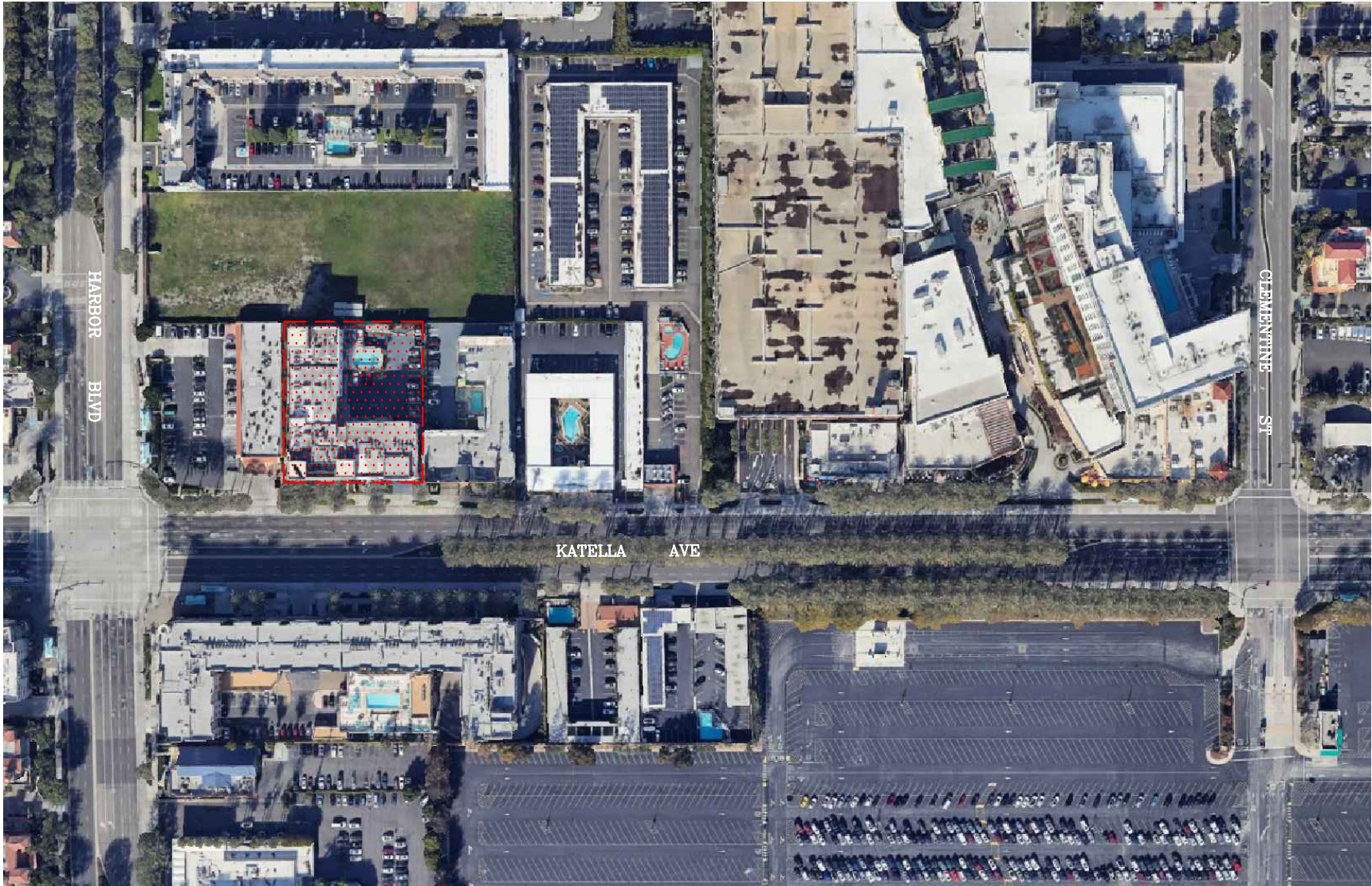
The proposed Project site is located at 515 W. Katella Avenue in the City of Anaheim, California. The existing Wyndham Hotel has been approved for 72 rooms and a hotel remodel changed the number of rooms from 72 rooms to 106 rooms and one (1) caretaker room. **Figure 2-1** presents an aerial image of the existing site for the proposed Project.

The proposed Project will consist of a General Plan Amendment and a Specific Plan Amendment to increase the number of rooms allowed on site from 72 rooms to 118 rooms (an addition of 46 rooms). **Figure 2-2** presents the proposed site plan for the proposed Project, prepared by CDA + PDG.

It should be noted that although the site currently has 107 rooms, for the purpose of this analysis an addition of 46 rooms is analyzed.

2.1 Site Access

Access to the Project site is currently provided by the existing right-turn in/right-turn out unsignalized driveway along Katella Avenue.



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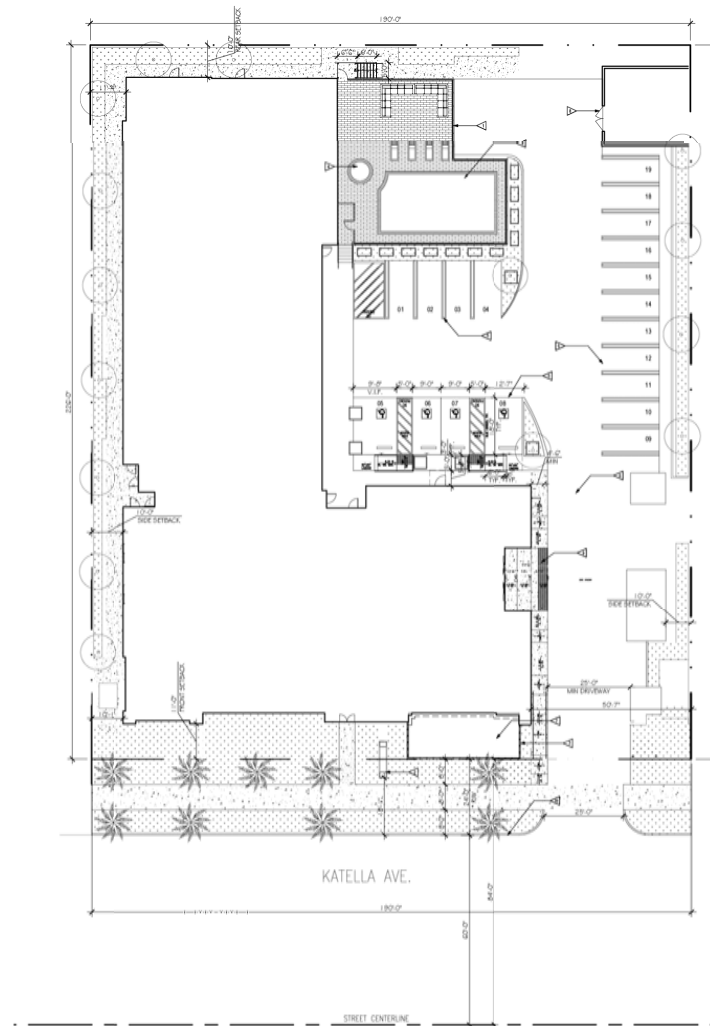
SOURCE: GOOGLE

KEY

 = PROJECT SITE

FIGURE 2-1

EXISTING SITE AERIAL
WYNDHAM HOTEL PROJECT, ANAHEIM



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SOURCE: CDA & PDG

FIGURE 2-2

PROPOSED SITE PLAN
WYNDHAM HOTEL PROJECT, ANAHEIM



3.0 EXISTING CONDITIONS

3.1 Existing Street System

The principal local network of streets serving the proposed Project includes Katella Avenue, Harbor Boulevard, and Clementine Street. The following discussion provides a brief synopsis of these key area streets. The descriptions are based on an inventory of existing roadway conditions.

Katella Avenue is oriented in the east-west direction and provides access to the Project site. Katella Avenue is six-lane divided roadway. On-street parking is not permitted along this roadway within the vicinity of the Project. The posted speed limit on Katella Avenue is 35 miles per hour (mph). A traffic signal controls the study intersections of Katella Avenue at Harbor Boulevard and Clementine Street.

Harbor Boulevard is oriented in the north-south direction. Harbor Boulevard is a six-lane, divided roadway. On-street parking is not permitted along Harbor Boulevard. The posted speed limit on Harbor Boulevard is 35 mph. A traffic signal controls the study intersection of Harbor Boulevard at Katella Avenue.

Clementine Street is oriented in the north-south direction. Clementine Street is a four-lane divided roadway. On-street parking is not permitted along Clementine Street. The posted speed limit on Clementine Street is 30 mph. A traffic signal controls the study intersection of Clementine Street at Katella Avenue.

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.

3.2 Existing Public Transit

The Orange County Transit Agency (OCTA) and Anaheim Regional Transportation (ART) operate within the study area. A description of the transit services within the Project vicinity is as follows:

Orange County Transit Agency (OCTA)

Route 43:

- Route 43 provides service from Fullerton to Costa Mesa; via Harbor Boulevard
- The route traverses the cities of Fullerton, Anaheim, Garden Grove, Santa Ana, Fountain Valley, and Costa Mesa.
- During the weekday AM and PM peak hours, Route 43 has approximate headways of 20 minutes in the northbound and southbound directions. On the weekends the headways are approximately 15 minutes for AM and PM peak hours.
- The nearest bus stop to the Project site for this route is located on the east side of Harbor Boulevard on the northeast corner of Harbor Boulevard at Katella Avenue.

Route 50:

- Route 50 provides service from Long Beach to Orange; via Katella Avenue
- The route traverses the cities of Orange, Anaheim, Garden Grove, Stanton, Cypress, Los Alamitos, and Long Beach.
- During the weekday AM and PM peak hours, Route 50 has approximate headways of 20 minutes in the eastbound and westbound directions. On the weekends the headways are approximately 40 minutes for AM and PM peak hours.
- The nearest bus stops to the Project site for this route are located on the south side of Katella Avenue on the southeast corner of Harbor Boulevard at Katella Avenue and on the north side of Katella Avenue, east of Clementine Street.

Route 83:

- Route 50 provides service from Fullerton to Laguna Hills; via the I-5 Freeway and Main Street
- The route traverses the cities of Fullerton, Anaheim, Orange, Santa Ana, Laguna Woods, and Laguna Hills.
- During the weekday AM and PM peak hours, Route 83 has approximate headways of 30 minutes in the northbound and southbound directions. On the weekends the headways are approximately 30 minutes for AM and PM peak hours.
- The nearest bus stops to the Project site for this route are located on the south side of Katella Avenue on the southeast corner of Harbor Boulevard at Katella Avenue and on the north side of Katella Avenue, east of Clementine Street.

Route 543:

- Route 543 provides service from Fullerton Transportation Center to Santa Ana; via Harbor Boulevard
- The route traverses the cities of Fullerton, Anaheim, Garden Grove, Santa Ana, and Costa Mesa.
- During the weekday AM and PM peak hours, Route 543 has approximate headways of 20 minutes in the northbound and southbound directions. There is no weekend service.
- The nearest bus stop to the Project site for this route is located on the east side of Harbor Boulevard on the northeast corner of Harbor Boulevard at Katella Avenue.

Anaheim Regional Transportation (ART)

Route 06 – Disney Way Line:

- Route 06 operates as a looping fixed route, starting and ending at the Disneyland Main Transportation Center with stops throughout the Anaheim Region
- The nearest bus stop to the Project site for this route is located on the north side of Katella Avenue, immediately west of the Project driveway.

Route 07 – Clementine Line:

- Route 07 operates as a looping fixed route, starting and ending at the Disneyland Main Transportation Center with stops throughout the Anaheim Region
- The nearest bus stops to the Project site for this route are located on the south side of Katella Avenue on the southeast corner of Harbor Boulevard at Katella Avenue and on the north side of Katella Avenue, immediately west of the Project driveway.

Route 08 – Hotel Line:

- Route 08 operates as a looping fixed route, starting and ending at the Disneyland Main Transportation Center with stops throughout the Anaheim Region
- The nearest bus stops to the Project site for this route are located on the south side of Katella Avenue on the southeast corner of Harbor Boulevard at Katella Avenue and on the north side of Katella Avenue, immediately west of the Project driveway.

3.3 Existing Bicycle/Pedestrian Circulation

Within the vicinity of the Project site, there are no existing bicycle facilities along Katella Avenue, Harbor Boulevard, or Clementine Street.

Pedestrian circulation would be provided via existing public sidewalks along both sides of Katella Avenue, Harbor Boulevard, and Clementine Street.

3.4 Existing Traffic Volumes

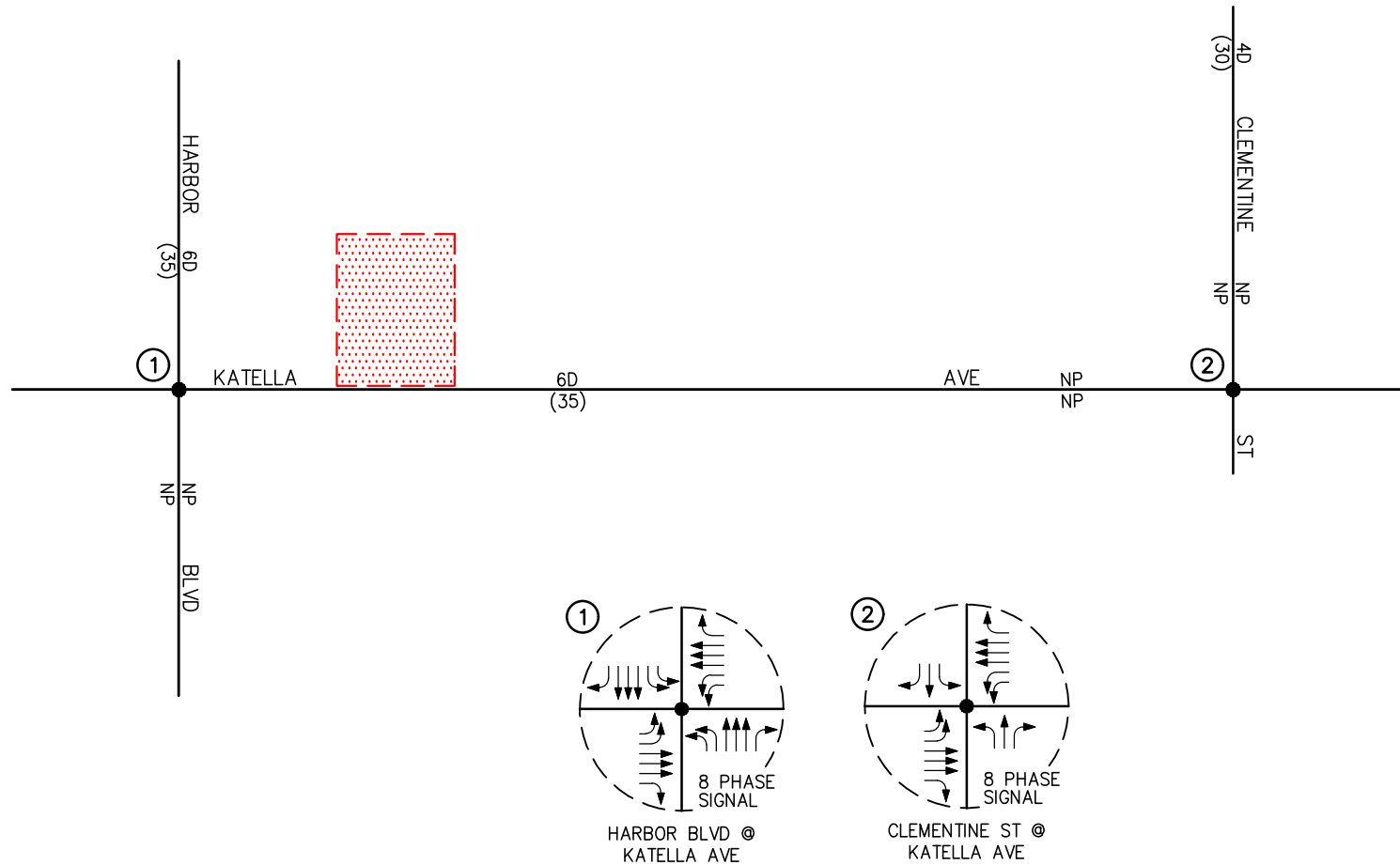
Two (2) key study intersections and one (1) key roadway segment have been identified as the locations at which to evaluate existing and future traffic operating conditions. Some portion of potential project-related traffic will pass through each of these intersections/roadway segments, and their analysis will reveal the expected relative impacts of the project. These key intersections and key roadway segments were selected for evaluation based on discussions with City of Anaheim Traffic Engineering Department staff.

Existing weekday daily, AM and PM peak hour traffic volumes for the two (2) key study intersections and one (1) key roadway segment evaluated in this report were conducted by Transportation Studies, Inc. (TSI) in February 2025. **Figures 3-2** and **3-3** illustrate the existing AM and PM peak hour traffic volumes at the two (2) key study intersections evaluated in this report, respectively. *Figure 3-3* also presents the existing average daily traffic volumes for the one (1) key roadway segment in the vicinity of the proposed Project.

Appendix A contains the detailed peak hour count sheets for the key intersections evaluated in this report. **Appendix A** also contains the average daily traffic volumes for the key roadway segments.

3.5 Existing Intersection Conditions

Existing AM and PM peak hour operating conditions for the two (2) key study intersections were evaluated using the *Intersection Capacity Utilization* (ICU) methodology for signalized intersections.



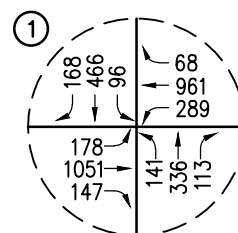
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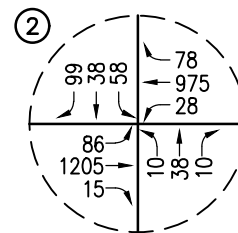
- | | |
|-----------------------------------|---------------------------------|
| # = STUDY INTERSECTION | 2 = NUMBER OF TRAVEL LANES |
| ← = APPROACH LANE ASSIGNMENT | (XX) = POSTED SPEED LIMIT (MPH) |
| ● = TRAFFIC SIGNAL, ▼ = STOP SIGN | [Hatched Box] = PROJECT SITE |
| P = PARKING, NP = NO PARKING | |
| U = UNDIVIDED, D = DIVIDED | |
| OL = OVERLAP | |

FIGURE 3-1

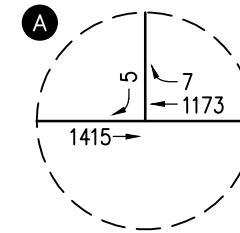
**EXISTING ROADWAY
CONDITIONS AND INTERSECTION CONTROLS**
WYNDHAM HOTEL PROJECT, ANAHEIM



HARBOR BLVD @
KATELLA AVE



CLEMENTINE ST @
KATELLA AVE



PROJECT DWY @
KATELLA AVE

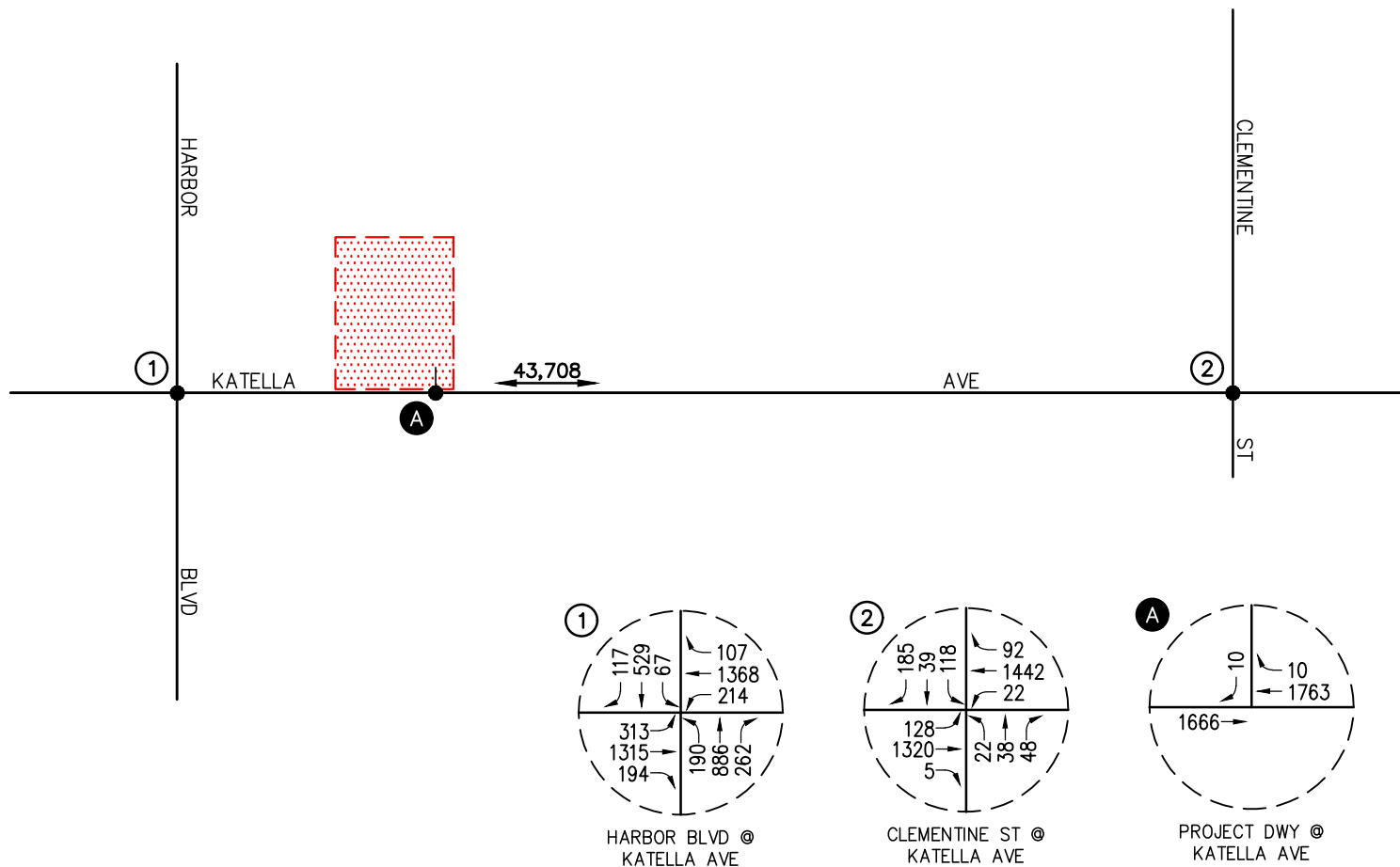


NO SCALE

KEY
 = PROJECT SITE

FIGURE 3-2

EXISTING AM PEAK HOUR TRAFFIC VOLUMES
 WYNDHAM HOTEL PROJECT, ANAHEIM



3.5.1 Intersection Capacity Utilization (ICU) Method of Analysis (Signalized Intersections)

In conformance with the City of Anaheim, 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. Per City of Anaheim requirements, the ICU calculations use a lane capacity of 1,700 vehicles per hour (vph) for through and all turn lanes. A clearance adjustment factor of 0.05 was added to each Level of Service calculation.

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*.

3.6 Volume to Capacity (V/C) Ratio Method of Analysis (Roadway Segments)

Existing daily operating conditions for the one (1) key roadway segment have been investigated according to the daily volume-to-capacity (V/C) ratio of each link. The daily V/C relationship is used to estimate the LOS of the roadway segment with the volume based on the 24-hour traffic count data and the existing daily capacity based on the City's classification of each roadway. The roadway link capacity of each street classification according to the Orange County Master Plan of Arterial Highways (MPAH) is presented in *Table 3-2*, along with the six corresponding service levels and associated V/C ratios.

Although the arterial segment V/C analysis provides a general assessment of overall system performance, the performance is measured on the ability to serve peak hour traffic demands. To identify deficient arterial segments, the segments that are identified as deficient under daily conditions are evaluated under peak hour conditions to evaluate the capability of serving forecast peak hour throughput.

The City of Anaheim applies the Urban Streets analysis identified in Chapter 15 of the *Highway Capacity Manual* to determine level of service under peak hour traffic volumes on deficient daily segments. The peak hour link analysis determines directional AM and PM peak hour V/C ratios for each link that exceeds the daily LOS threshold. The peak hour capacity is determined by using Equation 15-7 of the HCM, multiplying the mid-block number of lanes for each direction by a lane capacity of 1,900 vehicles per hour, then multiplied by the percentage of green time at the controlling signalized intersection for that arterial segment. The percentage of green time is estimated by dividing the direction V/C ratios by the total V/C ratio at signalized intersections along

the arterial segment. The highest resulting percentage is the estimated percentage of green time for that arterial segment. If the V/C ratio of the arterial segment under peak hour conditions is LOS E or F, improvements should be considered to improve the segment to an acceptable LOS.

3.7 Level of Service Criteria

According to the City of Anaheim's Circulation Element and stated in the *City of Anaheim Criteria for Preparation of Traffic Impact Studies*, LOS D is the minimum acceptable condition that should be maintained during the morning and evening peak commute hours on all City intersections. For intersections designated as an *Orange County Congestion Management Program (CMP)* intersection, LOS E is the minimum acceptable condition.

The arterial roadway criteria for the City of Anaheim involves the use of average daily traffic (ADT) volume to capacity (V/C) ratios. LOS C (V/C not to exceed 0.80) is the performance standard that has been adopted for the study area circulation system by the City of Anaheim.

3.8 Existing Level of Service Results

3.8.1 Intersections

Table 3-3 summarizes the existing peak hour service level calculations for the two (2) key study intersections based on existing traffic volumes and current street geometry. Review of *Table 3-3* indicates that the two (2) key study intersections currently operate at acceptable LOS B or better during the AM and PM peak hours.

Appendix B presents the ICU/LOS calculations for the two (2) key study intersections for the AM peak hour and PM peak hour.

3.8.2 Roadway Segments

Table 3-4 summarizes the existing service level calculations for the one (1) key roadway segment based on existing 24-hour traffic volumes and current roadway geometry. The first column (1) shows the number of lanes, the second column (2) shows the arterial classification and the third column (3) shows the existing LOS "E" capacity. The fourth column (4) shows the daily volume, V/C ratio and resulting level of service.

Review of *Table 3-4* indicates that the one (1) key roadway segment currently operates at an acceptable service level on a daily basis.

TABLE 3-1
LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS¹

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.

¹ Source: *Transportation Research Board Circular 212 – Interim Materials on Highway Capacity*.

TABLE 3-2
ROADWAY LINK CAPACITIES²

Facility Type	Number of Lanes	Level of Service Criteria With Associated Roadway Capacity					
		Daily Values (VPD)					
		Level of Service (LOS)					
		A	B	C	D	E	F
Principal	8-lanes divided	45,000	52,500	60,000	67,500	75,000	--
Major	6-lanes divided	33,900	39,400	45,000	50,600	56,300	--
Primary	4-lanes divided	22,500	26,300	30,000	33,800	37,500	--
Secondary	4-lanes undivided	15,000	17,500	20,000	22,500	25,000	--
Commuter Local Arterial	2-lanes undivided	7,500	8,800	10,000	11,300	12,500	--
V/C Ratio		≤ 0.60	0.61-0.70	0.71-0.80	0.81-0.90	0.91-1.00	≥ 1.00

Notes:

- VPD = vehicles per day

² Source: Orange County Master Plan of Arterial Highways.

TABLE 3-3
EXISTING PEAK HOUR LEVELS OF SERVICE SUMMARY

Key Intersections	Time Period	Minimum Acceptable LOS	Control Type	ICU	LOS
1. Harbor Boulevard at Katella Avenue	AM	E	8Ø Traffic Signal	0.481	A
	PM			0.604	B
2. Clementine Street at Katella Avenue	AM	D	8Ø Traffic Signal	0.359	A
	PM			0.492	A

Notes:

- **Bold LOS values** indicate adverse service levels based on City LOS standards
- ICU = Intersection Capacity Utilization
- Ø = Phase

TABLE 3-4
EXISTING ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment	Minimum Acceptable LOS	(1) No. of Existing Lanes	(2) Arterial Class.	(3) Existing Capacity at LOS "E"	(4) Existing Traffic Conditions		
					Daily Volume	V/C Ratio	LOS
A. Katella Avenue, between Harbor Boulevard and Clementine Street	C	6D	Major Arterial	56,300	43,708	0.776	C

Notes:

- **BOLD V/C ratio** indicates unacceptable service level

4.0 TRAFFIC FORECASTING METHODOLOGY

In order to estimate the potential unacceptable operational traffic characteristics of the proposed Project, a multi-step process has been utilized. The first step is trip 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 or rates to the project development tabulation.

The second step of the forecasting process is trip distribution, which identifies the origins and destinations of inbound and outbound project traffic. These origins and destinations are typically based on demographics and existing/anticipated 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 links and intersection turning movements throughout the study area.

With the forecasting process complete and project traffic assignments developed, the operational traffic conditions of the proposed Project are isolated by comparing operational (LOS) conditions at selected key intersections using expected future traffic volumes with and without forecast project traffic. If necessary, the need for site-specific and/or cumulative local area traffic circulation 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 equations and/or rates used in the traffic forecasting procedure are found in the 11th Edition of *Trip Generation*, published by the Institute of Transportation Engineers (ITE) [Washington D.C., 2021].

Table 5-1 summarizes the trip generation rates used in forecasting the vehicular trips generated by the proposed Project and also presents the forecast daily and peak hour project traffic volumes for a “typical” weekday. As shown in the upper portion of *Table 5-1*, the trip generation potential for the proposed Project was estimated using ITE Land Use 310: Hotel trip rates.

Review of the middle portion of *Table 5-1* indicates that the proposed Project is forecast to generate approximately 943 daily trips, with 54 trips (30 inbound, 24 outbound) produced in the AM peak hour and 70 trips (36 inbound, 34 outbound) produced in the PM peak hour on a “typical” weekday.

Further review of the middle portion of *Table 5-1* indicates that the current General Plan entitlement is forecast to generate approximately 575 daily trips, with 33 trips (18 inbound, 15 outbound) produced in the AM peak hour and 42 trips (21 inbound, 21 outbound) produced in the PM peak hour on a “typical” weekday.

As shown at the bottom of *Table 5-1*, comparison of the trips generated by the current General Plan entitlement to the trips generated by the proposed Project shows that the proposed Project will generate 368 greater net daily trips, 21 greater net AM peak hour trips, and 28 greater net PM peak hour trips.

5.2 Project Traffic Distribution and Assignment

Figure 5-1 presents the traffic distribution pattern for the proposed Project. Traffic volumes both entering and exiting the site have been distributed and assigned to the adjacent street system based on the following considerations:

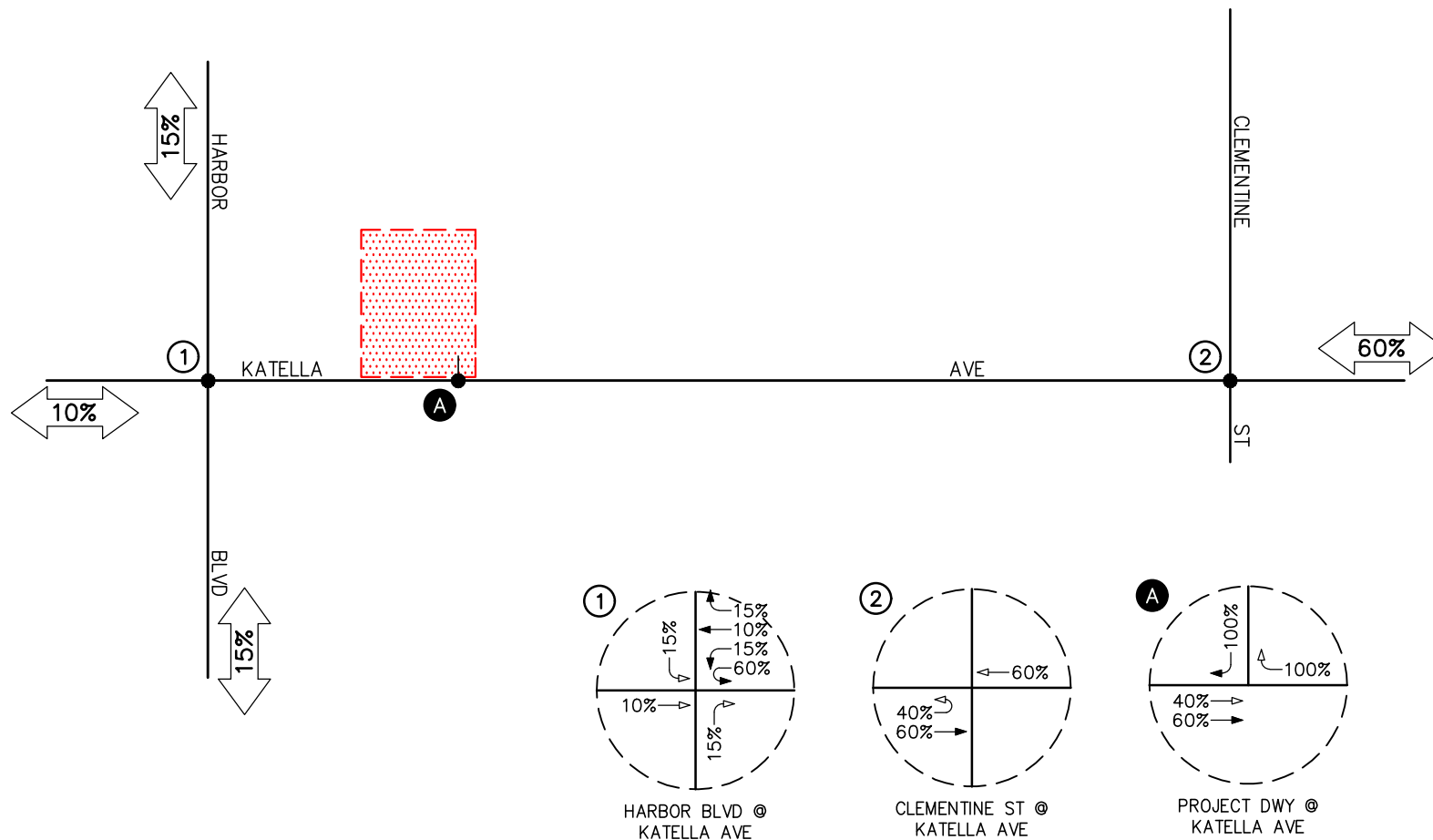
- the site's proximity to major traffic carriers (i.e. Katella Avenue, Harbor Boulevard, etc.),
- expected localized traffic flow patterns based on adjacent street channelization and presence of traffic signals,
- existing intersection traffic volumes, and
- ingress/egress availability at the Project site.

The anticipated AM and PM peak hour traffic volumes associated with the Project are presented in **Figures 5-2** and **5-3**, respectively. **Figure 5-3** also presents the daily project traffic volumes. 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 presented in *Table 5-1*.

5.3 Existing Plus Project Traffic Conditions

The Existing Plus Project traffic conditions have been generated based upon existing conditions and the estimated project traffic. This traffic volume scenario and the related intersection capacity analyses will identify the roadway improvements necessary to improve the direct unacceptable operational traffic conditions of the Project, if any, to an acceptable level.

Figures 5-4 and **5-5** present projected AM and PM peak hour traffic volumes at the two (2) key study intersections and one (1) Project driveway with the addition of the trips generated by the proposed Project to existing traffic volumes, respectively. *Figure 5-5* also presents the Existing Plus Project daily traffic volumes.



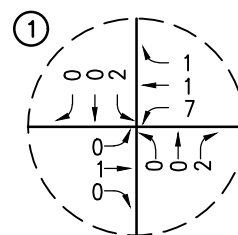
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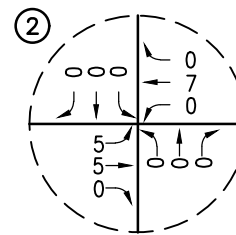
- KEY**
- ① = STUDY INTERSECTION
 - ← = INBOUND PERCENTAGE
 - = OUTBOUND PERCENTAGE
 - ▤ = PROJECT SITE

FIGURE 5-1

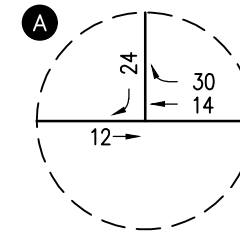
PROJECT TRIP DISTRIBUTION PATTERN
WYNDHAM HOTEL PROJECT, ANAHEIM



HARBOR BLVD @
KATELLA AVE



CLEMENTINE ST @
KATELLA



PROJECT DWY @
KATELLA

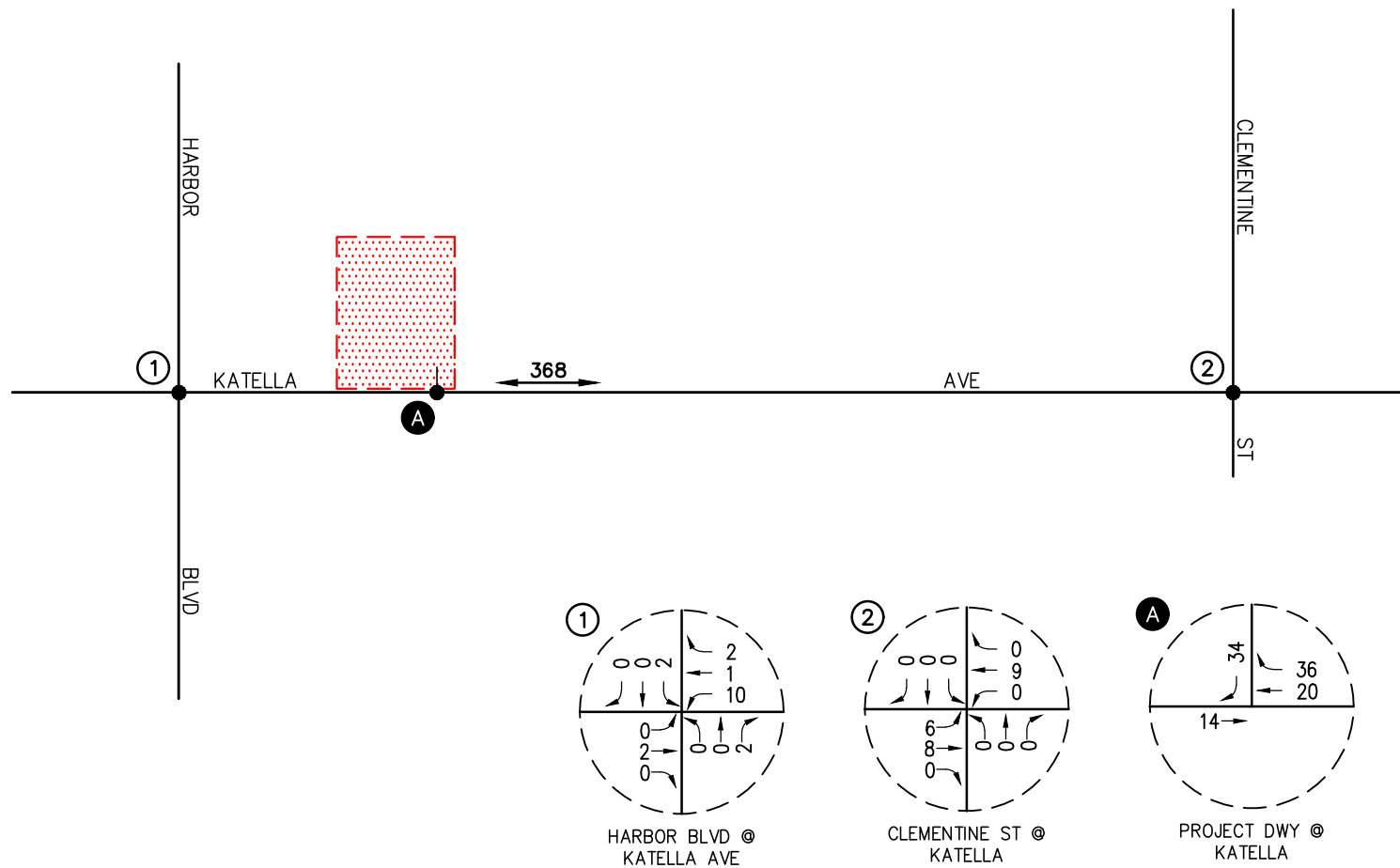


NO SCALE

KEY
 = PROJECT SITE

FIGURE 5-2

AM PEAK HOUR PROJECT TRAFFIC VOLUMES
 WYNDHAM HOTEL PROJECT, ANAHEIM



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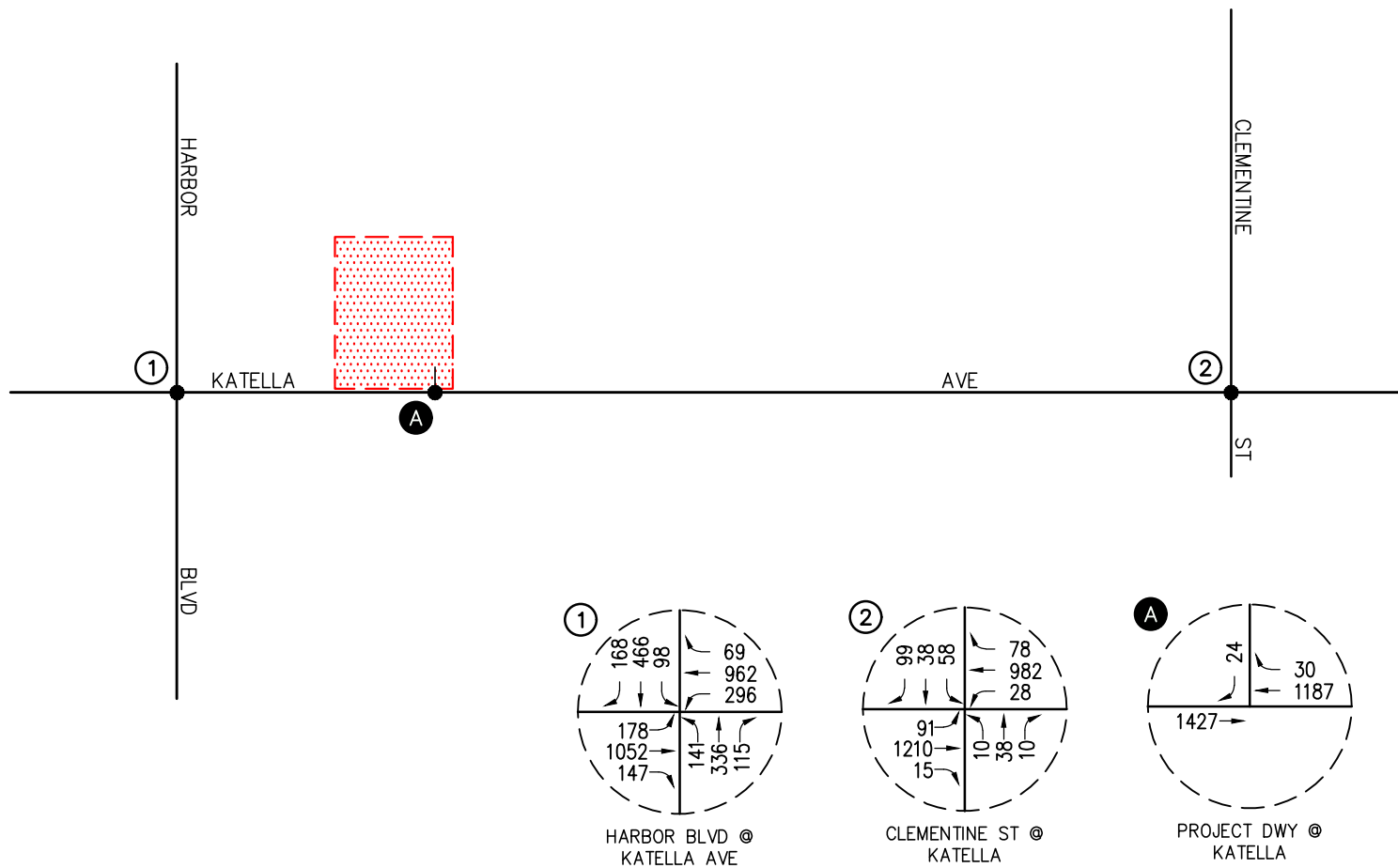
KEY

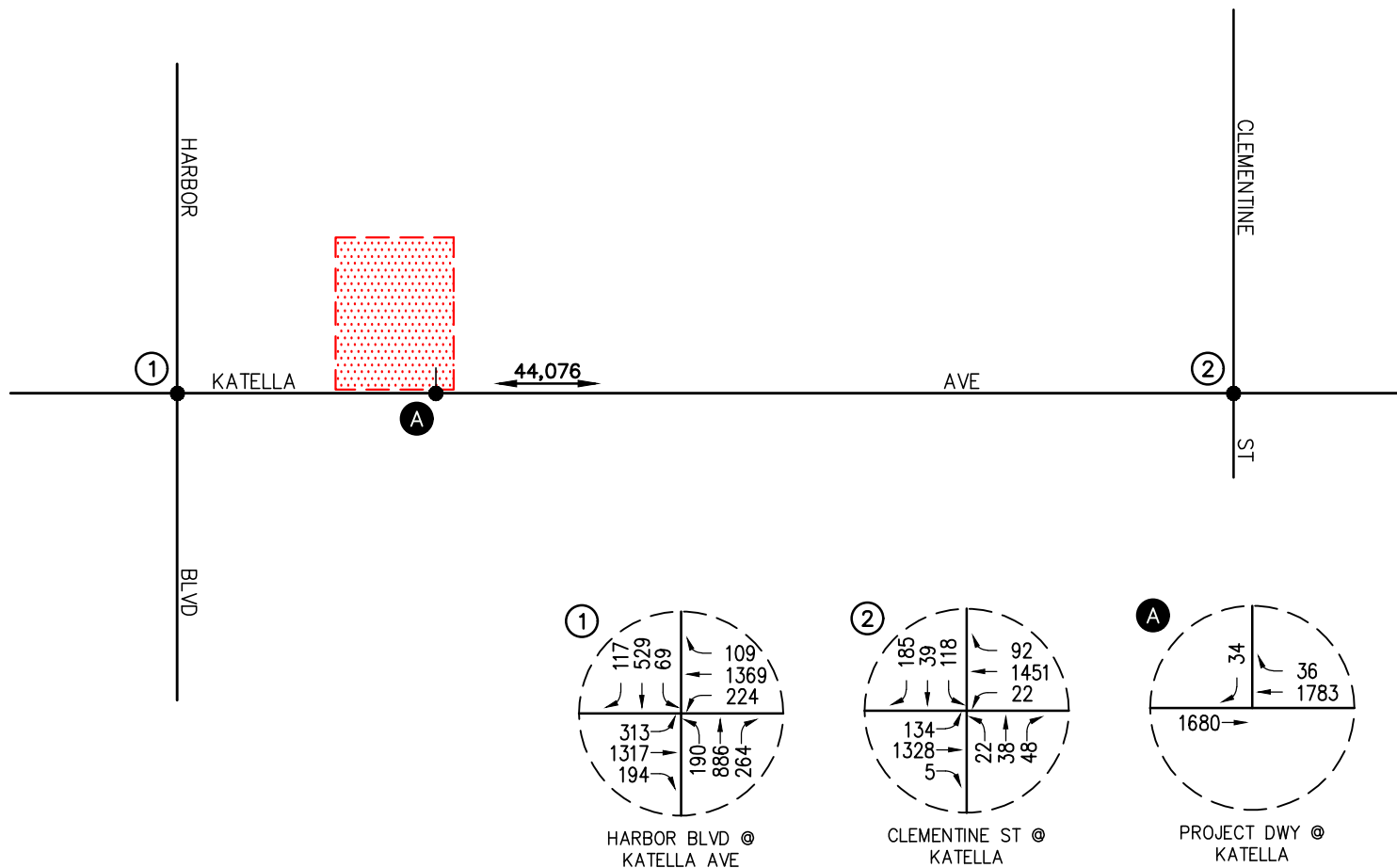
= PROJECT SITE

= DAILY TRAFFIC VOLUMES

FIGURE 5-3

PM PEAK HOUR AND DAILY PROJECT TRAFFIC VOLUMES
WYNDHAM HOTEL PROJECT, ANAHEIM





KEY

= PROJECT SITE

= DAILY TRAFFIC VOLUMES

FIGURE 5-5

**EXISTING PLUS PROJECT PM PEAK
HOUR AND DAILY TRAFFIC VOLUMES**

WYNDHAM HOTEL PROJECT, ANAHEIM

TABLE 5-1
PROJECT TRIP GENERATION RATES AND FORECAST³

Project Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
<u>Trip Generation Rates:</u>							
▪ 310: Hotel (TE/Room)	7.99	56%	44%	0.46	51%	49%	0.59
<u>Proposed Project Trip Generation Forecast:</u>							
▪ Wyndham Hotel (118 Rooms)	943	30	24	54	36	34	70
<u>Current General Plan Trip Generation Forecast:</u>							
▪ Wyndham Hotel (72 Rooms)	575	18	15	33	21	21	42
Proposed Project vs. Current General Plan Net Trip Generation	+368	+12	+9	+21	+15	+13	+28

Notes:

- TE/Room= Trip End per Room

³ Source: *Trip Generation Manual, 11th Edition*, Institute of Transportation Engineers, (ITE) [Washington, D.C. (2021)].

6.0 FUTURE TRAFFIC CONDITIONS

6.1 General Plan Buildout Traffic Conditions

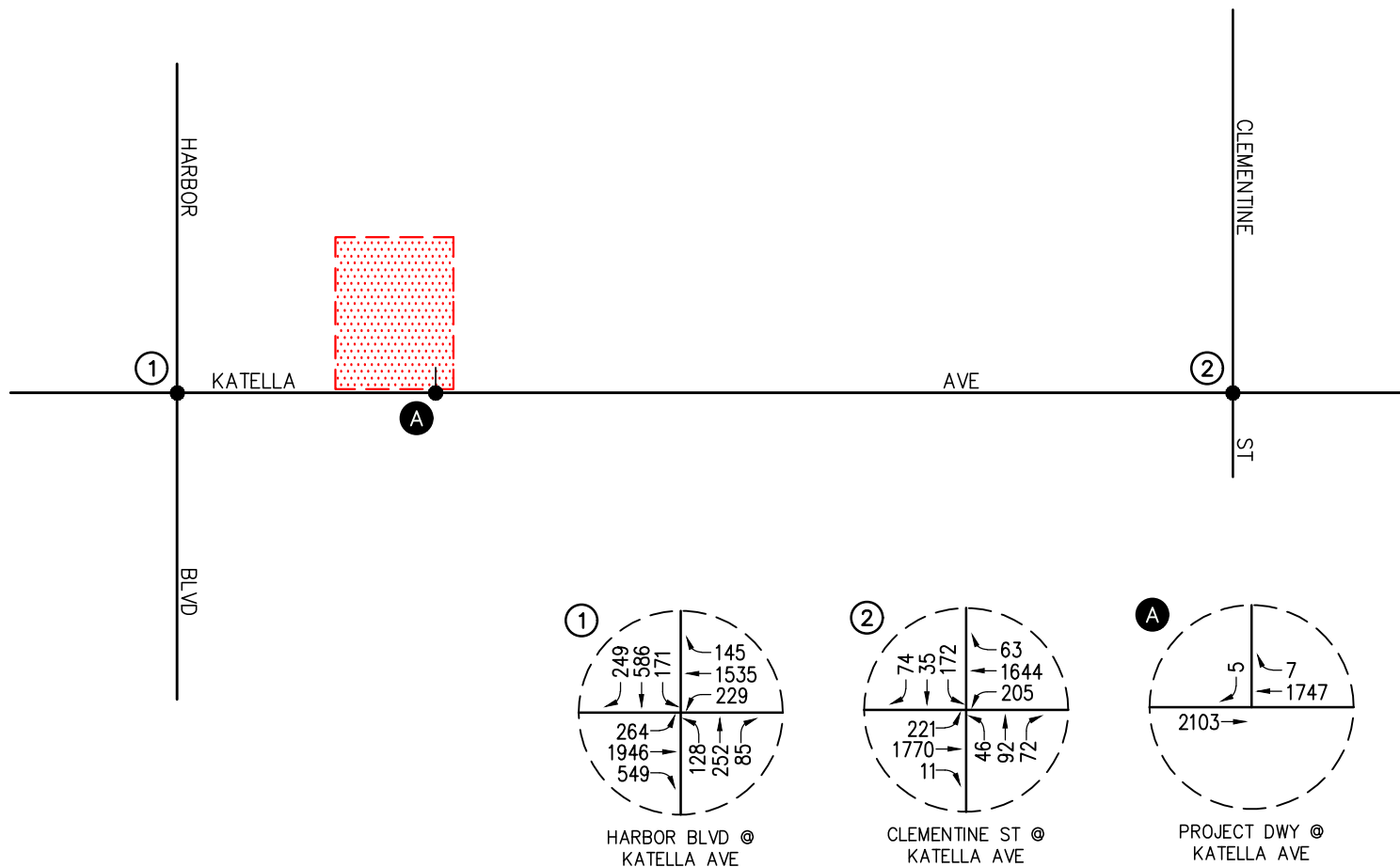
General Plan Buildout traffic volume forecasts for the two (2) key study intersections and one (1) key roadway segment were provided by City of Anaheim Public Works Department staff. The following traffic volume scenarios were provided by City staff from the Anaheim Traffic Analysis Model (ATAM).

- General Plan Buildout No Project
- General Plan Buildout Plus Project

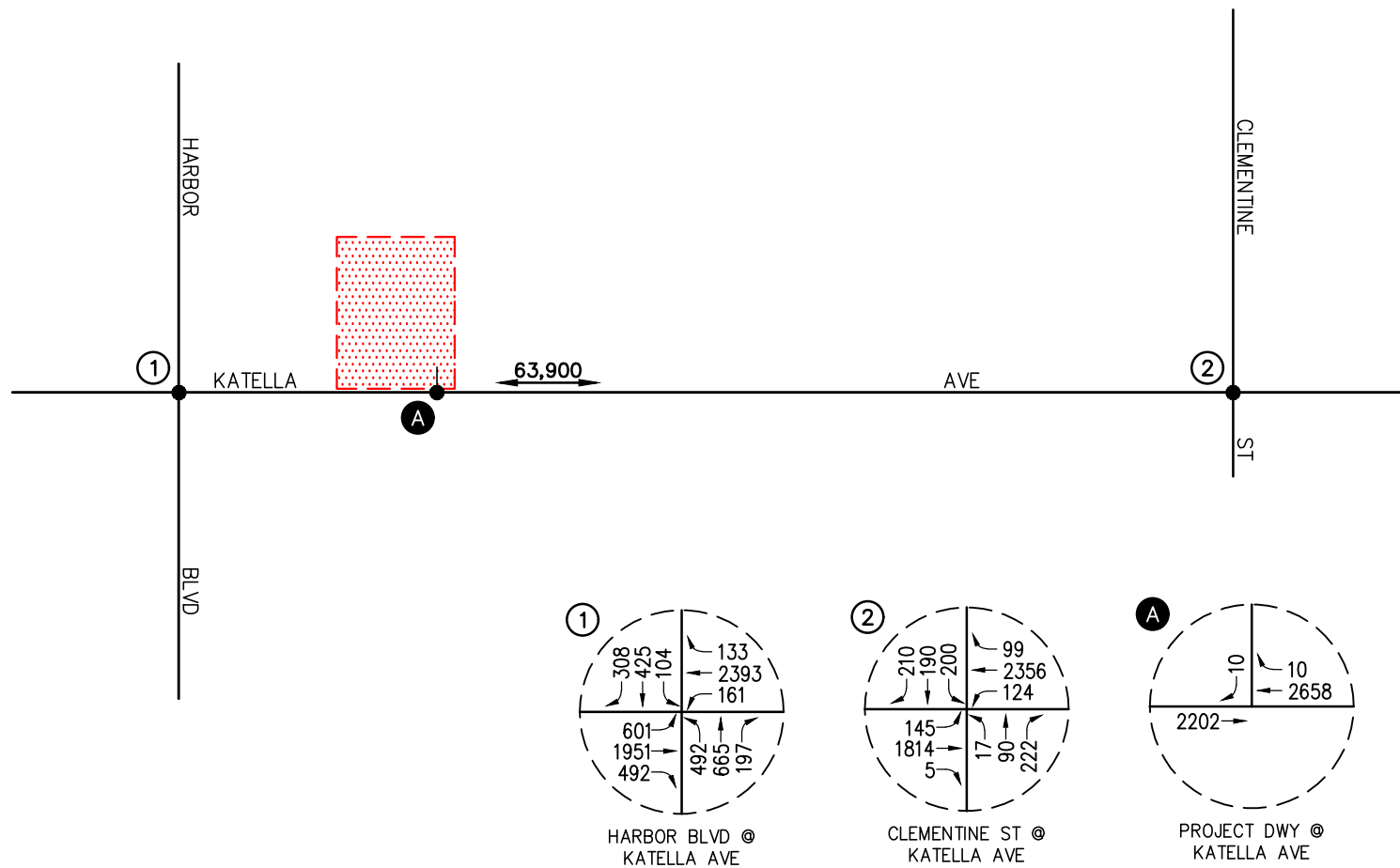
It should be noted that the ATAM General Plan Buildout No Project traffic scenario has 78 rooms for the site. Therefore, for the purpose of the analysis of the General Plan Buildout Plus Project traffic scenario, an addition of 40 rooms is analyzed.

Figures 6-1 and **6-2** present the AM and PM peak hour General Plan Buildout traffic volumes at the two (2) key study intersections, respectively. *Figure 6-2* also presents the daily General Plan Buildout traffic volume.

Figures 6-3 and **6-4** present the AM and PM peak hour General Plan Buildout with Project traffic volumes at the two (2) key study intersections, respectively. *Figure 6-4* also presents the daily General Plan Buildout with Project traffic volume.



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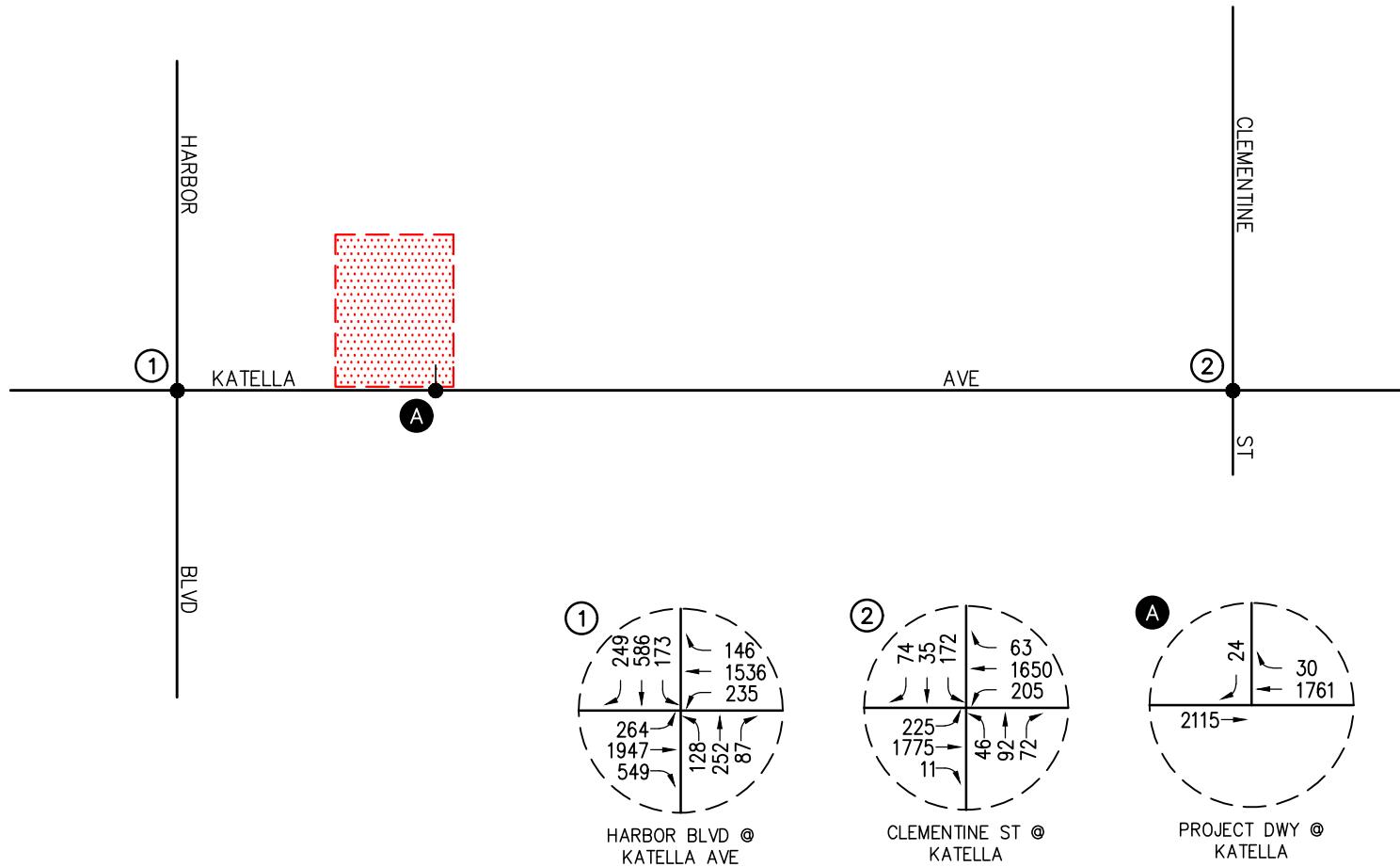
KEY

= PROJECT SITE

= DAILY TRAFFIC VOLUMES

FIGURE 6-2

**GENERAL PLAN BUILDOUT PM PEAK
HOUR AND DAILY TRAFFIC VOLUMES**
WYNDHAM HOTEL PROJECT, ANAHEIM



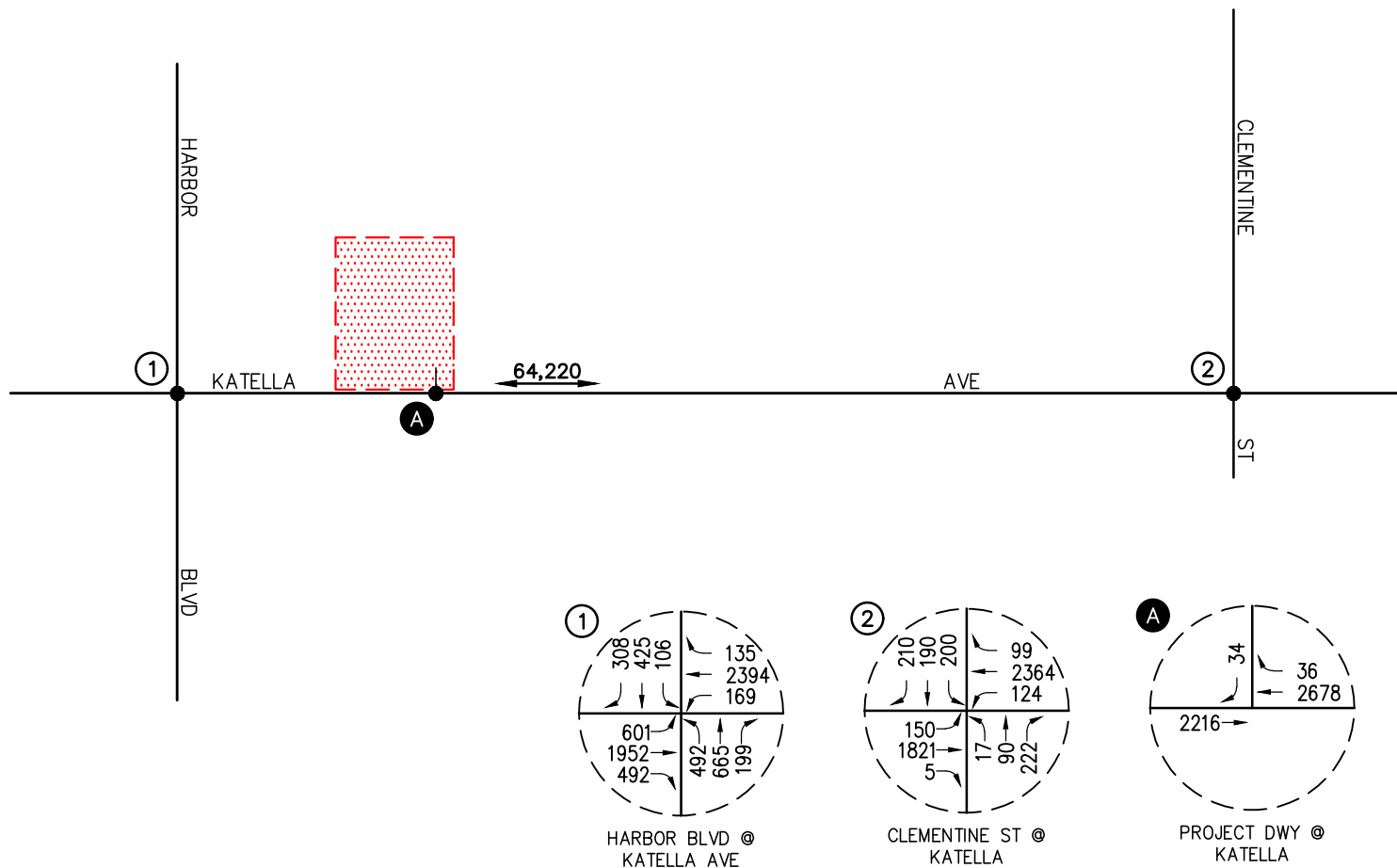
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KEY
 = PROJECT SITE

FIGURE 6-3

**GENERAL PLAN BUILDOUT PLUS
 PROJECT AM PEAK HOUR TRAFFIC VOLUMES**
 WYNDHAM HOTEL PROJECT, ANAHEIM



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KEY
 = PROJECT SITE
 = DAILY TRAFFIC VOLUMES

FIGURE 6-4

**GENERAL PLAN BUILDOUT PLUS PROJECT
 PM PEAK HOUR AND DAILY TRAFFIC VOLUMES**
 WYNDHAM HOTEL PROJECT, ANAHEIM

7.0 TRAFFIC CIRCULATION ANALYSIS METHODOLOGY

The relative traffic circulation effects of the proposed Project during the AM peak hour/PM peak hour and daily was evaluated based on analysis of future operating conditions at the two (2) key study intersections and one (1) key roadway segment, without, then with the proposed Project. The previously discussed capacity analysis procedures were utilized to investigate the future volume-to-capacity relationships and service level characteristics at each study intersection and roadway segment. The significance of the potential traffic circulation effects of the Project at each key intersection and key roadway segment was then evaluated using the following LOS criteria and thresholds.

7.1 LOS Criteria and Thresholds

7.1.1 *City of Anaheim*

Deficiencies to local and regional transportation systems located in the City of Anaheim are considered significant if:

Intersections:

According to the City's Circulation Element and stated in the *City of Anaheim Criteria for Preparation of Traffic Impact Studies*, LOS D is the minimum acceptable condition that should be maintained during the morning and evening peak commute hours on all City intersections. The significance of the potential traffic circulation effects of the project at each key signalized intersection is determined based on the sliding scale criteria presented in **Table 7-1**.

As indicated in *Table 7-1*, the project-related increase in ICU value that defines a significant deficiency at signalized intersections varies with LOS. Per the City's guidelines, a change in ICU value, within LOS C, equal to or greater than 0.050 is a significant deficiency and within LOS D, a change in ICU equal to or greater than 0.030 is also a significant deficiency. With LOS E or F, a change in ICU equal to or greater than 0.010 is considered a significant deficiency.

Roadway Segments:

LOS C (V/C not to exceed 0.80) is the performance standard that has been adopted for the study area circulation system by the City of Anaheim. Per City of Anaheim criteria, a project is deemed to have a significant deficiency if the project results in deterioration of the daily LOS to an unacceptable LOS (i.e. LOS D, E, or F) coupled with a continued deficiency under peak hour conditions. A significant deficiency is also determined by an increase in the daily V/C value of 0.01 if the segment currently operates at LOS E or F under daily without project conditions and the segment is found to be deficient under peak hour conditions. If the V/C ratio of the arterial segment under peak hour conditions is LOS E or F, improvements should be considered to improve the segment to an acceptable LOS.

TABLE 7-1
CITY OF ANAHEIM THRESHOLD CRITERIA⁴

Final Intersection ICU value	Level of Service (LOS)	Project Related Increase in ICU value Considered Significant
> 0.700 and ≤ 0.800	C	equal to or greater than 0.050
> 0.800 and ≤ 0.900	D	equal to or greater than 0.030
> 0.900	E/F	equal to or greater than 0.010

7.1.2 Orange County Congestion Management Program (CMP)

Per the *Orange County Congestion Management Program (CMP)*, a significant impact is identified if the project causes the CMP facility to operate worse than LOS E and increases the ICU value by more than 0.10 if the CMP facility operates at LOS F without the project.

7.2 Traffic Analysis Scenarios

The following scenarios are those for which volume/capacity calculations have been performed at the two (2) key study intersections and one (1) key roadway segment for existing plus project and General Plan Buildout traffic conditions:

- (a) Existing Traffic Conditions;
- (b) Existing Plus Project Traffic Conditions;
- (c) Scenario (b) with Improvements, if necessary;
- (d) General Plan Buildout Traffic Conditions;
- (e) General Plan Buildout Plus Project Traffic Conditions; and
- (f) Scenario (e) with Improvements, if necessary.

⁴ Source: *City of Anaheim Criteria for Preparation of Traffic Impact Studies*.

8.0 EXISTING PLUS PROJECT ANALYSIS

The following summarizes the “Existing Plus Project” level of service results for the two (2) key study intersections and one (1) key roadway segment.

8.1 Intersections

Table 8-1 summarizes the peak hour level of service results at the two (2) key study intersections for Existing Plus Project traffic conditions. The first column (1) of ICU and 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 Existing Plus Project traffic conditions. The third column (3) shows the increase in ICU value due to the added peak hour project trips and indicates whether the traffic associated with the Project will cause an operational deficiency based on the LOS criteria defined in this report. The fourth column (4) indicates the anticipated operating conditions with implementation of recommended improvements.

8.1.1 Existing Plus Project Traffic Conditions

Review of columns (2) and (3) of *Table 8-1* indicates that traffic associated with the proposed Project ***will not*** cause an operational deficiency at any of the two (2) key study intersections when compared to the LOS standards defined in this report. The two (2) key study intersections currently operate and are forecast to continue to operate at an acceptable LOS B or better during the AM and PM peak hours with the addition of Project generated traffic to existing traffic.

Appendix B also presents the Existing Plus Project ICU/LOS calculations for the two (2) key study intersections for the AM peak hour and PM peak hour.

8.2 Roadway Segments

Table 8-2 summarizes the roadway segment level of service results at the one (1) key roadway segment for Existing Plus Project traffic conditions. The first column (1) shows the number of lanes, the second column (2) shows the arterial classification, and the third column (3) shows the existing LOS “E” capacity. The fourth column (4) presents a summary of existing daily traffic conditions (which were also presented in *Table 3-4*). The fifth column (5) lists Existing Plus Project daily traffic conditions. Column (5) also shows the increase in V/C ratio value due to the added daily Project trips and indicates whether the traffic associated with the Project will cause an operational deficiency based on the LOS criteria defined in this report.

8.2.1 Existing Plus Project Traffic Conditions

Review of column (5) of *Table 8-2* indicates that traffic associated with the proposed Project ***will not*** cause an operational deficiency at the one (1) key roadway segment when compared to the LOS standards defined in this report. The one (1) key roadway segment is forecast to continue to operate at an acceptable LOS C or better on a daily basis with the addition of Project generated traffic to existing traffic.

TABLE 8-1

EXISTING PLUS PROJECT PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY

Key Intersection	Time Period	Minimum Acceptable LOS	(1) Existing Traffic Conditions		(2) Existing Plus Project Traffic Conditions		(3) Operational Deficiency		(4) Existing Plus Project Plus Improvements Traffic Conditions	
			ICU	LOS	ICU	LOS	Increase	Yes/No	ICU	LOS
1. Harbor Boulevard at Katella Avenue	AM	E	0.481	A	0.484	A	0.003	No	--	--
	PM		0.604	B	0.605	B	0.001	No	--	--
2. Clementine Street at Katella Avenue	AM	D	0.359	A	0.360	A	0.001	No	--	--
	PM		0.492	A	0.496	A	0.004	No	--	--

Notes:

- **Bold LOS values** indicate adverse service levels based on City LOS standards
- ICU = Intersection Capacity Utilization

TABLE 8-2

EXISTING PLUS PROJECT ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment	Minimum Acceptable LOS	(1)	(2)	(3)	(4) Existing Traffic Conditions			(5) Existing Plus Project Traffic Conditions				
		No. of Existing Lanes	Arterial Classification	Existing Capacity at LOS "E"	Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Increase	Adverse (Yes/No)
A. Katella Avenue, between Harbor Boulevard and Clementine Street	C	6D	Major Arterial	56,300	43,708	0.776	C	44,076	0.783	C	0.007	No

Notes:

- **BOLD V/C ratio** indicates unacceptable service level

9.0 GENERAL PLAN BUILDOUT PLUS PROJECT ANALYSIS

The following summarizes the “General Plan Buildout Plus Project” level of service results for the two (2) key study intersections and one (1) key roadway segment.

9.1 Intersections

Table 9-1 summarizes the peak hour level of service results at the two (2) key study intersections for General Plan Buildout traffic conditions. The first column (1) of ICU values in *Table 9-1* 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 General Plan Buildout traffic conditions. The third column (3) presents General Plan Buildout traffic conditions with the addition of Project traffic. 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 cause an operational deficiency based on the LOS criteria defined in this report. The fifth column (5) indicates the anticipated level of service with recommended improvements.

9.1.1 General Plan Buildout Traffic Conditions

Review of column (2) of *Table 9-1* shows that the intersection of Harbor Boulevard at Katella Avenue is forecast to operate at unacceptable LOS E during the PM peak hour. The remaining one (1) key study intersection is forecast to operate at acceptable LOS D or better during the AM and PM peak hours.

9.1.2 General Plan Buildout Plus Project Traffic Conditions

Review of columns (3) and (4) of *Table 9-1* indicates that traffic associated with the proposed Project ***will not*** cause an operational deficiency at any of the two (2) key study intersections when compared to the LOS standards defined in this report. The two (2) key study intersections are forecast to continue to operate at an acceptable LOS with the addition of project generated traffic to General Plan Buildout traffic conditions.

Appendix B also presents the General Plan Buildout ICU/LOS calculations for the two (2) key study intersections for the AM peak hour and PM peak hour.

9.2 Roadway Segments

Table 9-2 summarizes the roadway segment level of service results at the one (1) key roadway segment for General Plan Buildout traffic conditions. The first column (1) shows the number of lanes, the second column (2) shows the arterial classification and the third column (3) shows the LOS “E” capacity. The fourth column (4) presents a summary of General Plan Buildout daily traffic conditions. The fifth column (5) lists General Plan Buildout daily traffic conditions with the addition of Project traffic. Column (5) also shows the increase in V/C ratio value due to the added daily project trips and indicates whether the traffic associated with the Project will cause an operational deficiency based on the LOS criteria defined in this report.

9.2.1 General Plan Buildout Traffic Conditions

An analysis of projected General Plan Buildout without project traffic conditions indicates that the roadway segment of Katella Avenue, between Harbor Boulevard and Clementine Street, is forecast to operate at an unacceptable LOS D.

9.2.2 General Plan Buildout Plus Project Traffic Conditions

Review of column (5) of *Table 10-2* indicates that traffic associated with the proposed Project **will not** cause an operational deficiency at the one (1) key roadway segment when compared to the LOS standards defined in this report. Although the roadway segment of Katella Avenue, between Harbor Boulevard and Clementine Street, is forecast to operate at an unacceptable LOS D, the Project is expected to add less than the allowable thresholds to the V/C value.

TABLE 9-1
GENERAL PLAN BUILDOUT PLUS PROJECT PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY

Key Intersection	Time Period	Minimum Acceptable LOS	(1) Existing Traffic Conditions		(2) General Plan Buildout Traffic Conditions		(3) General Plan Buildout Plus Project Traffic Conditions		(4) Operational Deficiency		(5) General Plan Buildout Plus Project Plus Improvements	
			ICU	LOS	ICU	LOS	ICU	LOS	Increase	Yes/No	ICU	LOS
1. Harbor Boulevard at Katella Avenue	AM	E	0.481	A	0.668	B ⁵	0.670	B	0.002	No	--	--
	PM		0.604	B	0.924	E ⁵	0.925	E	0.001	No	--	--
2. Clementine Street at Katella Avenue	AM	D	0.359	A	0.528	A ⁵	0.528	A	0.000	No	--	--
	PM		0.492	A	0.702	C ⁵	0.705	C	0.003	No	--	--

Notes:

- **Bold LOS values** indicate adverse service levels based on City LOS standards
- ICU = Intersection Capacity Utilization

⁵ Includes planned improvements along Katella Avenue.

TABLE 9-2

GENERAL PLAN BUILDOUT PLUS PROJECT ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Key Roadway Segment	Minimum Acceptable LOS	(1)	(2)	(3)	(4) General Plan Buildout Traffic Conditions			(5) General Plan Buildout Plus Project Traffic Conditions				
		No. of Existing Lanes	Arterial Classification	Existing Capacity at LOS "E"	Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Inc.	Adverse (Yes/No)
A. Katella Avenue, between Harbor Boulevard and Clementine Street	C	8D ⁶	Principal Arterial	75,000	63,900	0.852	D	64,220	0.856	D	0.004	No

Notes:

- **BOLD V/C ratio** indicates unacceptable service level

⁶ Includes planned improvements along Katella Avenue.

10.0 AREA-WIDE TRAFFIC IMPROVEMENTS

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

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

10.1 Planned Improvements

Figure 10-1 presents the planned traffic improvements for the key study intersections for General Plan Buildout traffic conditions. These improvements are discussed in more detail in the section below.

10.1.1 Intersections

The following planned improvements are associated with the General Plan Buildout of the City's Circulation Element and have been included in the General Plan Buildout and General Plan Buildout Plus Project traffic conditions:

- 1. Harbor Boulevard at Katella Avenue: Widen and restripe the west leg of the intersection to convert the exclusive eastbound right-turn lane to a shared eastbound through/right-turn lane and provide a fourth westbound departure lane. Widen and restripe the east leg of the intersection to convert the exclusive westbound right-turn lane to a shared westbound through/right-turn lane. Modify the existing traffic signal.
- 2. Clementine Street at Katella Avenue: Widen and restripe the west leg of the intersection to convert the exclusive eastbound right-turn lane to a shared eastbound through/right-turn lane. Widen and restripe the east leg of the intersection to convert the exclusive westbound right-turn lane to a shared westbound through/right-turn lane and provide a fourth eastbound departure lane. Modify the existing traffic signal.

10.1.2 Roadway Segments

The following planned improvements are associated with the General Plan Buildout of the City's Circulation Element and have been included in the General Plan Buildout and General Plan Buildout Plus Project traffic conditions:

- A. Katella Avenue, between Harbor Boulevard and Clementine Street: Widen and restripe the roadway from six travel lanes to eight travel lanes.

10.2 Existing Plus Project Recommended Improvements

10.2.1 Intersections

The results of the intersection capacity analysis presented previously in *Table 8-1* show that the proposed Project will not cause an operational deficiency at any of the two (2) key study intersections under the Existing Plus Project traffic scenario. As such, no improvements are required under this traffic scenario.

10.2.2 Roadway Segments

The results of the Existing Plus Project daily roadway segment analysis presented previously in *Table 8-2* indicate that the proposed Project will not cause an operational deficiency at the one (1) key roadway segment. As such, no improvements are required under this traffic scenario.

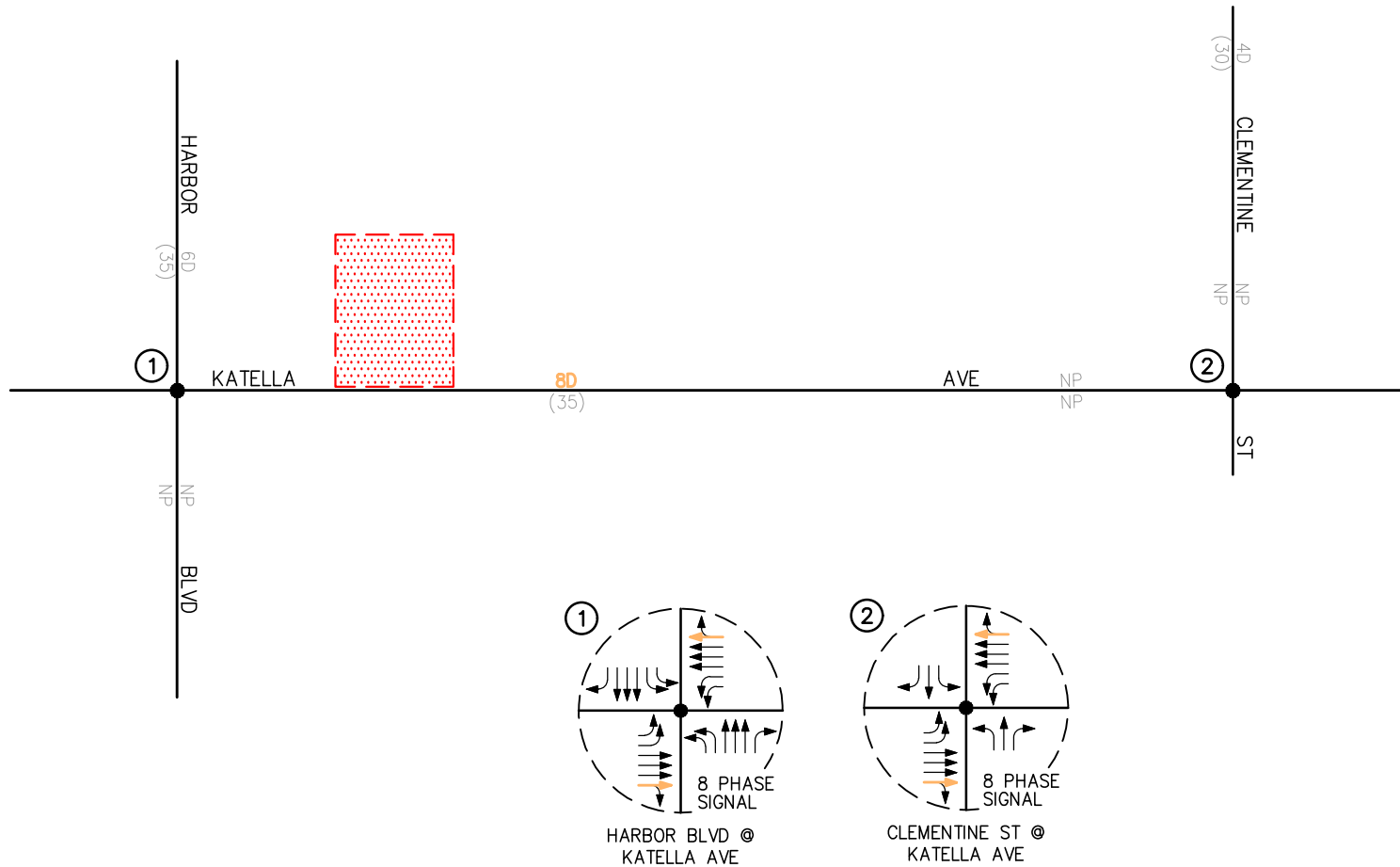
10.3 General Plan Buildout Plus Project Recommended Improvements

10.3.1 Intersections

The results of the intersection capacity analysis presented previously in *Table 9-1* show that the proposed Project will not cause an operational deficiency at any of the two (2) key study intersections under the General Plan Buildout Plus Project traffic scenario. As such, no improvements are required under this traffic scenario.

10.3.2 Roadway Segments

The results of the General Plan Buildout Plus Project daily roadway segment analysis presented previously in *Table 9-2* indicate that the proposed Project will not cause an operational deficiency at the one (1) key roadway segment. As such, no improvements are required under this traffic scenario.



n:\4600\2224608 - anaheim on-call traffic engineering services, anaheim\4608-8 - wyndham hotel project, anaheim\dwg\4608-8 r10-1.dwg LDP 08:35:53 04-09-2025 aguilera



NO SCALE

KEY

- ① = STUDY INTERSECTION
- = APPROACH LANE ASSIGNMENT
- = GENERAL PLAN BUILDOUT
- = TRAFFIC SIGNAL, ▴ = STOP SIGN
- P = PARKING, NP = NO PARKING
- U = UNDIVIDED, D = DIVIDED
- OL = OVERLAP
- 2 = NUMBER OF TRAVEL LANES
- (XX) = POSTED SPEED LIMIT (MPH)
- [Red Hatched Box] = PROJECT SITE

FIGURE 10-1

PLANNED IMPROVEMENTS
WYNDHAM HOTEL PROJECT, ANAHEIM

11.0 CONGESTION MANAGEMENT PROGRAM (CMP)

This analysis is consistent with the requirements and procedures outlined in the current *Orange County Congestion Management Program (CMP)*. The CMP requires that a traffic impact analysis be conducted for any project generating 2,400 or more daily trips, or 1,600 or more daily trips for projects that directly access the CMP Highway System (HS).

The Project has direct access to any streets of the CMPHS. Therefore, the appropriate threshold to be applied in this analysis is 1,600 daily trips. As noted in *Section 5.0* of this traffic study, the proposed Project is forecast to generate approximately 943 daily trip-ends (368 additional daily trip-ends) and therefore does not require a CMP traffic analysis. The data provided below for the CMP intersection is for informational purposes.

There is one (1) key study intersection within the Project vicinity that is a CMP intersection, which is as follows:

<u>Study Intersection</u>	<u>Location</u>
1	Harbor Boulevard at Katella Avenue

Tables 11-1 and **11-2** present the Existing Plus Project and General Plan Buildout Plus Project level of service results based on the CMP thresholds, respectively. Per the CMP, a significant impact is identified if the project causes the CMP facility to operate worse than LOS E and increases the ICU value by more than 0.10 if the CMP facility operates at LOS F without the project.

Review of *Table 11-1* shows that the Project **will not** impact the CMP location under Existing Plus Project traffic conditions.

Review of *Table 11-2* show that the Project **will not** impact the CMP location under General Plan Buildout Plus Project traffic conditions.

TABLE 11-1
EXISTING PLUS PROJECT PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY – CMP

Key Intersections	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Existing Plus Project Traffic Conditions		(3) CMP Impact	
			ICU	LOS	ICU	LOS	ICU Increase	Yes/No
1. Harbor Boulevard at Katella Avenue	E	AM	0.481	A	0.484	A	0.003	No
		PM	0.604	B	0.605	B	0.001	No

Notes:

- **BOLD ICU/LOS** values indicate unacceptable service level

TABLE 11-2
GENERAL PLAN BUILDOUT PLUS PROJECT PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY – CMP

Key Intersections	Minimum Acceptable LOS	Time Period	(1) General Plan Buildout Traffic Conditions		(2) General Plan Buildout Plus Project Traffic Conditions		(3) CMP Impact	
			ICU	LOS	ICU	LOS	ICU Increase	Yes/No
1. Harbor Boulevard at Katella Avenue	E	AM	0.668	B	0.670	B	0.002	No
		PM	0.924	E	0.925	E	0.001	No

Notes:

- **BOLD ICU/LOS** values indicate unacceptable service level

12.0 VMT ASSESSMENT

On December 28, 2018, the California Natural Resources Agency adopted revised CEQA Guidelines. Among the changes to the guidelines was the removal of vehicle delay and LOS from consideration for transportation impacts under CEQA. With the adopted guidelines, transportation impacts are to be evaluated based on a project's effect on vehicle miles traveled. The new guidelines must be used starting July 1, 2020, as required in CEQA section 15064.3. The City of Anaheim recently adopted new traffic impact criteria in June 2020 to be consistent with the CEQA revisions. These new guidelines are contained within the *City of Anaheim Traffic Impact Analysis Guidelines for California Environmental Quality Act Analysis*, dated June 2020, and provide screening criteria and methodology for VMT analysis.

Per the *City of Anaheim Traffic Impact Analysis Guidelines for California Environmental Quality Act Analysis*, there are three types of screening to screen projects from project-level VMT assessments. The three screening types are described below. The result of each screening type applied to the proposed Project is also discussed. It should be noted that the Project only needs to satisfy one of the three screening types.

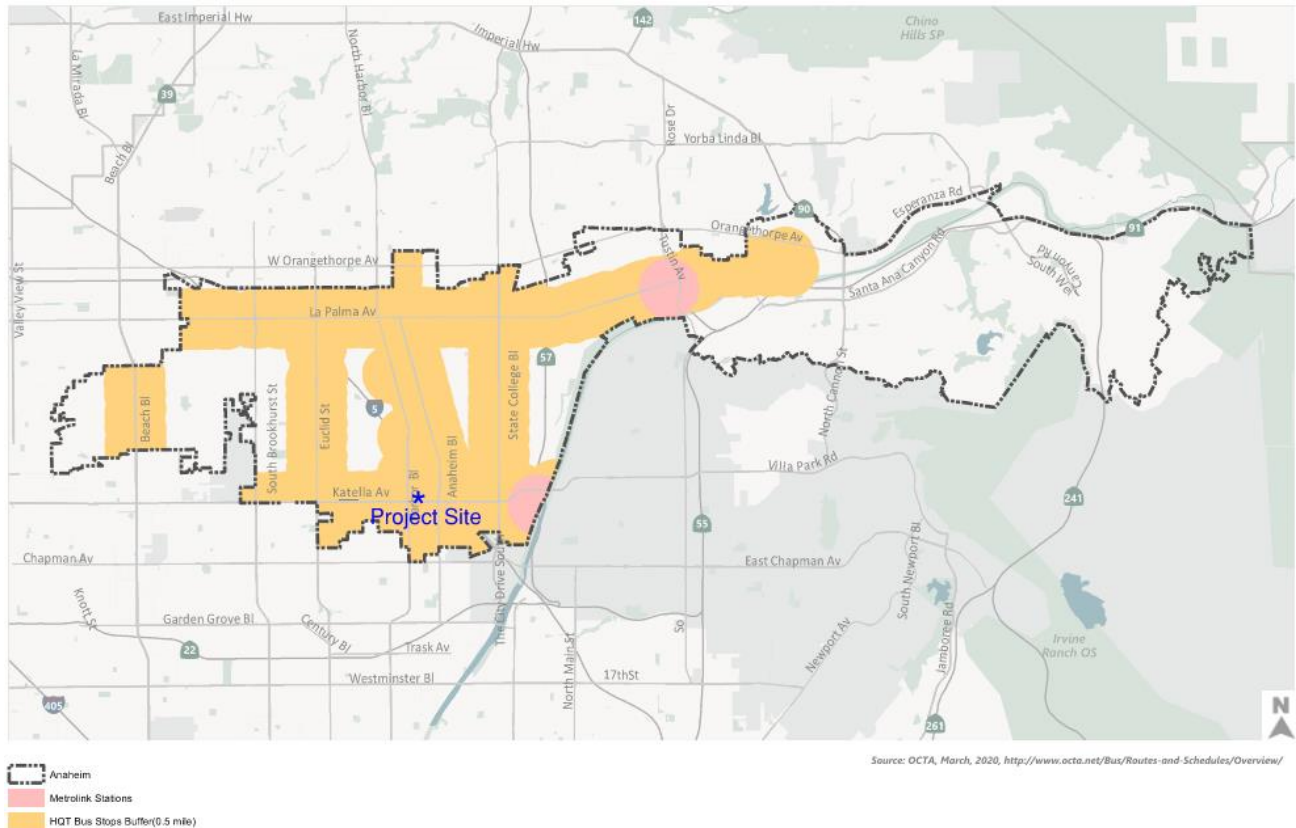
Type 1: Transit Priority Area (TPA) Screening

Projects located within a transit priority area (TPA) 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 jurisdiction (if the jurisdiction requires the project to supply parking);
3. Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization); or
4. Replaces affordable residential units with a smaller number of moderate- or high-income residential units.

To identify if the project is in a TPA, the analyst shall refer to Attachment A which provides a map of TPAs in Anaheim.

- *Based on Attachment A, Transit Priority Areas (TPAs) in Anaheim, of the City guidelines, the Project site is located within a Transit Priority Area (TPA). The proposed Project has a Floor Area Ratio (FAR) greater than 0.75 and will not provide more parking than City-code parking requirements. The Project is consistent with the Sustainable Communities Strategy and will not replace affordable housing. Therefore, Project Screening Type 1: Transit Priority Area (TPA) Screening is satisfied, and this project could be screened from a VMT analysis and could be presumed to have a less than significant impact on VMT per the City's guidelines. It should be noted that the intersection of Harbor Boulevard at Katella Avenue is at an intersection of two (2) High Quality Transit Corridors (HQTCS), making this location a major transit stop.*



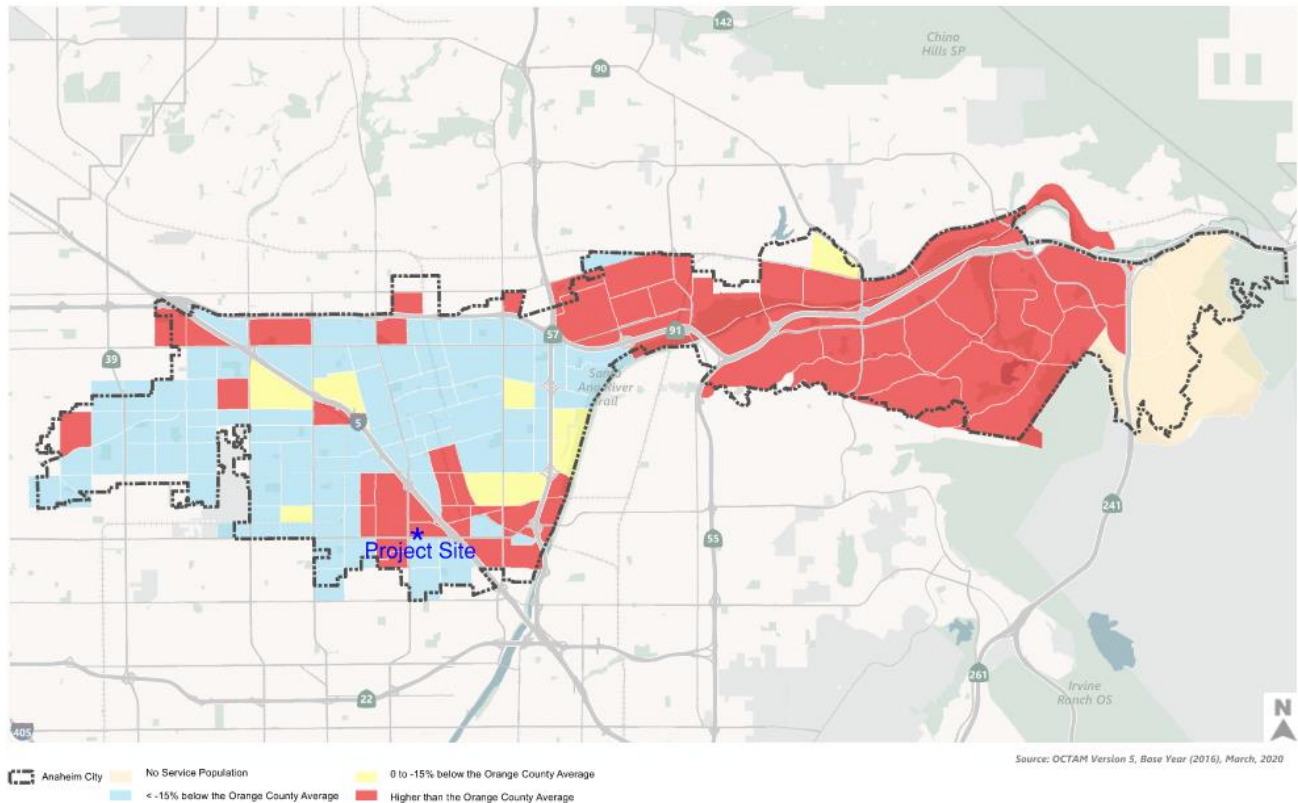
Screenshot #1. Transit Priority Areas (TPAs) in Anaheim

Type 2: Low VMT Area Screening

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. 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 service population that is similar to the existing land uses in the low VMT area. 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.

To identify if the project is in a low-VMT generating area, the analyst shall refer to Attachment B which provides a map of low VMT-generating zones in Anaheim as compared to the County. A low VMT-generating area produces VMT per service population that is 15% below the County average. Additionally, as noted above, the analyst must identify if the project is consistent with the existing land use within that TAZ and use professional judgement that there is nothing unique about the project that would otherwise be mis-represented utilizing the data from the travel demand model.

- *Based on Attachment B, Daily VMT per Service Population in Anaheim TAZs as Compared to the Orange County Average (2016), of the City guidelines, the Project site is located within a TAZ that is higher than the Orange County average. Therefore, Project Screening Type 2: Low VMT Area Screening is not satisfied.*



Screenshot #2. Daily VMT Per Service Population in Anaheim TAZs as Compared to the Orange County Average (2016)

Type 3: Project Type Screening

Some project types are presumed to have a less than significant transportation impact absent substantial evidence to the contrary as their uses are local serving in nature. Local serving retail generally improves the convenience of shopping close to home and has the effect of reducing vehicle travel. The following uses can be screened from project-level assessment as they are presumed to have a less than significant impact due to their local serving nature:

- Local-serving K-12 schools
- Pocket, neighborhood and community parks as defined by the General Plan
- Day care centers
- Local-serving retail uses less than 50,000 square feet, including:
 - Alcoholic Beverage Sales (Off-Sale and On-Sale)
 - Animal-Grooming and Animal-Boarding
 - Automotive Washing
 - Automotive-Parts Sales
 - Automotive-Repair and Modification (Major and Minor)
 - Automotive-Service Stations
 - Business & Financial Services
 - Commercial Retail Centers (Large and Small)
 - Computer Internet & Amusement Facilities

- o Convenience Stores
 - o Dance & Fitness Studios (Large and Small)
 - o Drive-Through Facilities
 - o Equipment Rental (Large and Small)
 - o Group Care Facilities
 - o Gym
 - o Markets (Large and Small)
 - o Personal Services-General
 - o Plant Nurseries
 - o Restaurants (Full Service, General and Outdoor dining)
 - o Retail Sales (General, Kiosks, Outdoor and Used Merchandise)
 - o Self-Storage
 - o Wine Bar
 - Student housing projects on or adjacent to college campuses
 - Community and Religious Assembly Uses
 - Public Services
 - Local-serving community colleges that are consistent with the assumptions noted in the RTP/SCS
 - Affordable or supportive housing
 - Convalescent & Rest Homes
 - Senior housing (as defined by HUD)
 - Projects generating less than 110 daily vehicle trips
- *As stated previously, the proposed Project will increase the number of rooms allowed on site from 72 rooms to 118 rooms (an addition of 46 rooms). Therefore, based on the Type 3: Project Type Screening is not satisfied.*

12.1 VMT Analysis Conclusion

Based on the City's guidelines, the proposed Project satisfies Type 1: Transit Priority Area (TPA) Screening. Therefore, this project could be screened from a VMT analysis and could be presumed to have a less than significant impact on VMT per the City's guidelines.

APPENDIX A

EXISTING TRAFFIC COUNT DATA

APPENDIX A-1

INTERSECTIONS

Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: ANAHEIM
N-S Direction: HARBOR BOULEVARD
E-W Direction: KATELLA AVENUE

File Name : H2502001
Site Code : 00000000
Start Date : 2/4/2025
Page No : 1

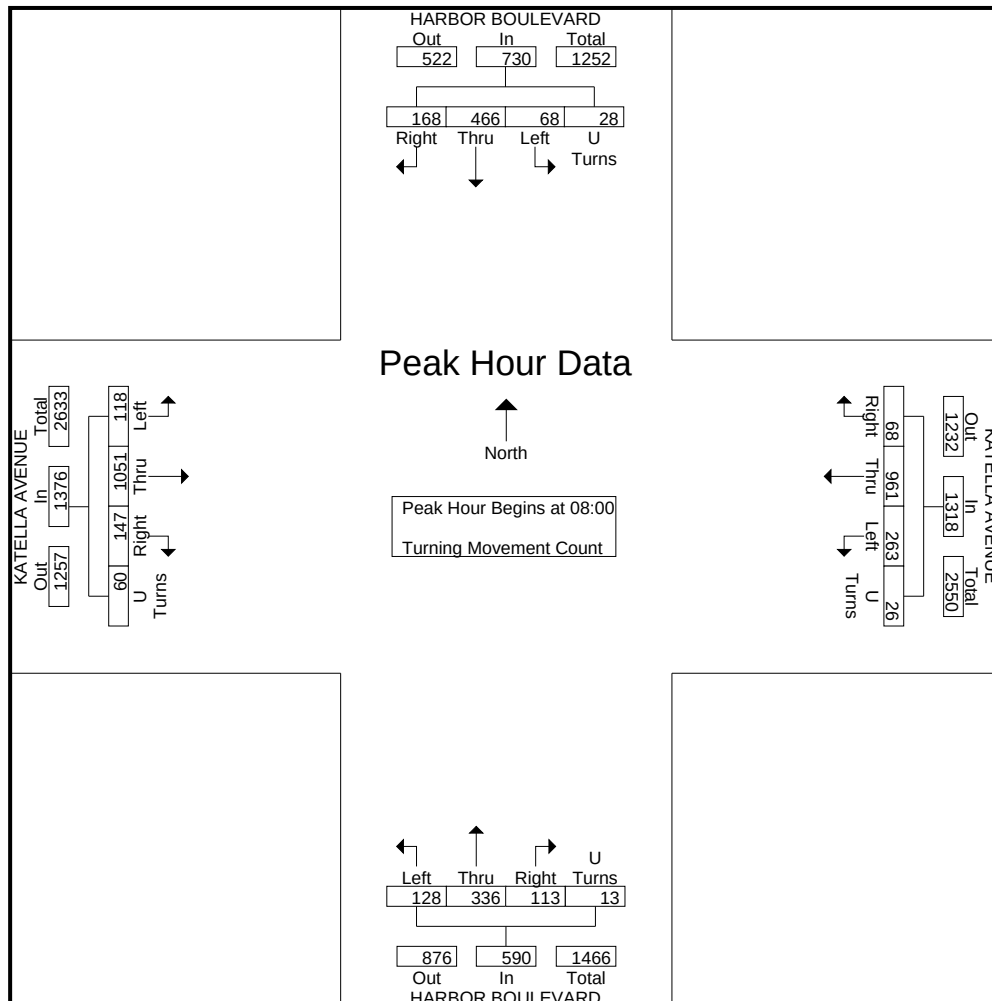
Groups Printed- Turning Movement Count

	HARBOR BOULEVARD Southbound				KATELLA AVENUE Westbound				HARBOR BOULEVARD Northbound				KATELLA AVENUE Eastbound				
Start Time	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Int. Total
07:00	31	90	12	3	15	271	42	0	12	80	16	3	17	189	31	10	822
07:15	22	78	10	3	20	280	40	0	20	83	23	8	27	211	19	9	853
07:30	32	101	25	4	14	300	42	4	23	92	25	5	26	219	32	6	950
07:45	33	130	9	6	13	330	53	2	29	104	36	5	28	224	26	6	1034
Total	118	399	56	16	62	1181	177	6	84	359	100	21	98	843	108	31	3659
08:00	36	89	8	9	12	226	59	4	27	96	31	3	41	298	26	14	979
08:15	39	110	20	1	23	216	63	8	28	71	24	3	32	280	30	17	965
08:30	43	130	19	7	17	244	57	6	30	99	40	2	41	234	26	14	1009
08:45	50	137	21	11	16	275	84	8	28	70	33	5	33	239	36	15	1061
Total	168	466	68	28	68	961	263	26	113	336	128	13	147	1051	118	60	4014
16:00	34	111	24	2	25	286	43	2	40	164	27	5	24	302	56	11	1156
16:15	31	99	9	1	28	366	52	3	41	158	34	3	27	317	45	21	1235
16:30	37	147	14	11	20	307	44	3	65	224	49	4	43	315	54	13	1350
16:45	20	120	7	3	33	338	48	6	47	216	36	3	51	321	69	23	1341
Total	122	477	54	17	106	1297	187	14	193	762	146	15	145	1255	224	68	5082
17:00	41	160	17	8	32	371	45	5	57	202	48	2	55	335	59	11	1448
17:15	19	102	5	2	22	352	58	5	93	244	43	5	45	344	70	14	1423
17:30	10	65	17	1	47	287	43	3	61	180	34	2	37	322	38	7	1154
17:45	44	157	16	6	27	329	53	3	73	224	37	4	37	317	43	12	1382
Total	114	484	55	17	128	1339	199	16	284	850	162	13	174	1318	210	44	5407
Grand Total	522	1826	233	78	364	4778	826	62	674	2307	536	62	564	4467	660	203	18162
Apprch %	19.6	68.7	8.8	2.9	6	79.2	13.7	1	18.8	64.5	15	1.7	9.6	75.8	11.2	3.4	
Total %	2.9	10.1	1.3	0.4	2	26.3	4.5	0.3	3.7	12.7	3	0.3	3.1	24.6	3.6	1.1	

City: ANAHEIM
N-S Direction: HARBOR BOULEVARD
E-W Direction: KATELLA AVENUE

File Name : H2502001
Site Code : 00000000
Start Date : 2/4/2025
Page No : 2

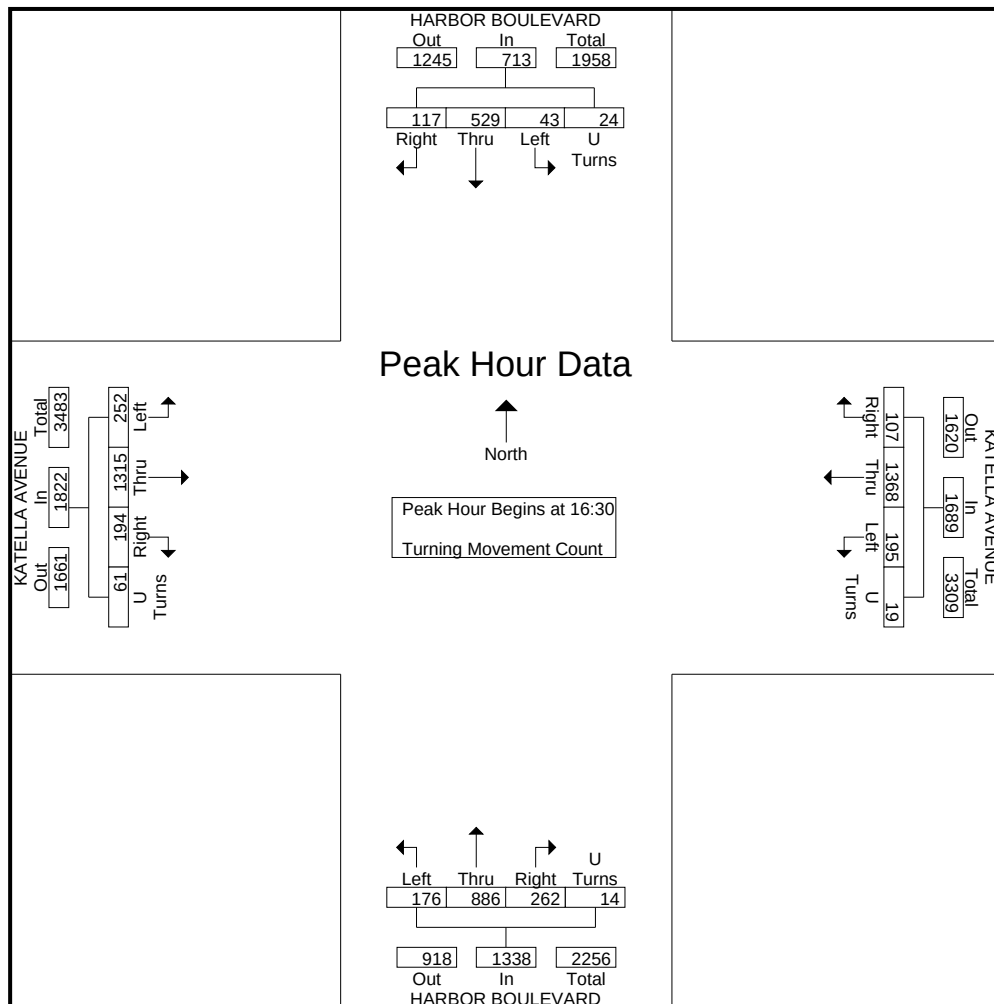
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Start Time	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	36	89	8	9	142	12	226	59	4	301	27	96	31	3	157	41	298	26	14	379	979
08:15	39	110	20	1	170	23	216	63	8	310	28	71	24	3	126	32	280	30	17	359	965
08:30	43	130	19	7	199	17	244	57	6	324	30	99	40	2	171	41	234	26	14	315	1009
08:45	50	137	21	11	219	16	275	84	8	383	28	70	33	5	136	33	239	36	15	323	1061
Total Volume	168	466	68	28	730	68	961	263	26	1318	113	336	128	13	590	147	1051	118	60	1376	4014
% App. Total	23	63.8	9.3	3.8		5.2	72.9	20	2		19.2	56.9	21.7	2.2		10.7	76.4	8.6	4.4		
PHF	.840	.850	.810	.636	.833	.739	.874	.783	.813	.860	.942	.848	.800	.650	.863	.896	.882	.819	.882	.908	.946



City: ANAHEIM
N-S Direction: HARBOR BOULEVARD
E-W Direction: KATELLA AVENUE

File Name : H2502001
Site Code : 00000000
Start Date : 2/4/2025
Page No : 3

	HARBOR BOULEVARD Southbound					KATELLA AVENUE Westbound					HARBOR BOULEVARD Northbound					KATELLA AVENUE Eastbound					
Start Time	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1 Peak Hour for Entire Intersection Begins at 16:30																					
16:30	37	147	14	11	209	20	307	44	3	374	65	224	49	4	342	43	315	54	13	425	1350
16:45	20	120	7	3	150	33	338	48	6	425	47	216	36	3	302	51	321	69	23	464	1341
17:00	41	160	17	8	226	32	371	45	5	453	57	202	48	2	309	55	335	59	11	460	1448
17:15	19	102	5	2	128	22	352	58	5	437	93	244	43	5	385	45	344	70	14	473	1423
Total Volume	117	529	43	24	713	107	1368	195	19	1689	262	886	176	14	1338	194	1315	252	61	1822	5562
% App. Total	16.4	74.2	6	3.4		6.3	81	11.5	1.1		19.6	66.2	13.2	1		10.6	72.2	13.8	3.3		
PHF	.713	.827	.632	.545	.789	.811	.922	.841	.792	.932	.704	.908	.898	.700	.869	.882	.956	.900	.663	.963	.960



Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: ANAHEIM
N-S Direction: CLEMENTINE STREET
E-W Direction: KATELLA AVENUE

File Name : H2502002
Site Code : 00000000
Start Date : 2/4/2025
Page No : 1

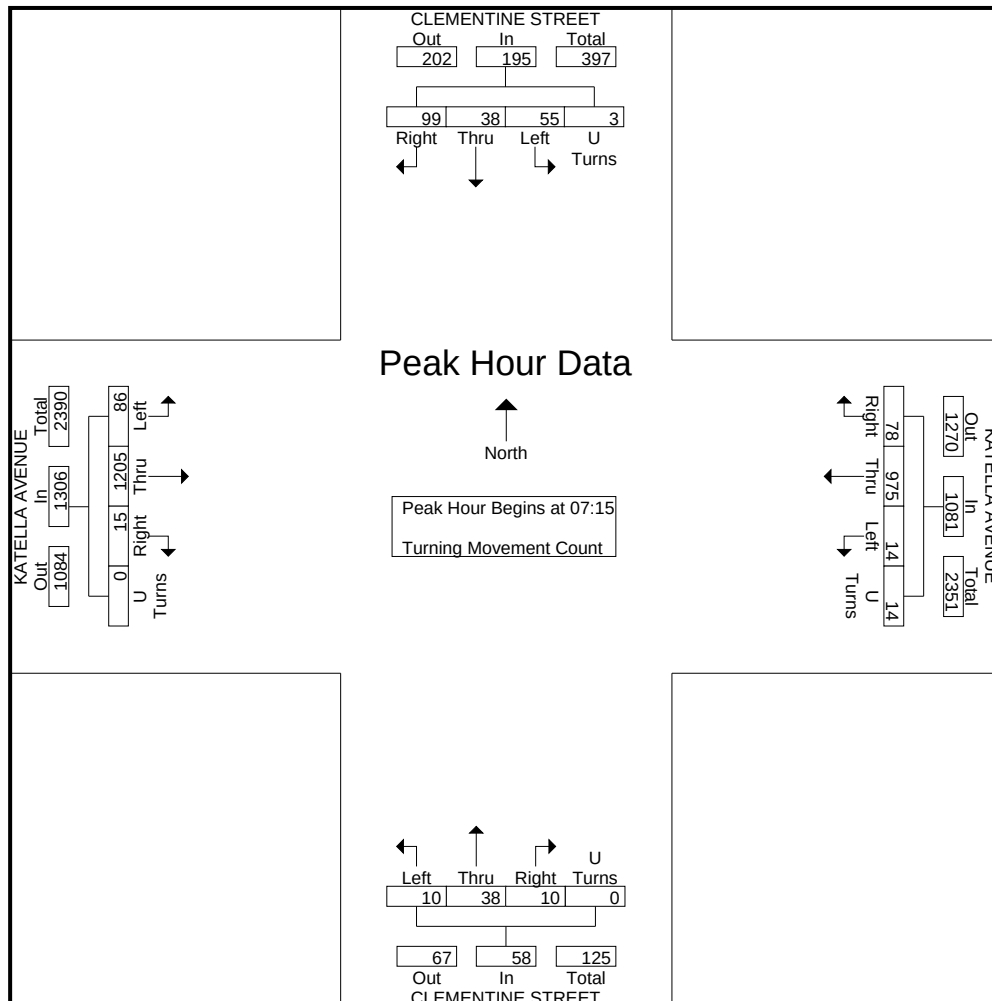
Groups Printed- Turning Movement Count

	CLEMENTINE STREET Southbound				KATELLA AVENUE Westbound				CLEMENTINE STREET Northbound				KATELLA AVENUE Eastbound				
Start Time	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Int. Total
07:00	21	19	8	0	13	162	6	1	0	10	5	0	5	236	7	0	493
07:15	19	6	15	1	12	224	3	2	5	13	3	0	5	335	14	0	657
07:30	29	12	12	0	19	231	4	5	3	9	1	0	7	279	29	0	640
07:45	20	10	14	2	30	282	4	2	2	8	4	0	1	287	28	0	694
Total	89	47	49	3	74	899	17	10	10	40	13	0	18	1137	78	0	2484
08:00	31	10	14	0	17	238	3	5	0	8	2	0	2	304	15	0	649
08:15	32	8	9	3	15	255	2	2	3	10	3	0	0	243	29	0	614
08:30	39	13	5	0	29	319	1	5	1	8	0	0	2	238	14	0	674
08:45	36	9	18	3	22	356	2	4	2	8	2	0	6	181	19	0	668
Total	138	40	46	6	83	1168	8	16	6	34	7	0	10	966	77	0	2605
16:00	46	5	17	9	16	273	1	3	10	7	8	0	2	326	17	0	740
16:15	42	11	19	1	23	366	1	1	13	8	7	0	1	265	11	0	769
16:30	42	8	32	2	26	346	2	4	19	10	5	0	3	340	38	0	877
16:45	46	11	19	4	29	357	1	4	10	11	6	0	1	317	19	0	835
Total	176	35	87	16	94	1342	5	12	52	36	26	0	7	1248	85	0	3221
17:00	52	8	26	4	20	408	1	4	11	5	5	0	1	312	38	0	895
17:15	45	12	27	4	17	331	0	6	8	12	6	0	0	351	33	0	852
17:30	62	16	25	2	35	293	1	6	11	14	8	0	0	329	28	0	830
17:45	61	20	19	4	31	307	3	5	17	10	10	0	0	362	30	0	879
Total	220	56	97	14	103	1339	5	21	47	41	29	0	1	1354	129	0	3456
Grand Total	623	178	279	39	354	4748	35	59	115	151	75	0	36	4705	369	0	11766
Apprch %	55.7	15.9	24.9	3.5	6.8	91.4	0.7	1.1	33.7	44.3	22	0	0.7	92.1	7.2	0	
Total %	5.3	1.5	2.4	0.3	3	40.4	0.3	0.5	1	1.3	0.6	0	0.3	40	3.1	0	

City: ANAHEIM
N-S Direction: CLEMENTINE STREET
E-W Direction: KATELLA AVENUE

File Name : H2502002
Site Code : 00000000
Start Date : 2/4/2025
Page No : 2

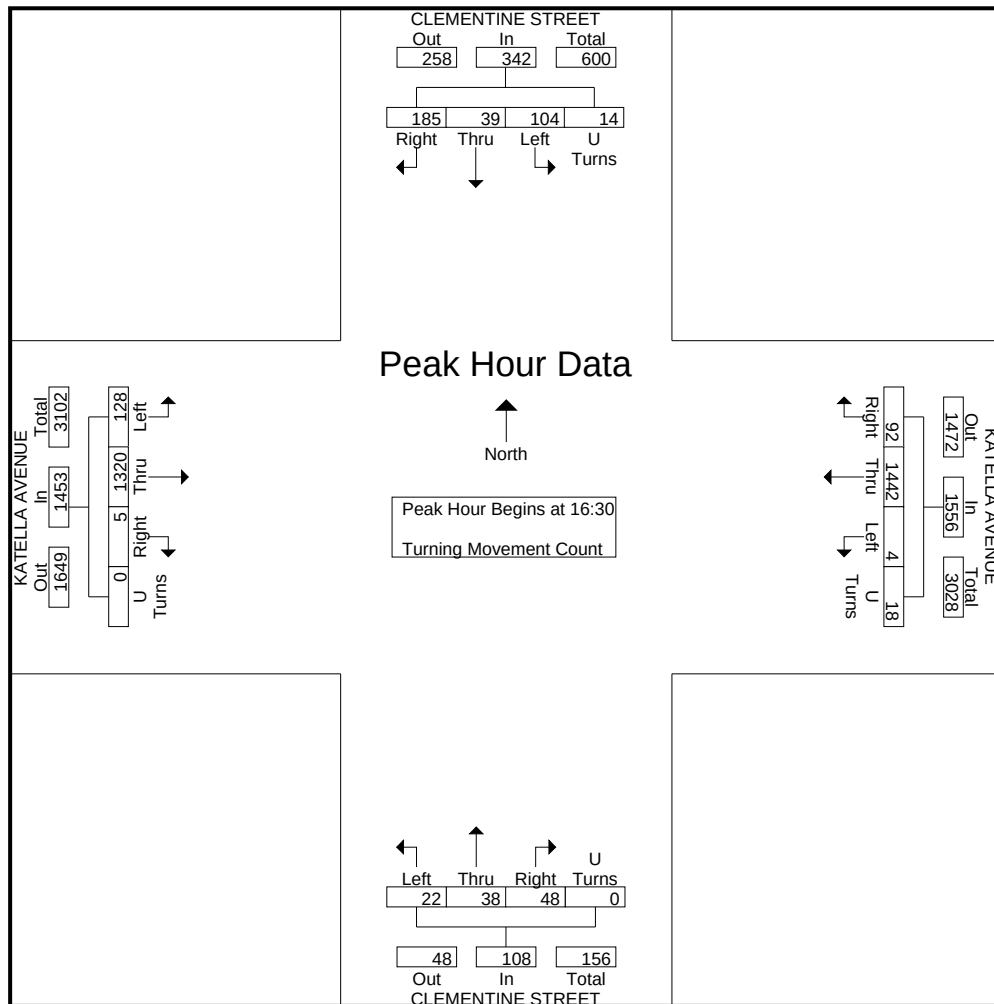
	CLEMENTINE STREET Southbound					KATELLA AVENUE Westbound					CLEMENTINE STREET Northbound					KATELLA AVENUE Eastbound					
Start Time	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1 Peak Hour for Entire Intersection Begins at 07:15																					
07:15	19	6	15	1	41	12	224	3	2	241	5	13	3	0	21	5	335	14	0	354	657
07:30	29	12	12	0	53	19	231	4	5	259	3	9	1	0	13	7	279	29	0	315	640
07:45	20	10	14	2	46	30	282	4	2	318	2	8	4	0	14	1	287	28	0	316	694
08:00	31	10	14	0	55	17	238	3	5	263	0	8	2	0	10	2	304	15	0	321	649
Total Volume	99	38	55	3	195	78	975	14	14	1081	10	38	10	0	58	15	1205	86	0	1306	2640
% App. Total	50.8	19.5	28.2	1.5		7.2	90.2	1.3	1.3		17.2	65.5	17.2	0		1.1	92.3	6.6	0		
PHF	.798	.792	.917	.375	.886	.650	.864	.875	.700	.850	.500	.731	.625	.000	.690	.536	.899	.741	.000	.922	.951



City: ANAHEIM
N-S Direction: CLEMENTINE STREET
E-W Direction: KATELLA AVENUE

File Name : H2502002
Site Code : 00000000
Start Date : 2/4/2025
Page No : 3

	CLEMENTINE STREET Southbound					KATELLA AVENUE Westbound					CLEMENTINE STREET Northbound					KATELLA AVENUE Eastbound					
Start Time	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Int. Total
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1 Peak Hour for Entire Intersection Begins at 16:30																					
16:30	42	8	32	2	84	26	346	2	4	378	19	10	5	0	34	3	340	38	0	381	877
16:45	46	11	19	4	80	29	357	1	4	391	10	11	6	0	27	1	317	19	0	337	835
17:00	52	8	26	4	90	20	408	1	4	433	11	5	5	0	21	1	312	38	0	351	895
17:15	45	12	27	4	88	17	331	0	6	354	8	12	6	0	26	0	351	33	0	384	852
Total Volume	185	39	104	14	342	92	1442	4	18	1556	48	38	22	0	108	5	1320	128	0	1453	3459
% App. Total	54.1	11.4	30.4	4.1		5.9	92.7	0.3	1.2		44.4	35.2	20.4	0		0.3	90.8	8.8	0		
PHF	.889	.813	.813	.875	.950	.793	.884	.500	.750	.898	.632	.792	.917	.000	.794	.417	.940	.842	.000	.946	.966



Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: ANAHEIM
N-S Direction: WYNDAM HOTEL DRIVEWAY
E-W Direction: KATELLA AVENUE

File Name : H2502003
Site Code : 00000000
Start Date : 2/4/2025
Page No : 1

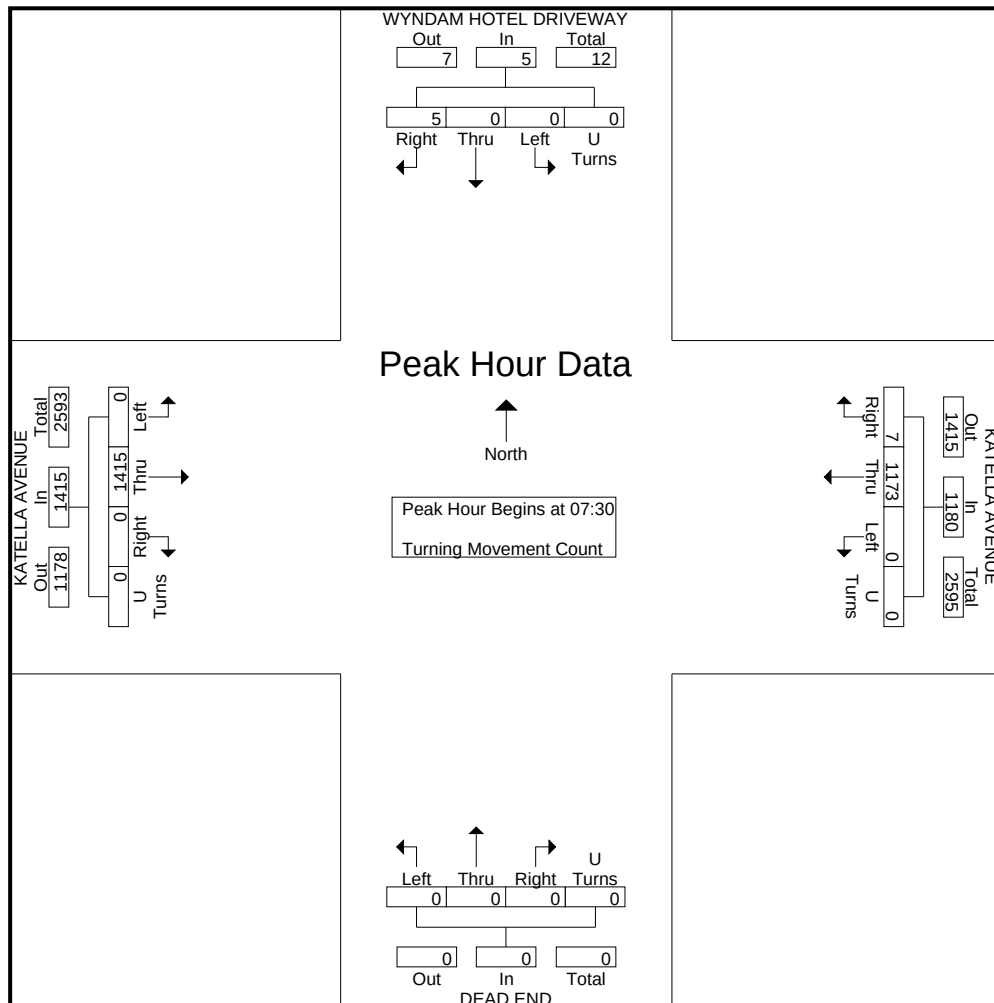
Groups Printed- Turning Movement Count

	WYNDAM HOTEL DRIVEWAY Southbound				KATELLA AVENUE Westbound				DEAD END Northbound				KATELLA AVENUE Eastbound				
Start Time	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Int. Total
07:00	1	0	0	0	0	213	0	0	0	0	0	0	0	286	0	0	500
07:15	0	0	0	0	0	252	0	0	0	0	0	0	0	326	0	0	578
07:30	2	0	0	0	3	276	0	0	0	0	0	0	0	367	0	0	648
07:45	0	0	0	0	1	308	0	0	0	0	0	0	0	378	0	0	687
Total	3	0	0	0	4	1049	0	0	0	0	0	0	0	1357	0	0	2413
08:00	1	0	0	0	3	298	0	0	0	0	0	0	0	336	0	0	638
08:15	2	0	0	0	0	291	0	0	0	0	0	0	0	334	0	0	627
08:30	0	0	0	0	2	293	0	0	0	0	0	0	0	242	0	0	537
08:45	1	0	0	0	1	421	0	0	0	0	0	0	0	262	0	0	685
Total	4	0	0	0	6	1303	0	0	0	0	0	0	0	1174	0	0	2487
16:00	1	0	0	0	1	368	0	0	0	0	0	0	0	385	0	0	755
16:15	1	0	0	0	1	432	0	0	0	0	0	0	0	325	0	0	759
16:30	2	0	0	0	1	377	0	0	0	0	0	0	0	401	0	0	781
16:45	0	0	0	0	3	456	0	0	0	0	0	0	0	410	0	0	869
Total	4	0	0	0	6	1633	0	0	0	0	0	0	0	1521	0	0	3164
17:00	2	0	0	0	1	448	0	0	0	0	0	0	0	399	0	0	850
17:15	5	0	0	0	5	449	0	0	0	0	0	0	0	450	0	0	909
17:30	3	0	0	0	1	410	0	0	0	0	0	0	0	407	0	0	821
17:45	2	0	0	0	2	405	0	0	0	0	0	0	0	428	0	0	837
Total	12	0	0	0	9	1712	0	0	0	0	0	0	0	1684	0	0	3417
Grand Total	23	0	0	0	25	5697	0	0	0	0	0	0	0	5736	0	0	11481
Apprch %	100	0	0	0	0.4	99.6	0	0	0	0	0	0	0	100	0	0	
Total %	0.2	0	0	0	0.2	49.6	0	0	0	0	0	0	0	50	0	0	

City: ANAHEIM
N-S Direction: WYNDAM HOTEL DRIVEWAY
E-W Direction: KATELLA AVENUE

File Name : H2502003
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Page No : 2

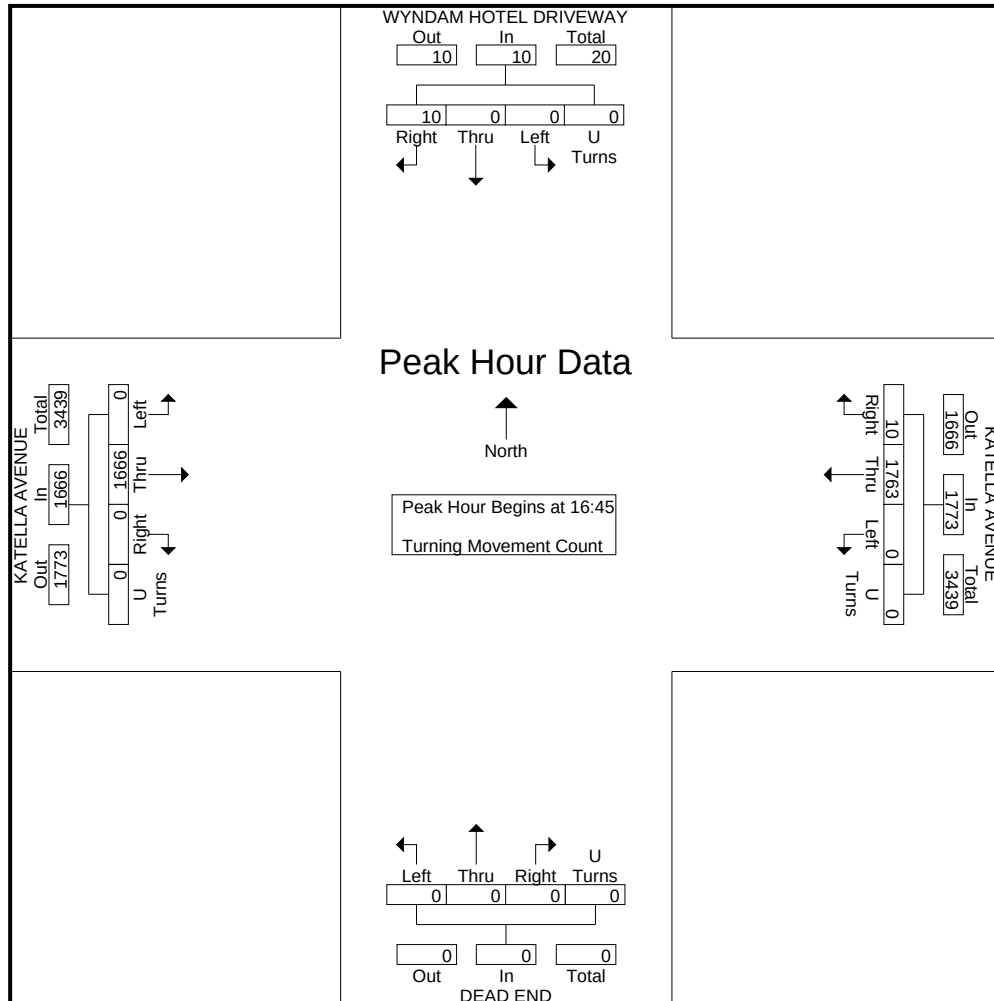
	WYNDAM HOTEL DRIVEWAY Southbound					KATELLA AVENUE Westbound					DEAD END Northbound					KATELLA AVENUE Eastbound					
Start Time	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	2	0	0	0	2	3	276	0	0	279	0	0	0	0	0	0	367	0	0	367	648
07:45	0	0	0	0	0	1	308	0	0	309	0	0	0	0	0	0	378	0	0	378	687
08:00	1	0	0	0	1	3	298	0	0	301	0	0	0	0	0	0	336	0	0	336	638
08:15	2	0	0	0	2	0	291	0	0	291	0	0	0	0	0	0	334	0	0	334	627
Total Volume	5	0	0	0	5	7	1173	0	0	1180	0	0	0	0	0	0	1415	0	0	1415	2600
% App. Total	100	0	0	0		0.6	99.4	0	0		0	0	0	0		0	100	0	0		
PHF	.625	.000	.000	.000	.625	.583	.952	.000	.000	.955	.000	.000	.000	.000	.000	.000	.936	.000	.000	.936	.946



City: ANAHEIM
N-S Direction: WYNDAM HOTEL DRIVEWAY
E-W Direction: KATELLA AVENUE

File Name : H2502003
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	WYNDAM HOTEL DRIVEWAY Southbound					KATELLA AVENUE Westbound					DEAD END Northbound					KATELLA AVENUE Eastbound					
Start Time	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	0	0	0	0	0	3	456	0	0	459	0	0	0	0	0	0	410	0	0	410	869
17:00	2	0	0	0	2	1	448	0	0	449	0	0	0	0	0	0	399	0	0	399	850
17:15	5	0	0	0	5	5	449	0	0	454	0	0	0	0	0	0	450	0	0	450	909
17:30	3	0	0	0	3	1	410	0	0	411	0	0	0	0	0	0	407	0	0	407	821
Total Volume	10	0	0	0	10	10	1763	0	0	1773	0	0	0	0	0	0	1666	0	0	1666	3449
% App. Total	100	0	0	0		0.6	99.4	0	0		0	0	0	0		0	100	0	0		
PHF	.500	.000	.000	.000	.500	.500	.967	.000	.000	.966	.000	.000	.000	.000	.000	.000	.926	.000	.000	.926	.949



APPENDIX A-II

ROADWAY SEGMENT

Transportation Studies, Inc.

Location : KATELLA AVENUE
 Segment : AT WYNDAM HOTEL
 Client : LL&G

Site: ANAHEIM
 Date: 02/04/25

Interval	EB				WB				Combined				Day:	Tuesday
Begin	AM		PM		AM		PM		AM		PM			
12:00	82	298	217	913	46	165	319	1,082	128	463	536	1,995		
12:15	86		208		44		234		130		442			
12:30	72		260		34		268		106		528			
12:45	58		228		41		261		99		489			
01:00	50	144	256	1,136	36	119	294	1,127	86	263	550	2,263		
01:15	45		302		16		236		61		538			
01:30	30		288		30		283		60		571			
01:45	19		290		37		314		56		604			
02:00	32	110	348	1,335	29	117	245	1,271	61	227	593	2,606		
02:15	26		300		28		332		54		632			
02:30	26		347		32		350		58		697			
02:45	26		340		28		344		54		684			
03:00	15	116	360	1,458	11	105	344	1,627	26	221	704	3,085		
03:15	29		360		26		394		55		754			
03:30	26		368		30		441		56		809			
03:45	46		370		38		448		84		818			
04:00	48	314	382	1,487	33	209	344	1,607	81	523	726	3,094		
04:15	59		306		38		441		97		747			
04:30	107		403		62		388		169		791			
04:45	100		396		76		434		176		830			
05:00	73	532	410	1,735	64	396	472	1,730	137	928	882	3,465		
05:15	106		449		70		426		176		875			
05:30	195		380		128		418		323		798			
05:45	158		496		134		414		292		910			
06:00	144	809	476	1,391	125	617	424	1,558	269	1,426	900	2,949		
06:15	204		337		123		399		327		736			
06:30	205		256		143		371		348		627			
06:45	256		322		226		364		482		686			
07:00	278	1,308	277	1,159	210	1,012	294	1,059	488	2,320	571	2,218		
07:15	324		292		242		282		566		574			
07:30	360		322		272		246		632		568			
07:45	346		268		288		237		634		505			
08:00	320	1,126	287	981	296	1,348	232	861	616	2,474	519	1,842		
08:15	316		224		296		203		612		427			
08:30	230		258		332		217		562		475			
08:45	260		212		424		209		684		421			
09:00	222	821	235	830	414	1,719	220	832	636	2,540	455	1,662		
09:15	216		198		432		234		648		432			
09:30	206		240		479		194		685		434			
09:45	177		157		394		184		571		341			
10:00	228	1,092	201	691	330	1,540	146	678	558	2,632	347	1,369		
10:15	280		176		442		190		722		366			
10:30	278		166		396		188		674		354			
10:45	306		148		372		154		678		302			
11:00	290	912	144	509	388	1,308	120	414	678	2,220	264	923		
11:15	238		137		358		115		596		252			
11:30	206		124		304		102		510		226			
11:45	178		104		258		77		436		181			
Totals	7,582		13,625		8,655		13,846		16,237		27,471			
Split%	46.7		49.6		53.3		50.4							
Day Totals		21,207				22,501				43,708				
Day Splits		48.5				51.5								
Peak Hour	07:15		05:15		08:45		04:45		10:15		05:15			
Volume	1,350		1,801		1,749		1,750		2,752		3,483			
Factor	0.94		0.91		0.91		0.93		0.95		0.96			

APPENDIX B

INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

APPENDIX B-1

EXISTING TRAFFIC CONDITIONS

Intersection Level Of Service Report

Intersection 1: Harbor Boulevard at Katella Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.481

Intersection Setup

Name	Harbor Boulevard			Harbor Boulevard			Katella Avenue			Katella Avenue		
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	1	0	1	1	0	1	1	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			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Harbor Boulevard			Harbor Boulevard			Katella Avenue			Katella Avenue		
Base Volume Input [veh/h]	141	336	113	96	466	168	178	1051	147	289	961	68
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]	141	336	113	96	466	168	178	1051	147	289	961	68
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]	35	84	28	24	117	42	45	263	37	72	240	17
Total Analysis Volume [veh/h]	141	336	113	96	466	168	178	1051	147	289	961	68
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	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.07	0.07	0.03	0.09	0.10	0.05	0.21	0.09	0.09	0.19	0.04
Intersection LOS	A											
Intersection V/C	0.481											

Intersection Level Of Service Report
Intersection 2: Clementine Street at Katella Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.359

Intersection Setup

Name	Clementine Street			Clementine Street			Katella Avenue			Katella Avenue		
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	1	0	1	1	0	1	1	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]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Clementine Street			Clementine Street			Katella Avenue			Katella Avenue		
Base Volume Input [veh/h]	10	38	10	58	38	99	86	1205	15	28	975	78
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]	10	38	10	58	38	99	86	1205	15	28	975	78
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]	3	10	3	15	10	25	22	301	4	7	244	20
Total Analysis Volume [veh/h]	10	38	10	58	38	99	86	1205	15	28	975	78
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	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.02	0.01	0.03	0.02	0.06	0.03	0.24	0.01	0.01	0.19	0.05
Intersection LOS	A											
Intersection V/C	0.359											

Intersection Level Of Service Report

Intersection 1: Harbor Boulevard at Katella Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.604

Intersection Setup

Name	Harbor Boulevard			Harbor Boulevard			Katella Avenue			Katella Avenue		
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	1	0	1	1	0	1	1	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			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Harbor Boulevard			Harbor Boulevard			Katella Avenue			Katella Avenue		
Base Volume Input [veh/h]	190	886	262	67	529	117	313	1315	194	214	1368	107
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]	190	886	262	67	529	117	313	1315	194	214	1368	107
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	222	66	17	132	29	78	329	49	54	342	27
Total Analysis Volume [veh/h]	190	886	262	67	529	117	313	1315	194	214	1368	107
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	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.17	0.15	0.02	0.10	0.07	0.09	0.26	0.11	0.06	0.27	0.06
Intersection LOS	B											
Intersection V/C	0.604											

Intersection Level Of Service Report
Intersection 2: Clementine Street at Katella Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.492

Intersection Setup

Name	Clementine Street			Clementine Street			Katella Avenue			Katella Avenue		
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	1	0	1	1	0	1	1	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]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Clementine Street			Clementine Street			Katella Avenue			Katella Avenue		
Base Volume Input [veh/h]	22	38	48	118	39	185	128	1320	5	22	1442	92
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]	22	38	48	118	39	185	128	1320	5	22	1442	92
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]	6	10	12	30	10	46	32	330	1	6	361	23
Total Analysis Volume [veh/h]	22	38	48	118	39	185	128	1320	5	22	1442	92
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	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.02	0.03	0.07	0.02	0.11	0.04	0.26	0.00	0.01	0.28	0.05
Intersection LOS	A											
Intersection V/C	0.492											

APPENDIX B-II

EXISTING PLUS PROJECT
TRAFFIC CONDITIONS

Intersection Level Of Service Report

Intersection 1: Harbor Boulevard at Katella Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.484

Intersection Setup

Name	Harbor Boulevard			Harbor Boulevard			Katella Avenue			Katella Avenue		
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	1	0	1	1	0	1	1	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			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Harbor Boulevard			Harbor Boulevard			Katella Avenue			Katella Avenue		
Base Volume Input [veh/h]	141	336	115	98	466	168	178	1052	147	296	962	69
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]	141	336	115	98	466	168	178	1052	147	296	962	69
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]	35	84	29	25	117	42	45	263	37	74	241	17
Total Analysis Volume [veh/h]	141	336	115	98	466	168	178	1052	147	296	962	69
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	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.07	0.07	0.03	0.09	0.10	0.05	0.21	0.09	0.09	0.19	0.04
Intersection LOS	A											
Intersection V/C	0.484											

Intersection Level Of Service Report

Intersection 2: Clementine Street at Katella Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.360

Intersection Setup

Name	Clementine Street			Clementine Street			Katella Avenue			Katella Avenue		
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	1	0	1	1	0	1	1	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]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Clementine Street			Clementine Street			Katella Avenue			Katella Avenue		
Base Volume Input [veh/h]	10	38	10	58	38	99	91	1210	15	28	982	78
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]	10	38	10	58	38	99	91	1210	15	28	982	78
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]	3	10	3	15	10	25	23	303	4	7	246	20
Total Analysis Volume [veh/h]	10	38	10	58	38	99	91	1210	15	28	982	78
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	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.02	0.01	0.03	0.02	0.06	0.03	0.24	0.01	0.01	0.19	0.05
Intersection LOS	A											
Intersection V/C	0.360											

Intersection Level Of Service Report

Intersection 1: Harbor Boulevard at Katella Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.605

Intersection Setup

Name	Harbor Boulevard			Harbor Boulevard			Katella Avenue			Katella Avenue		
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	1	0	1	1	0	1	1	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			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Harbor Boulevard			Harbor Boulevard			Katella Avenue			Katella Avenue		
Base Volume Input [veh/h]	190	886	264	69	529	117	313	1317	194	224	1369	109
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]	190	886	264	69	529	117	313	1317	194	224	1369	109
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	222	66	17	132	29	78	329	49	56	342	27
Total Analysis Volume [veh/h]	190	886	264	69	529	117	313	1317	194	224	1369	109
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	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.17	0.16	0.02	0.10	0.07	0.09	0.26	0.11	0.07	0.27	0.06
Intersection LOS	B											
Intersection V/C	0.605											

Intersection Level Of Service Report
Intersection 2: Clementine Street at Katella Avenue

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	Clementine Street			Clementine Street			Katella Avenue			Katella Avenue		
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	1	0	1	1	0	1	1	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]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Clementine Street			Clementine Street			Katella Avenue			Katella Avenue		
Base Volume Input [veh/h]	22	38	48	118	39	185	134	1328	5	22	1451	92
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]	22	38	48	118	39	185	134	1328	5	22	1451	92
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]	6	10	12	30	10	46	34	332	1	6	363	23
Total Analysis Volume [veh/h]	22	38	48	118	39	185	134	1328	5	22	1451	92
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	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.02	0.03	0.07	0.02	0.11	0.04	0.26	0.00	0.01	0.28	0.05
Intersection LOS	A											
Intersection V/C	0.496											

APPENDIX B-III

GENERAL PLAN BUILDOUT
TRAFFIC CONDITIONS

Intersection Level Of Service Report

Intersection 1: Harbor Boulevard at Katella Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.668

Intersection Setup

Name	Harbor Boulevard			Harbor Boulevard			Katella Avenue			Katella Avenue		
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	1	0	1	1	0	1	1	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			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Harbor Boulevard			Harbor Boulevard			Katella Avenue			Katella Avenue		
Base Volume Input [veh/h]	128	252	85	171	586	249	264	1946	549	229	1535	145
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]	128	252	85	171	586	249	264	1946	549	229	1535	145
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]	32	63	21	43	147	62	66	487	137	57	384	36
Total Analysis Volume [veh/h]	128	252	85	171	586	249	264	1946	549	229	1535	145
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	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.05	0.05	0.05	0.11	0.15	0.08	0.37	0.37	0.07	0.25	0.25
Intersection LOS	B											
Intersection V/C	0.668											

Intersection Level Of Service Report
Intersection 2: Clementine Street at Katella Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.528

Intersection Setup

Name	Clementine Street			Clementine Street			Katella Avenue			Katella Avenue		
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	1	0	1	1	0	1	1	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]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Clementine Street			Clementine Street			Katella Avenue			Katella Avenue		
Base Volume Input [veh/h]	46	92	72	172	35	74	221	1770	11	205	1644	63
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]	46	92	72	172	35	74	221	1770	11	205	1644	63
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]	12	23	18	43	9	19	55	443	3	51	411	16
Total Analysis Volume [veh/h]	46	92	72	172	35	74	221	1770	11	205	1644	63
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	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.05	0.04	0.10	0.02	0.04	0.07	0.26	0.26	0.06	0.25	0.25
Intersection LOS	A											
Intersection V/C	0.528											

Intersection Level Of Service Report

Intersection 1: Harbor Boulevard at Katella Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.924

Intersection Setup

Name	Harbor Boulevard			Harbor Boulevard			Katella Avenue			Katella Avenue		
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	1	0	1	1	0	1	1	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			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Harbor Boulevard			Harbor Boulevard			Katella Avenue			Katella Avenue		
Base Volume Input [veh/h]	492	665	197	104	425	308	601	1951	492	161	2393	133
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]	492	665	197	104	425	308	601	1951	492	161	2393	133
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]	123	166	49	26	106	77	150	488	123	40	598	33
Total Analysis Volume [veh/h]	492	665	197	104	425	308	601	1951	492	161	2393	133
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	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.13	0.12	0.03	0.08	0.18	0.18	0.36	0.36	0.05	0.37	0.37
Intersection LOS	E											
Intersection V/C	0.924											

Intersection Level Of Service Report
Intersection 2: Clementine Street at Katella Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.702

Intersection Setup

Name	Clementine Street			Clementine Street			Katella Avenue			Katella Avenue		
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	1	0	1	1	0	1	1	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]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Clementine Street			Clementine Street			Katella Avenue			Katella Avenue		
Base Volume Input [veh/h]	17	90	222	200	190	210	145	1814	5	124	2356	99
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]	17	90	222	200	190	210	145	1814	5	124	2356	99
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]	4	23	56	50	48	53	36	454	1	31	589	25
Total Analysis Volume [veh/h]	17	90	222	200	190	210	145	1814	5	124	2356	99
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	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.05	0.13	0.12	0.11	0.12	0.04	0.27	0.27	0.04	0.36	0.36
Intersection LOS	C											
Intersection V/C	0.702											

APPENDIX B-IV

GENERAL PLAN BUILDOUT PLUS PROJECT
TRAFFIC CONDITIONS

Intersection Level Of Service Report

Intersection 1: Harbor Boulevard at Katella Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.670

Intersection Setup

Name	Harbor Boulevard			Harbor Boulevard			Katella Avenue			Katella Avenue		
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	1	0	1	1	0	1	1	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			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Harbor Boulevard			Harbor Boulevard			Katella Avenue			Katella Avenue		
Base Volume Input [veh/h]	128	252	87	173	586	249	264	1947	549	235	1536	146
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]	128	252	87	173	586	249	264	1947	549	235	1536	146
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]	32	63	22	43	147	62	66	487	137	59	384	37
Total Analysis Volume [veh/h]	128	252	87	173	586	249	264	1947	549	235	1536	146
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	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.05	0.05	0.05	0.11	0.15	0.08	0.37	0.37	0.07	0.25	0.25
Intersection LOS	B											
Intersection V/C	0.670											

Intersection Level Of Service Report

Intersection 2: Clementine Street at Katella Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.528

Intersection Setup

Name	Clementine Street			Clementine Street			Katella Avenue			Katella Avenue		
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	1	0	1	1	0	1	1	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]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Clementine Street			Clementine Street			Katella Avenue			Katella Avenue		
Base Volume Input [veh/h]	46	92	72	172	35	74	225	1775	11	205	1650	63
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]	46	92	72	172	35	74	225	1775	11	205	1650	63
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]	12	23	18	43	9	19	56	444	3	51	413	16
Total Analysis Volume [veh/h]	46	92	72	172	35	74	225	1775	11	205	1650	63
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	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.05	0.04	0.10	0.02	0.04	0.07	0.26	0.26	0.06	0.25	0.25
Intersection LOS	A											
Intersection V/C	0.528											

Intersection Level Of Service Report

Intersection 1: Harbor Boulevard at Katella Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.925

Intersection Setup

Name	Harbor Boulevard			Harbor Boulevard			Katella Avenue			Katella Avenue		
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	1	0	1	1	0	1	1	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			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Harbor Boulevard			Harbor Boulevard			Katella Avenue			Katella Avenue		
Base Volume Input [veh/h]	492	665	199	106	425	308	601	1952	492	169	2394	135
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]	492	665	199	106	425	308	601	1952	492	169	2394	135
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]	123	166	50	27	106	77	150	488	123	42	599	34
Total Analysis Volume [veh/h]	492	665	199	106	425	308	601	1952	492	169	2394	135
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	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.13	0.12	0.03	0.08	0.18	0.18	0.36	0.36	0.05	0.37	0.37
Intersection LOS	E											
Intersection V/C	0.925											

Intersection Level Of Service Report
Intersection 2: Clementine Street at Katella Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.705

Intersection Setup

Name	Clementine Street			Clementine Street			Katella Avenue			Katella Avenue		
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	1	0	1	1	0	1	1	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]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Clementine Street			Clementine Street			Katella Avenue			Katella Avenue		
Base Volume Input [veh/h]	17	90	222	200	190	210	150	1821	5	124	2364	99
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]	17	90	222	200	190	210	150	1821	5	124	2364	99
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]	4	23	56	50	48	53	38	455	1	31	591	25
Total Analysis Volume [veh/h]	17	90	222	200	190	210	150	1821	5	124	2364	99
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	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.05	0.13	0.12	0.11	0.12	0.04	0.27	0.27	0.04	0.36	0.36
Intersection LOS	C											
Intersection V/C	0.705											