

TRAFFIC IMPACT ANALYSIS REPORT
**DUTCH BROTHERS COFFEE
& EXPRESS WASH PROJECT**

Rialto, California
September 10, 2021
(Revision of August 30, 2021 Report)

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EXECUTIVE SUMMARY

Project Description

- The project site is currently occupied by the vacant 10,000 SF Hometown Buffet and is located on the southwest quadrant of Riverside Avenue and Valley Boulevard in the City of Rialto, California. The project applicant will raze the existing Hometown Buffet and construct a 950 SF Dutch Brothers Coffee with drive-through window and an express wash with a 130 foot car wash tunnel. The Project will provide 50 parking spaces. Of this total, 15 parking spaces are provided for Dutch Brothers Coffee and 35 spaces are provided for the express wash (i.e. 28 spaces with vacuums, 4 employee spaces and 3 unassigned spaces). It should be noted that the four express wash employee parking spaces will be free of any equipment, including vacuums, and will be available for express wash employees. The Project is anticipated to be completed by the Year 2023. Access to the project site will continue to be provided via the existing signalized intersection of Gateway Plaza at Valley Boulevard (key study intersection #1).

Project Trip Generation Forecast

- The existing land use would generate approximately 754 daily trips, with 7 trips (4 inbound, 3 outbound) produced in the AM peak hour and 58 trips (39 inbound, 19 outbound) produced in the PM peak hour on a “typical” weekday. The proposed Project is forecast to generate 1,428 daily trips, with 110 trips (59 inbound, 51 outbound) produced in the AM peak hour and 120 trips (60 inbound, 60 outbound) produced in the PM peak hour on a “typical” weekday.

Comparison of the trips generated by the existing land use to the trips generated by the proposed Project shows that the proposed Project will generate 674 greater net daily trips, 103 greater net AM peak hour trips and 62 greater net PM peak hour trips. The potential impact of these net additional trips are assessed in the traffic study.

Key Intersections

- The two (2) key study intersections were selected for evaluation based on City criteria and discussions with City of Rialto staff. The key study intersections listed below provide local access to the study area and define the extent of the boundaries for this traffic impact investigation.
 1. Gateway Plaza at Valley Boulevard
 2. Riverside Avenue at Valley Boulevard.

Cumulative Projects Description

- The twenty-two (22) cumulative projects are forecast to generate a combined total of 18,269 daily trips, with 1,120 trips (621 inbound and 499 outbound) forecast during the AM peak hour and 1,133 trips (517 inbound and 616 outbound) forecast during the PM peak hour.

Traffic Impact Analysis

Existing Traffic Conditions

- Under Existing traffic conditions, the two (2) key study intersections currently operate at acceptable LOS D or better during the AM and PM peak hours.

Existing With Project Traffic Conditions

- The proposed Project ***will not*** impact the two (2) key study intersections when compared to the LOS standards and impact criteria specified in this report. The two (2) key study intersections currently operate and are forecast to continue to operate at an acceptable LOS during the AM and PM peak hours with the addition of Project generated traffic to existing traffic.

Existing With Ambient Growth (Year 2023) With Project Traffic Conditions

- The proposed Project ***will not*** impact the two (2) key study intersections when compared to the LOS standards and impact criteria specified in this report. The two (2) key study intersections are forecast to continue to operate at an acceptable LOS during the AM and PM peak hours with the addition of Project generated traffic to ambient traffic growth (Year 2023).

Existing With Ambient Growth (Year 2023) With Cumulative With Project Traffic Conditions

- The proposed Project ***will not*** impact the two (2) key study intersections when compared to the LOS standards and impact criteria specified in this report. The two (2) key study intersections are forecast to continue to operate at an acceptable LOS during the AM and PM peak hours with the addition of Project generated traffic to ambient traffic growth (Year 2023) and cumulative traffic.

Site Access and Internal Circulation Evaluation

- The intersection of Gateway Plaza at Valley Boulevard (key study intersection #1) is forecast to operate at acceptable LOS A during the AM and PM peak hours for all traffic analysis scenarios. As such, project access will be adequate. Motorists entering and exiting the Project site will be able to do so without undue congestion.
- The on-site circulation was evaluated in terms of vehicle-pedestrian conflicts and truck circulation. Based on our review of the site plan, the overall layout does not create

significant vehicle-pedestrian conflict points. The project will provide pedestrian access to the existing sidewalk located along Valley Boulevard. Curb return radii have been confirmed and are generally adequate for small service/delivery (Fedex, UPS) trucks, trash trucks and WB-40 delivery trucks. It should be noted that a WB-40 truck is the maximum design vehicle anticipated to access the project site for deliveries. Based on information provided by the project applicant, Dutch Brothers Coffee anticipates one delivery per week on average that will typically occur in the late morning (during off peak hours) and the Express Wash anticipates one chemical delivery per month (during off peak hours).

- The drive-through lane for Dutch Brothers Coffee will provide storage for up to seventeen (17) vehicles without encroaching into the internal drive aisles. Based on information provided by Dutch Brothers, the proposed drive-through storage design exceeds the minimum corporate standard of fifteen (15) vehicles, which allows the store to achieve their average service times of 45-seconds per vehicle. It should be noted that additional drive-through storage is provided within a designated lane located within the internal drive aisle to further ensure that vehicles will not impact internal circulation and/or queue back to Valley Boulevard. Therefore, we conclude that adequate storage is provided for the Dutch Brothers Coffee drive-through and vehicles are not anticipated to queue back to Valley Boulevard.
- The Express Wash will have the capacity to stack a minimum of twenty (20) vehicles from the pay station without encroaching into the internal drive aisles. Based on information provided by the operator, the express wash can process up to 120 vehicles per hour. Given the trip generation demand forecasted during the peak hours and the processing rate, minimal queuing is anticipated. Therefore, we conclude that adequate storage is provided for the Express Wash and vehicles are not anticipated to interfere with internal circulation and/or queue back to Valley Boulevard.

Intersection Queuing Analysis

- Adequate storage is provided for the northbound left-turn lane, the northbound shared through/right-turn lane, the eastbound left-turn lane and the westbound left-turn lane at the intersection of Gateway Plaza/Valley Boulevard during the AM and PM peak hours for all analyzed traffic conditions.
- Adequate storage is not provided for the northbound dual left-turn lanes, the eastbound left-turn lane, the eastbound right-turn lane and the westbound left-turn lane at the intersection of Riverside Avenue/Valley Boulevard during the AM and PM peak hours for existing traffic conditions and for all other analyzed traffic conditions. However, it should be noted that the proposed Project will add less than 25-30 feet to the already existing deficient storages at the intersection of Riverside Avenue/Valley Boulevard, which is considered an insignificant change.

Nonetheless, improvements have been identified/recommended at the intersection of Riverside Avenue/Valley Boulevard in order to improve the existing deficient storages at the

intersection. The recommended improvements consist of restriping the number two eastbound through lane to a shared through/right-turn lane. The lower portion of *Table 11-2* shows the 95th percentile queue lengths at the intersection of Riverside Avenue/Valley Boulevard with improvements. As shown, with recommended improvements, the existing deficient storage for the eastbound right-turn lane is now adequate and eastbound right-turning vehicles will not queue past the intersection of Gateway Plaza/Valley Boulevard. It should be noted that the other existing deficient queues generally improve with the recommended improvements and that the overall level of service for the intersection also improves. In order to further address the remaining deficient storages (i.e. the northbound dual left-turn lanes, the eastbound left-turn lane and the westbound left-turn lane), it is recommended that after completion of both the proposed Project and the recommended restriping of the second eastbound through lane to a shared through/right-turn lane that the existing signal timing be reviewed in the field and adjustments implemented (one-time adjustment), if needed, to improve the remaining deficient storages at the intersection of Riverside Avenue/Valley Boulevard.

City Code Parking Analysis

- Application of City-code parking ratios to the development totals results in a code-parking requirement of **30 spaces**. The proposed Project will provide 50 parking spaces. Of this total, 15 parking spaces are provided for Dutch Brothers Coffee and 35 spaces are provided for the express wash (i.e. 28 spaces with vacuums, 4 employee spaces and 3 unassigned spaces). It should be noted that the four express wash employee parking spaces will be free of any equipment, including vacuums, and will be available for express wash employees. With a proposed parking supply of 50 spaces, a parking surplus of 20 spaces is forecast and therefore, the proposed Project will provide adequate parking.

Recommended Improvements

Existing With Project Traffic Conditions

- The results of the Existing With Project traffic conditions level of service analyses indicate that the proposed Project **will not** impact any of the two (2) key study intersections. The two (2) key study intersections are forecast to operate at acceptable service levels under Existing With Project traffic conditions. As such, no improvement measures addressing LOS have been recommended.
- The following improvements have been recommended at the intersection of Riverside Avenue/Valley Boulevard in order to improve the existing deficient storages at the intersection.
 - **Riverside Avenue at Valley Boulevard:** Restripe the number two eastbound through lane to a shared through/right-turn lane. In order to further address the remaining deficient storages (i.e. the northbound dual left-turn lanes, the eastbound left-turn lane and the

westbound left-turn lane), it is also recommended that after completion of both the proposed Project and the recommended restriping that the existing signal timing be reviewed in the field and adjustments implemented (one-time adjustment), if needed, to improve the remaining deficient storages at the intersection of Riverside Avenue/Valley Boulevard.

Existing With Ambient Growth (Year 2023) With Project Traffic Conditions

- The results of the Existing With Ambient Growth (Year 2023) With Project traffic conditions level of service analyses indicate that the proposed Project **will not** impact any of the two (2) key study intersections. The two (2) key study intersections are forecast to operate at acceptable service levels under Existing With Ambient Growth (Year 2023) With Project traffic conditions. As such, no improvement measures addressing LOS have been recommended.
- The following improvements have been recommended at the intersection of Riverside Avenue/Valley Boulevard in order to improve the existing deficient storages at the intersection.
 - Riverside Avenue at Valley Boulevard: Restripe the number two eastbound through lane to a shared through/right-turn lane. In order to further address the remaining deficient storages (i.e. the northbound dual left-turn lanes, the eastbound left-turn lane and the westbound left-turn lane), it is also recommended that after completion of both the proposed Project and the recommended restriping that the existing signal timing be reviewed in the field and adjustments implemented (one-time adjustment), if needed, to improve the remaining deficient storages at the intersection of Riverside Avenue/Valley Boulevard.

Existing With Ambient Growth (Year 2023) With Cumulative With Project Traffic Conditions

- The results of the Existing With Ambient Growth (Year 2023) With Cumulative With Project traffic conditions level of service analyses indicate that the proposed Project **will not** impact any of the two (2) key study intersections. The two (2) key study intersections are forecast to operate at acceptable service levels under Existing With Ambient Growth (Year 2023) With Cumulative With Project traffic conditions. As such, no improvement measures addressing LOS have been recommended.
- The following improvements have been recommended at the intersection of Riverside Avenue/Valley Boulevard in order to improve the existing deficient storages at the intersection.
 - Riverside Avenue at Valley Boulevard: Restripe the number two eastbound through lane to a shared through/right-turn lane. In order to further address the remaining deficient storages (i.e. the northbound dual left-turn lanes, the eastbound left-turn lane and the westbound left-turn lane), it is also recommended that after completion of both the

proposed Project and the recommended restriping that the existing signal timing be reviewed in the field and adjustments implemented (one-time adjustment), if needed, to improve the remaining deficient storages at the intersection of Riverside Avenue/Valley Boulevard.

Vehicle Miles Traveled (VMT) Assessment

➤ The City of Rialto does not currently have Vehicle Miles Traveled (VMT) guidelines, therefore the guidelines contained within the *San Bernardino County Transportation Impact Study Guidelines*, dated July 2019 have been utilized for the project VMT screening analysis. The *San Bernardino County Transportation Impact Study Guidelines* state that Projects which serve the local community and have the potential to reduce VMT should not be required to complete a VMT assessment. These projects are noted below:

- K-12 schools
- Local-serving retail less than 50,000 square feet
- Local parks
- Day care centers
- Local serving gas stations
- Local serving banks
- Student housing projects
- Local serving community colleges that are consistent with the assumptions noted in the RTP/SCS

The proposed Project will consist of a local serving 950 SF Dutch Brothers Coffee with drive-through window and a local serving express wash with a 130 foot car wash tunnel. Therefore, based on the aforementioned criteria (i.e. local-serving retail less than 50,000 square feet), this project would screen out from a VMT analysis and be presumed to have a less than significant impact on VMT, per the County's guidelines.

TRAFFIC IMPACT ANALYSIS REPORT
DUTCH BROTHERS COFFEE
& EXPRESS WASH PROJECT

Rialto, California
September 10, 2021
(Revision of August 30, 2021 Report)

1.0 INTRODUCTION

This traffic impact analysis addresses the potential traffic impacts and circulation needs associated with the Dutch Brothers Coffee & Express Wash Project (hereinafter referred to as Project). The project applicant proposes to construct a 950 square-foot (SF) Dutch Brothers Coffee with drive-through window and an express wash with a 130 foot wash tunnel. The project site is currently occupied by the vacant 10,000 SF Hometown Buffet and is located on the southwest quadrant of Riverside Avenue and Valley Boulevard in the City of Rialto, California.

This traffic report documents the findings and recommendations of a traffic impact analysis conducted by Linscott, Law & Greenspan, Engineers (LLG) to determine the potential impacts associated with the proposed Project. The traffic analysis evaluates the operating conditions at two (2) key study intersections within the project vicinity, estimates the trip generation potential of the proposed Project, and forecasts future operating conditions without and with the proposed Project. Where necessary, intersection improvements/mitigation measures are identified.

This traffic report satisfies City of Rialto criteria and is consistent with the requirements and procedures outlined in the *City of Rialto Traffic Impact Analysis Report Guidelines and Requirements* (December 2013) and in the most current *Congestion Management Program for San Bernardino County*. The Scope of Work for this traffic study, which is included in **Appendix A**, was developed in conjunction with City of Rialto staff.

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 on a “typical” weekday for use in the preparation of intersection level of service calculations. Information concerning cumulative projects (planned and/or approved) in the vicinity of the proposed Project has been researched at the City of Rialto, City of Colton, and County of San Bernardino. Based on our research, there are ten (10) cumulative projects in the City of Rialto, one (1) cumulative project in the City of Colton, and eleven (11) cumulative projects in the County of San Bernardino within the vicinity of the subject site. These twenty-two (22) planned and/or approved cumulative projects were considered in the cumulative traffic analysis for this project.

This traffic report analyzes existing and future weekday AM peak hour and PM peak hour traffic conditions for a near-term (Year 2023) traffic setting upon completion of the proposed Project. Peak hour traffic forecasts for the Year 2023 horizon year have been projected by increasing existing

traffic volumes by an annual growth rate of 2.0% per year and adding traffic volumes generated by twenty-two (22) cumulative projects, which provides a conservative forecast.

1.1 Study Area

The two (2) key study intersections were selected for evaluation based on City criteria and discussions with City of Rialto staff. The key study intersections listed below provide local access to the study area and define the extent of the boundaries for this traffic impact investigation.

1. Gateway Plaza at Valley Boulevard
2. Riverside Avenue at Valley Boulevard

1.2 Traffic Impact Analysis Components

The Highway Capacity Manual (HCM) Delay and corresponding Level of Service (LOS) calculations at the key study locations were used to evaluate the potential traffic-related impacts associated with area growth, cumulative traffic and the proposed Project. When necessary, this report recommends intersection improvements that may be required to accommodate future traffic volumes and restore/maintain an acceptable Level of Service and/or addresses the impact of the proposed Project. Included in this Traffic Impact Analysis are:

- Existing traffic counts,
- Estimated Project traffic generation/distribution/assignment,
- Estimated cumulative project traffic generation/distribution/assignment,
- AM and PM peak hour LOS analyses for Existing (Year 2021) conditions,
- AM and PM peak hour LOS analyses for Existing conditions with Project traffic,
- AM and PM peak hour LOS analyses for Existing with Ambient Growth (Year 2023) without Project traffic,
- AM and PM peak hour LOS analyses for Existing with Ambient Growth (Year 2023) with Project traffic,
- AM and PM peak hour LOS analyses for Existing with Ambient Growth (Year 2023) with Cumulative traffic conditions without Project traffic,
- AM and PM peak hour LOS analyses for Existing with Ambient Growth (Year 2023) with Cumulative traffic conditions with Project traffic,
- Site Access and On-Site Circulation Analysis,
- Recommended Improvements, and
- Vehicle Miles Traveled (VMT) Assessment.

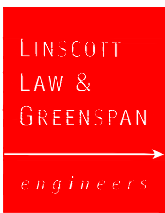
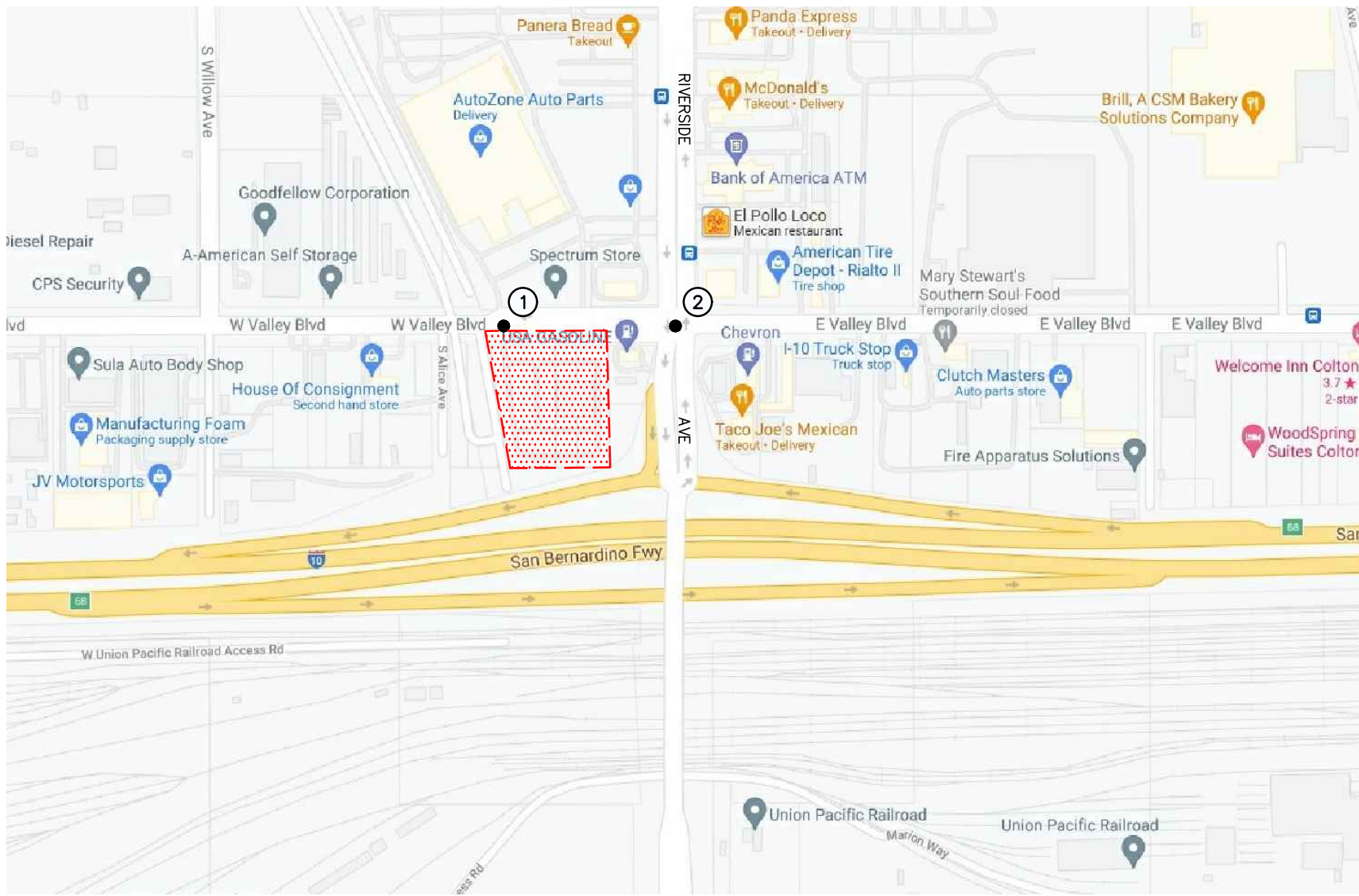
Figure 1-1 presents a Vicinity Map, which illustrates the general location of the Project and depicts the study locations and surrounding street system.

1.3 Traffic Impact Analysis Scenarios

The following scenarios are those for which Delay and corresponding LOS calculations have been performed at the key study intersections for existing and near-term traffic conditions:

1. Existing (Year 2021) Traffic Conditions
2. Existing With Project Traffic Conditions,
3. Scenario (2) With Recommended Improvements, if any,
4. Existing With Ambient Growth (Year 2023) Without Project Traffic Conditions,
5. Existing With Ambient Growth (Year 2023) With Project Traffic Conditions,
6. Scenario (5) With Recommended Improvements, if any,
7. Existing With Ambient Growth (Year 2023) Without Project With Cumulative Traffic Conditions,
8. Existing With Ambient Growth (Year 2023) With Project With Cumulative Traffic Conditions, and
9. Scenario (8) With Recommended Improvements, if any.

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SOURCE: GOOGLE

KEY



-  = STUDY INTERSECTION
-  = PROJECT SITE

FIGURE 1-1

VICINITY MAP

DUTCH BROTHERS COFFEE & EXPRESS WASH PROJECT, RIALTO

2.0 PROJECT DESCRIPTION AND LOCATION

The project site is currently occupied by the vacant 10,000 SF Hometown Buffet and is located on the southwest quadrant of Riverside Avenue and Valley Boulevard in the City of Rialto, California. The project applicant will raze the existing Hometown Buffet and construct a 950 SF Dutch Brothers Coffee with drive-through window and an express wash with a 130 foot car wash tunnel. The Project will provide 50 parking spaces. Of this total, 15 parking spaces are provided for Dutch Brothers Coffee and 35 spaces are provided for the express wash (i.e. 28 spaces with vacuums, 4 employee spaces and 3 unassigned spaces). It should be noted that the four express wash employee parking spaces will be free of any equipment, including vacuums, and will be available for express wash employees. The Project is anticipated to be completed by the Year 2023.

Figure 2-1 presents an aerial image of the existing site for the proposed Project. *Figure 2-2* presents the site plan for the proposed Project.

2.1 Site Access

Access to the project site will continue to be provided via the existing signalized intersection of Gateway Plaza at Valley Boulevard (key study intersection #1).



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engineers



NO SCALE

SOURCE: GOOGLE

KEY



= PROJECT SITE

FIGURE 2-1

EXISTING SITE AERIAL

DUTCH BROTHERS COFFEE & EXPRESS WASH PROJECT, RIALTO

Summary

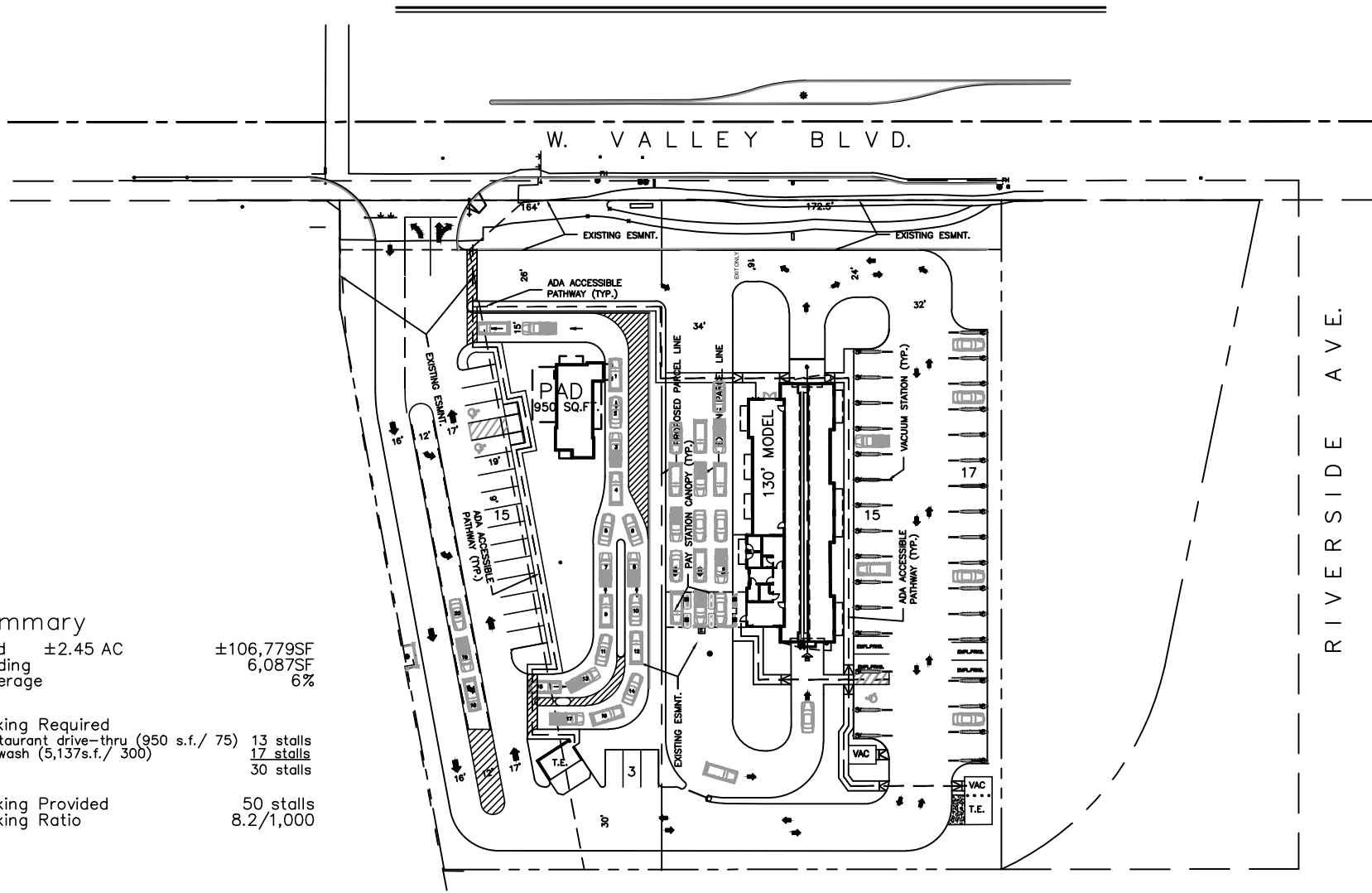
Land	±2.45 AC	±106,779SF
Building		6,087SF
Coverage		6%

Parking Required

Restaurant drive-thru (950 s.f./ 75)	13 stalls
Carwash (5,137s.f./ 300)	17 stalls
	30 stalls

Parking Provided
Parking Ratio

50 stalls
8.2/1,000



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NO SCALE

FIGURE 2-2

PROPOSED SITE PLAN

DUTCH BROTHERS COFFEE & EXPRESS WASH PROJECT, RIALTO

3.0 ANALYSIS CONDITIONS AND METHODOLOGY

3.1 Existing Street Network

The principal local network of streets serving the Project site consists of Valley Boulevard and Riverside Avenue. The following discussion provides a brief synopsis of the key area streets.

Valley Boulevard is a four-lane divided roadway, that borders the project site to the north. Valley Boulevard currently provides access to the project site via the intersection of Gateway Plaza at Valley Boulevard. On-street parking is not permitted on either side of the roadway. Valley Boulevard has a posted speed limit of 40 miles per hour (mph). A traffic signal controls the intersections of Valley Boulevard at Gateway Plaza and Riverside Avenue.

Riverside Avenue is a six-lane divided roadway. On-street parking is not permitted on either side of the roadway. Riverside Avenue has a posted speed limit of 40 mph in the vicinity of the Project. A traffic signal controls the intersection of Riverside Avenue at Valley Boulevard.

Figure 3-1 presents an inventory of the existing roadway conditions within the study area evaluated in this report. The number of travel lanes and intersection controls for the key area study intersections are identified.

3.2 Existing Traffic Volumes

Two (2) key study intersections 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 these intersections and the analysis will reveal the expected relative impacts of the Project. The key study intersections were selected for evaluation based on discussions with City of Rialto staff.

Due to the COVID-19 Coronavirus Pandemic, historical traffic counts were researched and traffic count data was obtained for the intersection of Riverside Avenue at Valley Boulevard (February 2020). Based on coordination with City of Rialto staff, the historical traffic counts for the intersection of Riverside Avenue at Valley Boulevard were factored up by a 2.0% growth factor to develop Year 2021 AM peak hour and PM peak hour existing baseline traffic conditions for this intersection. It should be noted that the Hometown Buffet restaurant was in service during the February 2020 traffic counts.

The AM and PM peak hour traffic volumes for the remaining intersection of Gateway Plaza at Valley Boulevard were collected by *AimTD LLC* in June 2021. Given that the traffic counts at this intersection were conducted during the COVID-19 pandemic, historical data was utilized to create a growth factor to apply to the current traffic count data. As such, historical AM and PM peak period traffic count data (February 2020) for the intersection of Riverside Avenue at Valley Boulevard was compared to current AM and PM peak period traffic counts (June 2021) to create a growth factor to be applied to the key study location of Gateway Plaza at Valley Boulevard. Based on the AM and PM peak hour traffic count comparison by movement and averaged for the entire intersection, the

AM peak hour growth factor is 1.3670 (136.70%) and the PM peak hour growth factor is 1.0883 (108.83%).

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. **Appendix B** contains the detailed peak hour traffic count sheets for the key intersections evaluated in this report, the historical data, the growth factor calculation worksheet and the intersection volume adjustment worksheets.

3.3 Level Of Service (LOS) Analysis Methodologies

AM and PM peak hour operating conditions for the key study intersections were evaluated using the methodology outlined in *Chapter 19 of the Highway Capacity Manual 6 (HCM 6)* for signalized intersections.

3.3.1 Highway Capacity Manual (HCM) Method of Analysis (Signalized Intersections)

Based on the HCM operations method of analysis, level of service for signalized intersections and approaches is defined in terms of control delay, which is a measure of the increase in travel time due to traffic signal control, driver discomfort, and fuel consumption. Control delay includes the delay associated with vehicles slowing in advance of an intersection, the time spent stopped on an intersection approach, the time spent as vehicles move up in the queue, and the time needed for vehicles to accelerate to their desired speed. LOS criteria for traffic signals are stated in terms of the control delay in seconds per vehicle. The LOS thresholds established for the automobile mode at a signalized intersection are shown in **Table 3-1**.

3.4 Impact Criteria and Thresholds

According to City of Rialto criteria, LOS D is the minimum acceptable condition that should be maintained during the morning and evening peak commute hours for intersections. However, per the *City of Rialto General Plan – Policy 4-1.20*, intersections located along Riverside Avenue, extending from south of the Metrolink train tracks to the City of Rialto southern border, can operate at LOS E. Based on the above, the intersection of Gateway Plaza at Valley Boulevard has a minimum acceptable LOS D and the intersection of Riverside Avenue at Valley Boulevard has a minimum acceptable LOS E.

Project related impacts are identified by comparing without Project conditions to with Project conditions based on the following criteria:

- If the LOS deteriorates from an acceptable LOS D or better to an unacceptable LOS E or F; or
- If the proposed Project increases the intersection delay as detailed below:
 - LOS A/B = Delay increases by 10.0 seconds or more
 - LOS C = Delay increases by 8.0 seconds or more
 - LOS D = Delay increases by 5.0 seconds or more
 - LOS E = Delay increases by 2.0 seconds or more
 - LOS F = Delay increases by 1.0 second or more

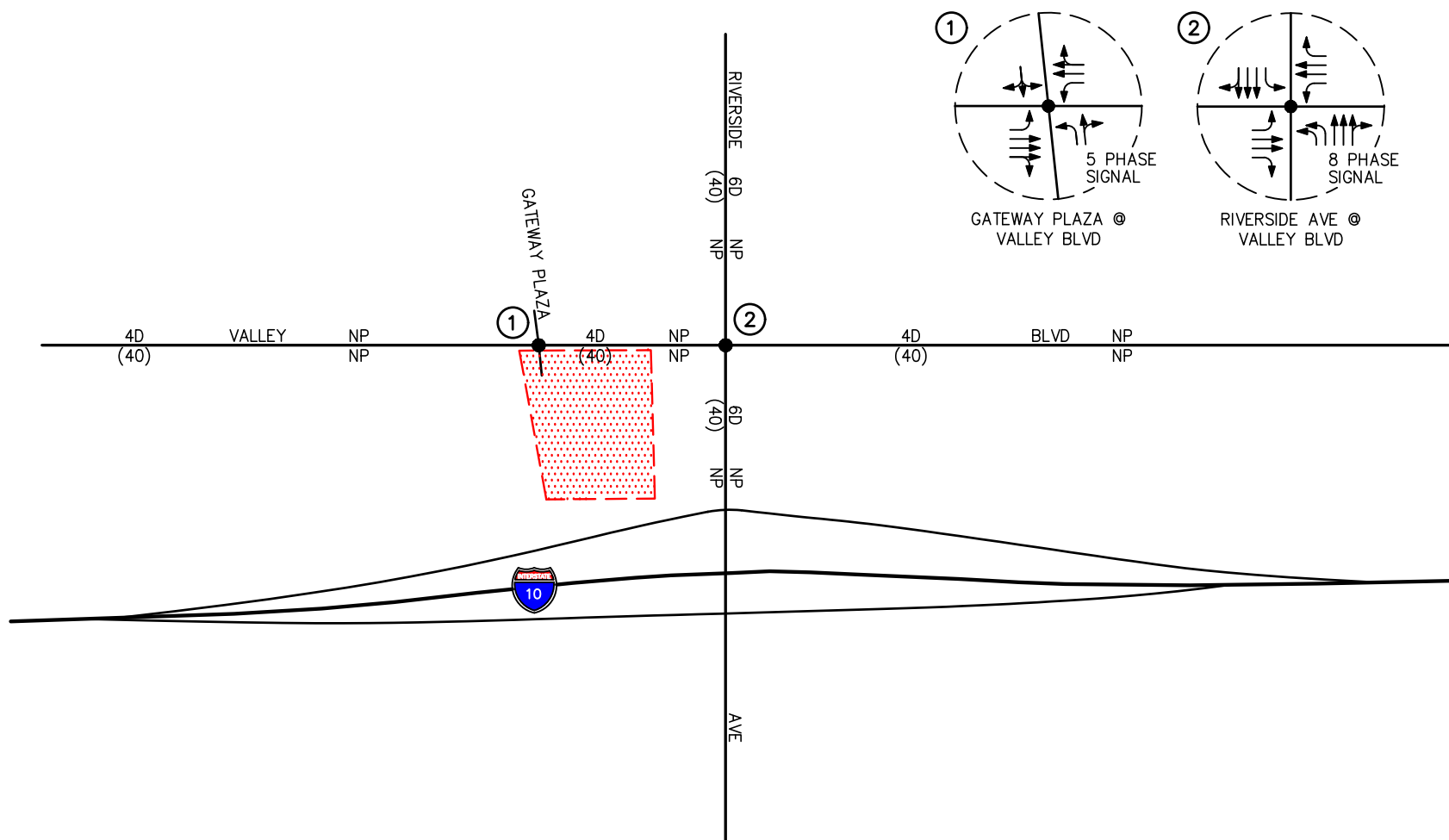
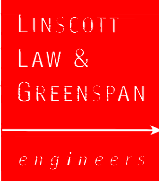


FIGURE 3-1

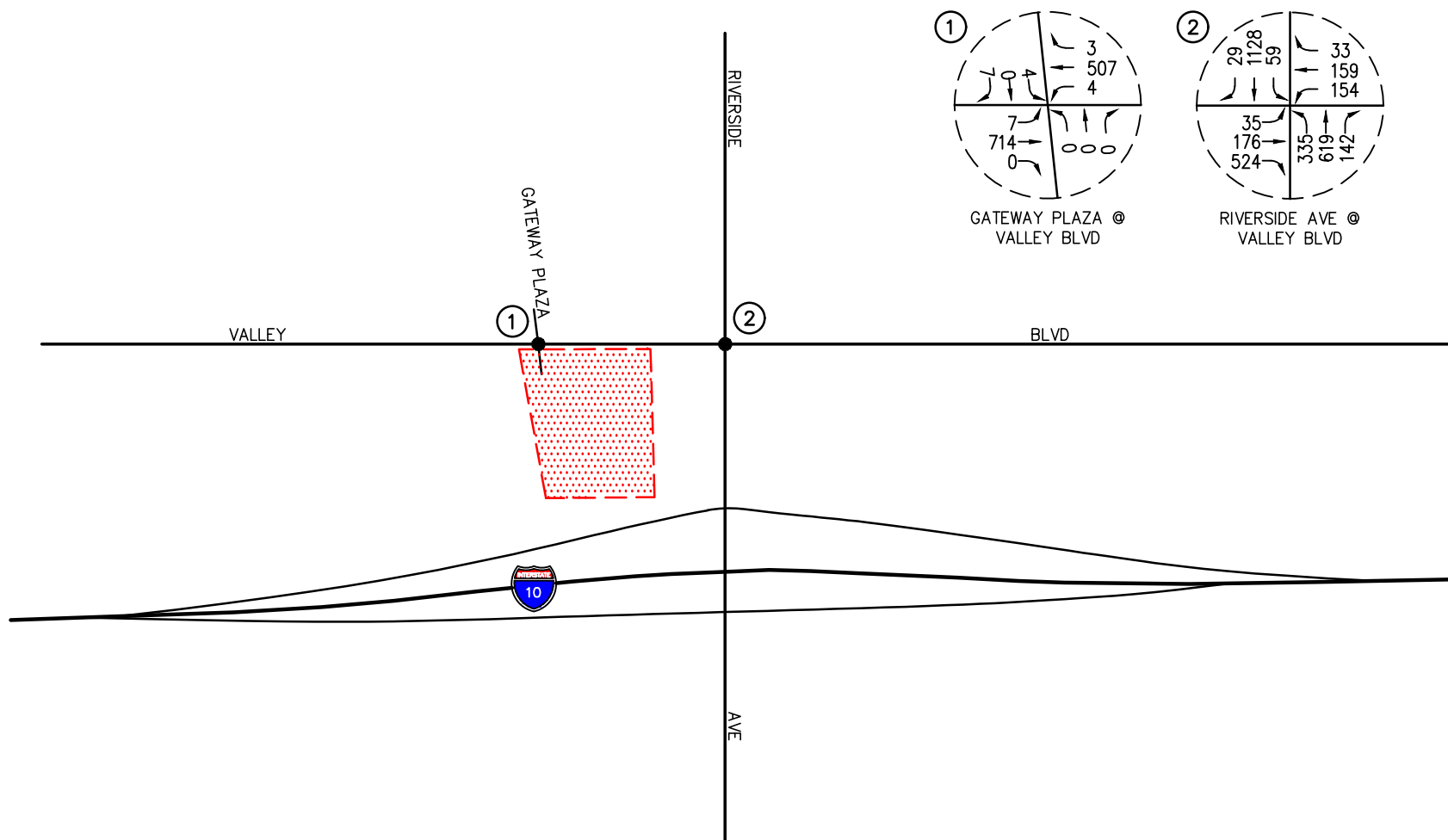
EXISTING ROADWAY CONDITIONS
AND INTERSECTION CONTROLS

DUTCH BROTHERS COFFEE & EXPRESS WASH PROJECT, RIALTO



KEY

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



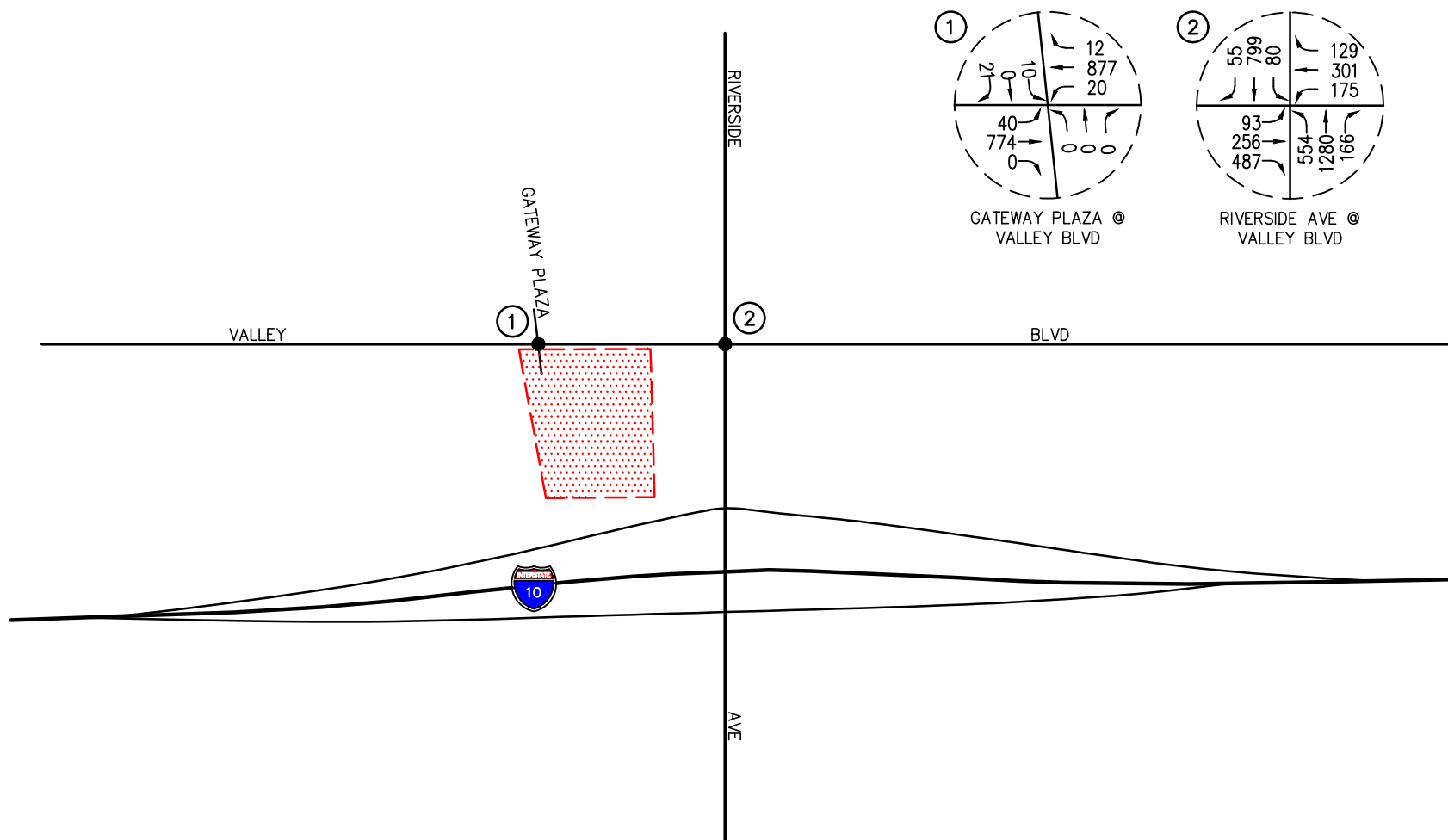


TABLE 3-1
LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS (HCM 6 METHODOLOGY)¹

Level of Service (LOS)	Control Delay Per Vehicle (seconds/vehicle)	Level of Service Description
A	≤ 10.0	This level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	> 10.0 and ≤ 20.0	This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay.
C	> 20.0 and ≤ 35.0	Average traffic delays. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.
D	> 35.0 and ≤ 55.0	Long traffic delays At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	> 55.0 and ≤ 80.0	Very long traffic delays This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths and high v/c ratios. Individual cycle failures are frequent occurrences.
F	≥ 80.0	Severe congestion This level, considered to be unacceptable to most drivers, often occurs with over saturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high v/c ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors to such delay levels.

¹ Source: *Highway Capacity Manual 6*, Chapter 19: Signalized Intersections.

4.0 TRAFFIC FORECASTING METHODOLOGY

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

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

The third step is traffic assignment, which involves the allocation of Project traffic to study area streets and intersections. Traffic assignment is typically based on minimization of travel time, which may or may not involve the shortest route, depending on prevailing operating conditions and travel speeds.

Traffic distribution patterns are indicated by general percentage orientation, while traffic assignment allocates specific volume forecasts to individual roadway segments and intersection turning movements throughout the study area.

With the forecasting process complete and Project traffic assignments developed, the impact of the Project is 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 improvements can then be evaluated.

5.0 PROJECT TRAFFIC CHARACTERISTICS

5.1 Project Trip Generation Forecast

Trip 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 10th Edition of *Trip Generation*, published by the Institute of Transportation Engineers (ITE) [Washington D.C., 2017].

Table 5-1 summarizes the trip generation rates used in forecasting the vehicular trips generated by the existing land use and the proposed Project and 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 existing land use was forecast using ITE Land Use Code 931: Quality Restaurant trip rates. The trip generation potential for the proposed Project was forecast using ITE Land Use Code 937: Coffee/Donut Shop With Drive-Through Window trip rates. In addition, the express wash trip rates are based on driveway traffic counts conducted on Friday (2/7/2014) at Victorville Speedwash (12147 Industrial Boulevard, Victorville), which generally has similar characteristics to that of the proposed express wash (i.e. equipment, service rates, etc.). Refer to *Appendix B* for the Victorville Speedwash driveway traffic count details utilized to develop the express wash trip rates.

Review of the middle portion of *Table 5-1* indicates that the existing land use would generate approximately 754 daily trips, with 7 trips (4 inbound, 3 outbound) produced in the AM peak hour and 58 trips (39 inbound, 19 outbound) produced in the PM peak hour on a “typical” weekday. Review of the lower portion of *Table 5-1* indicates that the proposed Project is forecast to generate 1,428 daily trips, with 110 trips (59 inbound, 51 outbound) produced in the AM peak hour and 120 trips (60 inbound, 60 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 existing land use to the trips generated by the proposed Project shows that the proposed Project will generate 674 greater net daily trips, 103 greater net AM peak hour trips and 62 greater net PM peak hour trips. The potential impact of these net additional trips are assessed in the traffic study.

It should be noted that the aforementioned overall trip generation includes adjustments for pass-by per the *Trip Generation Handbook, 3rd Edition*, published by ITE, to account for trips that are already in the everyday traffic stream on the adjoining streets (i.e. Valley Boulevard) and will stop as they pass by the Project site as a matter of convenience on their path to another destination. The pass-by reduction factors utilized are summarized in the footnotes of *Table 5-1*.

The trip generation methodology and forecasts were approved by City of Rialto staff prior to proceeding with further analysis.

5.2 Project Traffic Distribution and Assignment

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

- the site's proximity to major traffic carriers (i.e. I-10 Freeway),
- expected localized traffic flow patterns based on adjacent street channelization and presence of traffic signals, and
- ingress/egress availability at the project site.

It should be noted that the Project trip distribution pattern was submitted to City staff for their review and approval prior to proceeding with further analyses.

The anticipated AM and PM peak hour project traffic volumes associated with the proposed Project are presented in *Figures 5-2* and *5-3*, respectively. The traffic volume assignments presented in *Figures 5-2* and *5-3* reflect the traffic distribution characteristics shown in *Figure 5-1* and the traffic generation forecast presented in *Table 5-1*.

TABLE 5-1
PROJECT TRIP GENERATION RATES AND FORECAST²

Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
<u>Trip Generation Rates:</u>							
▪ Empirical Trip Generation Estimation for Speed Wash (TE/LFWT) ³	8.663	0.275	0.204	0.479	0.450	0.463	0.913
▪ 931: Quality Restaurant (TE/TSF)	83.84	50%	50%	0.73	67%	33%	7.80
▪ 937: Coffee/Donut Shop With Drive-Through Window (TE/TSF)	820.38	51%	49%	88.99	50%	50%	43.38
<u>Existing Vacant Trip Generation Forecasts:</u>							
▪ Hometown Buffet (10,000 SF)	838	4	3	7	52	26	78
Pass-by Trips ⁴	<u>-84</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>-13</u>	<u>-7</u>	<u>-20</u>
Existing Restaurant Total	754	4	3	7	39	19	58
<u>Proposed Project Trip Generation Forecasts:</u>							
▪ Dutch Brothers Coffee (950 SF)	779	43	42	85	21	20	41
Pass-by Trips ⁴	<u>-195</u>	<u>-11</u>	<u>-10</u>	<u>-21</u>	<u>-5</u>	<u>-5</u>	<u>-10</u>
Dutch Brothers Coffee Subtotal	584	32	32	64	16	15	31
▪ Express Wash (130 LFWT)	1,126	36	26	62	59	60	119
Pass-by Trips ⁴	<u>-282</u>	<u>-9</u>	<u>-7</u>	<u>-16</u>	<u>-15</u>	<u>-15</u>	<u>-30</u>
Express Wash Subtotal	844	27	19	46	44	45	89
Proposed Project Total	1,428	59	51	110	60	60	120
Total Net Project Trip Generation	674	55	48	103	21	41	62

Notes:

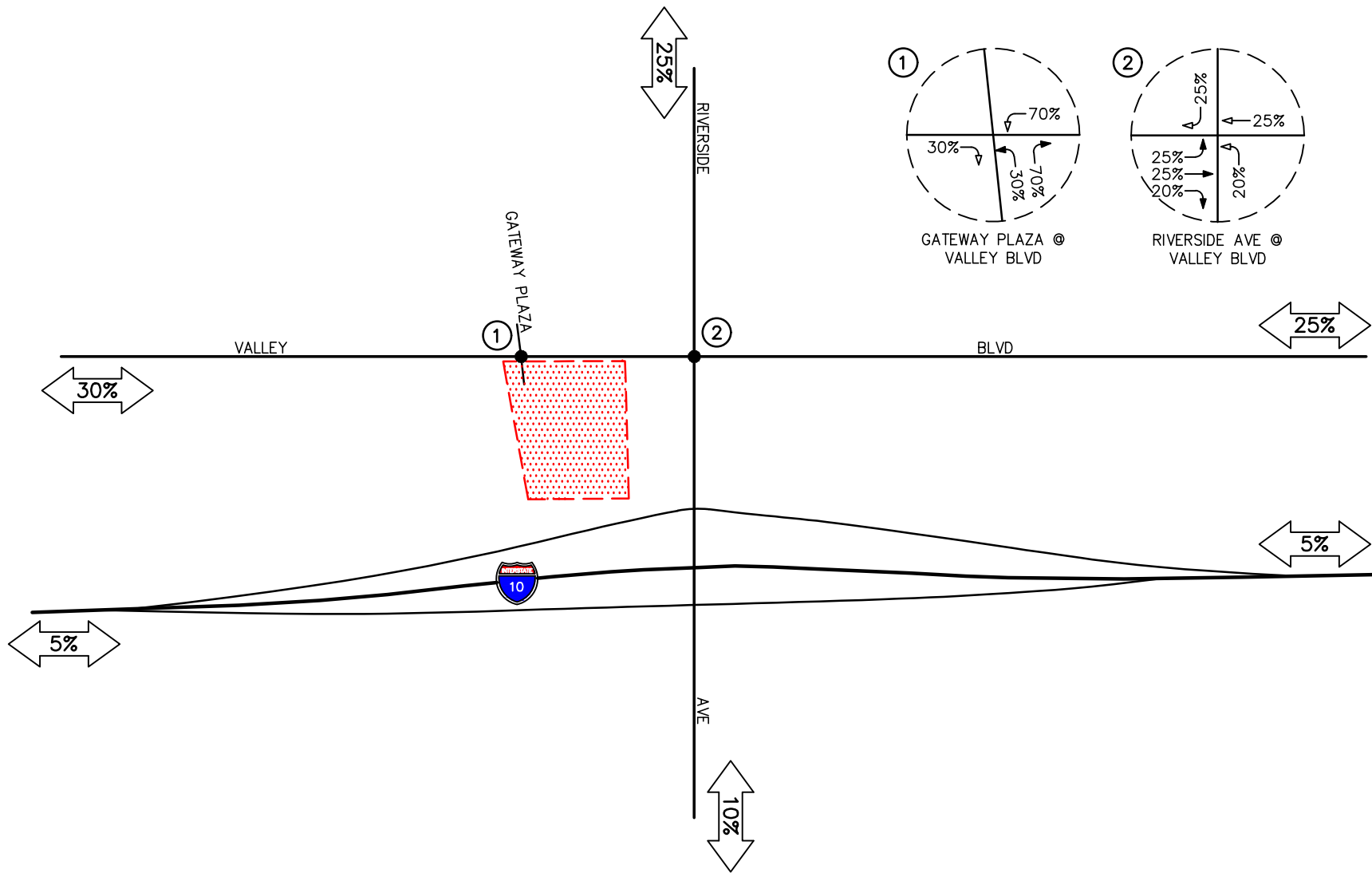
- TE/LFWT = Trip end per Linear Feet Wash Tunnel
- TE/TSF = Trip end per 1,000 SF

² Source: *Trip Generation*, 10th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2017).

³ Based on driveway traffic counts conducted on Friday (2/7/2014) at Victorville Speedwash (12147 Industrial Boulevard, Victorville). Refer to *Appendix B* for the Victorville Speedwash driveway traffic count details utilized to develop the express wash trip rates.

⁴ Pass-By Trips are trips made as intermediate stops on the way from an origin to a primary trip destination. Pass-by trips are attracted from traffic passing the site on adjacent streets, which contain direct access to the generator. For this analysis, the following pass-by reduction factors were used (Source: *Trip Generation Handbook*, 3rd Edition, ITE 2017):

- 931: Quality Restaurant: Daily/AM peak hour/PM peak hour – Assume 10%/0%/25%
- 937: Coffee/Donut Shop With Drive-Through Window: Daily/AM peak hour/PM peak hour – Assume 25%/25%/25%
- Express Wash: Daily/AM peak hour/PM peak hour – Assume 25%/25%/25%



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engineers



KEY

- ① = STUDY INTERSECTION
- ← = INBOUND PERCENTAGE
- = OUTBOUND PERCENTAGE
- [Hatched Box] = PROJECT SITE

FIGURE 5-1

PROJECT TRAFFIC DISTRIBUTION PATTERN

DUTCH BROTHERS COFFEE & EXPRESS WASH PROJECT, RIALTO

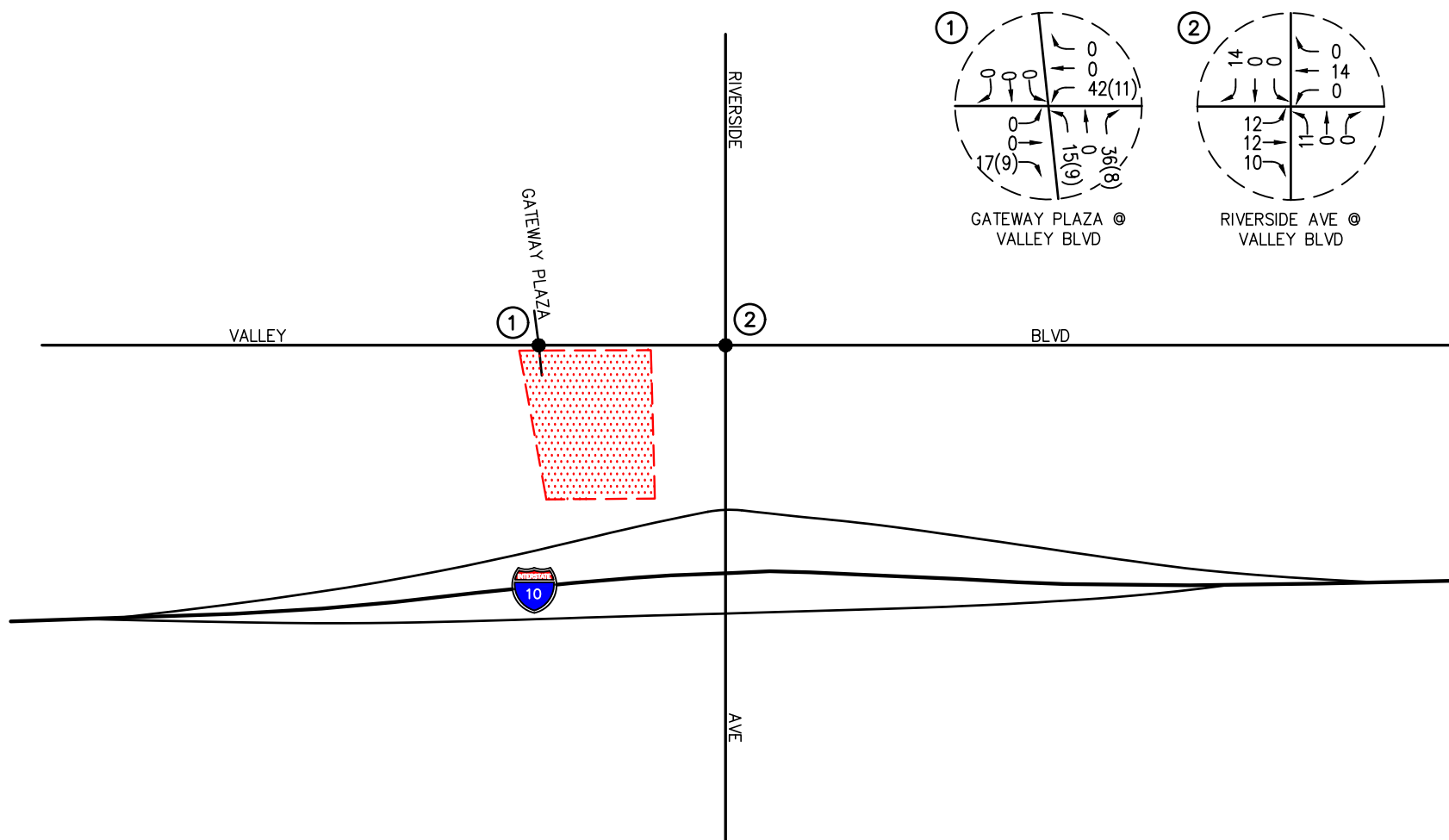


FIGURE 5-2

KEY

- ① = STUDY INTERSECTION
- (XX) = PASS-BY TRIPS
- = PROJECT SITE

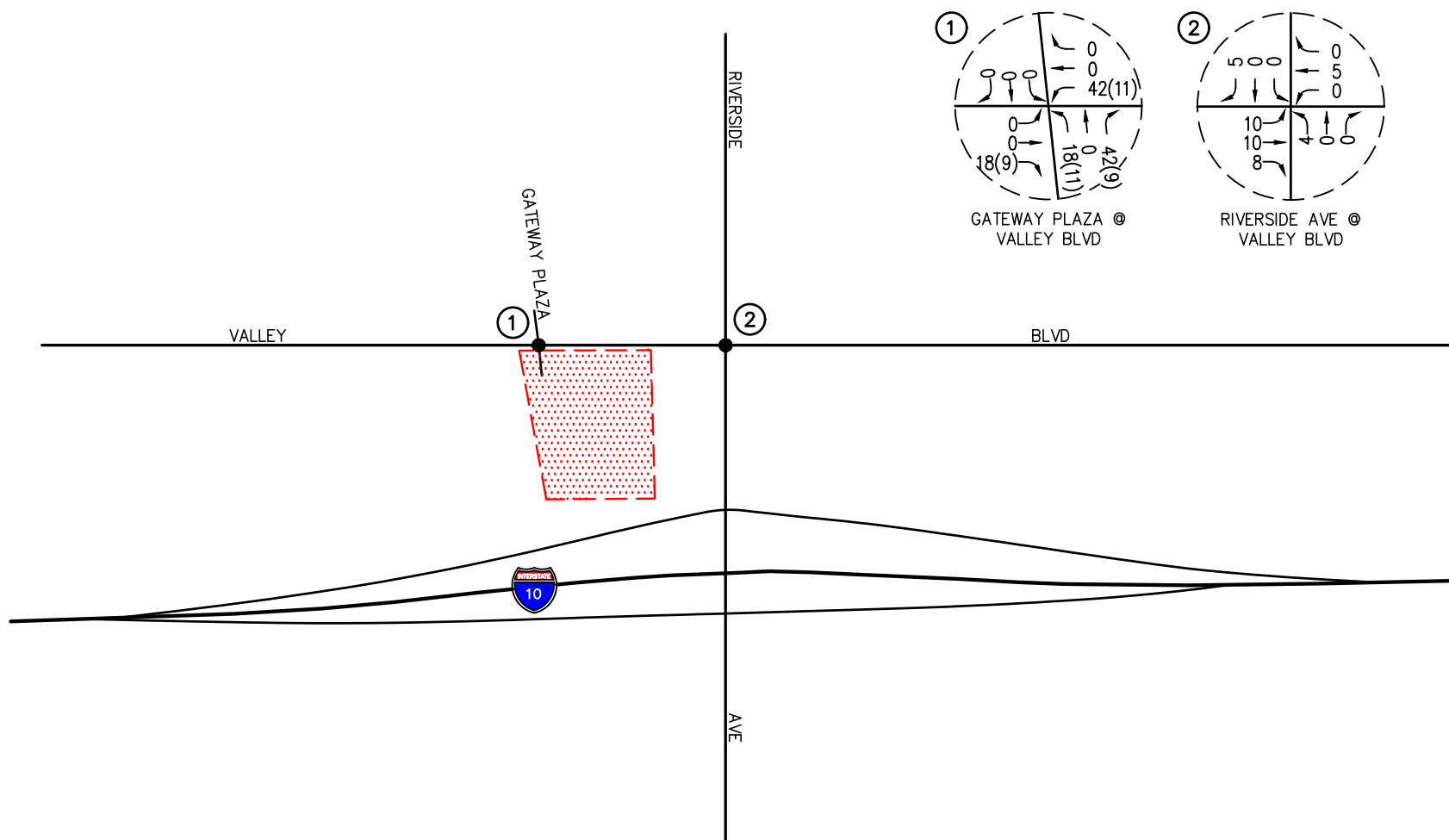
PROJECT ONLY AM PEAK HOUR TRAFFIC VOLUMES
DUTCH BROTHERS COFFEE & EXPRESS WASH PROJECT, RIALTO

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NO SCALE

engineers



6.0 FUTURE TRAFFIC CONDITIONS

6.1 Existing With Project Traffic Volumes

The estimates of Project generated traffic volumes were added to Existing traffic conditions to develop traffic projections for Existing With Project traffic conditions. **Figures 6-1** and **6-2** present the anticipated AM and PM peak hour Existing With Project traffic volumes, respectively at the two (2) key study intersections.

6.2 Year 2023 With Project Traffic Volumes

6.2.1 Ambient Traffic Growth

Horizon year, background traffic growth estimates have been calculated using an ambient growth factor. The ambient traffic growth factor is intended to include unknown and future cumulative projects in the study area, as well as account for regular growth in traffic volumes due to the development of projects outside the study area. The future growth in traffic volumes has been calculated at two percent (2.0%) per year. Applied to existing Year 2021 traffic volumes results in a four percent (4.0%) growth in existing volumes to horizon year 2023.

6.2.2 Cumulative Projects Traffic Characteristics

In order to make a realistic estimate of future on-street conditions prior to implementation of the Project, the status of other known development projects (cumulative projects) has been researched at the City of Rialto, City of Colton, and County of San Bernardino. With this information, the potential impact of the proposed Project can be evaluated within the context of the cumulative impact of all ongoing development. Based on our research, there are ten (10) cumulative projects in the City of Rialto, one (1) cumulative project in the City of Colton, and eleven (11) cumulative projects in the County of San Bernardino within the vicinity of the subject site. These twenty-two (22) planned and/or approved cumulative projects were considered in the cumulative traffic analysis for this project.

Table 6-1 provides the location and a brief description for each of the twenty-two (22) cumulative projects. **Figure 6-3** graphically illustrates the location of the cumulative projects. These cumulative projects are expected to generate vehicular traffic, which may affect the operating conditions of the key study intersections.

Table 6-2 presents the development totals and resultant trip generation for the twenty-two (22) cumulative projects. As shown in **Table 6-2**, the twenty-two (22) cumulative projects are forecast to generate a combined total of 18,269 daily trips, with 1,120 trips (621 inbound and 499 outbound) forecast during the AM peak hour and 1,133 trips (517 inbound and 616 outbound) forecast during the PM peak hour.

The AM and PM peak hour traffic volumes associated with the twenty-two (22) cumulative projects in the Year 2023 are presented in **Figures 6-4** and **6-5**, respectively. Cumulative project trips were developed using the rates/equations contained within the 10th Edition of *Trip Generation* and/or from

available traffic studies and distributed to the study area using traffic engineering judgement and/or available traffic studies.

6.2.3 Existing With Ambient Growth Year 2023 With Project Traffic Volumes

Figures 6-6 and **6-7** illustrate the Year 2023 forecast AM and PM peak hour existing plus ambient growth traffic volumes, without the inclusion of the trips generated by the proposed Project, respectively.

Figures 6-8 and **6-9** illustrate the Year 2023 forecast AM and PM peak hour existing plus ambient growth traffic volumes, with the inclusion of the trips generated by the proposed Project, respectively.

6.2.4 Existing With Ambient Growth Year 2023 With Cumulative With Project Traffic Volumes

Figures 6-10 and **6-11** illustrate the Year 2023 cumulative forecast AM and PM peak hour traffic volumes, without the inclusion of the trips generated by the proposed Project, respectively.

Figures 6-12 and **6-13** illustrate the Year 2023 cumulative forecast AM and PM peak hour traffic volumes, with the inclusion of the trips generated by the proposed Project, respectively.

**TABLE 6-1
LOCATION AND DESCRIPTION OF CUMULATIVE PROJECTS⁵**

No.	Cumulative Project	Location/Address	Description
<u>City of Rialto</u>			
1.	MC 2020-0013	NWC of Valley Boulevard and Willow Avenue	492,000 SF Warehouse
2.	MC 2019-0052	185 West Santa Ana Avenue	55,000 SF Warehouse
3.	MC 2021-0001	313 South Riverside Avenue	21,000 SF Self-Storage
4.	MC 2020-0056	1610 South Riverside Avenue	18,000 SF Self-Storage
5.	MC 2020-0027	West of Riverside Avenue and North of Jurupa Avenue	8,827 SF Auto Repair
6.	MC 2017-0024	264 West Jurupa Avenue	257,004 SF Self Storage
7.	MC 2020-0031	Between Lilac Avenue and Cactus Avenue, South of Slover Avenue	47,000 SF Warehouse
8.	MC 2020-0032	223 South Olive Avenue	6,000 SF Industrial
9.	MC 2019-0038	2805 South Industrial Drive	4,200 SF Warehouse
10.	MC 2019-0029	571 West Slover Avenue	9,350 SF Industrial Addition
<u>City of Colton</u>			
11.	Wildrose Village	South of San Bernardino Avenue and West of Woodpine Avenue	85 DU Multifamily Addition
<u>County of San Bernardino</u>			
12.	PREA-2019-00158	NEC of Cedar Avenue and San Bernardino Avenue	5,187 SF Convenience store 1,263 SF Carwash 10 Pumps Gas Station
13.	PREA-2019-00113	North of Valley Boulevard and West of Linden Avenue	47,000 SF Warehouse 3,000 SF Office 90 Container Parking 30 Truck Parking
14.	PREA-2020-00117	North of Valley Boulevard and East of Portola Avenue	2,206 SF Office
15.	18745 Valley Boulevard Gas Station	18745 Valley Boulevard	12 Pumps Gas Station 2,200 SF Convenience Store
16.	P201600435	NEC of Cedar Avenue and Orange Street	184,770 SF Warehouse

⁵ Source: City of Rialto, City of Colton, and County of San Bernardino Planning Department staff.

TABLE 6-1(CONTINUED)
LOCATION AND DESCRIPTION OF CUMULATIVE PROJECTS⁶

No.	Cumulative Project	Location/Address	Description
17.	P201600613	18653 Slover Avenue	4,507 SF Convenience store 1,305 SF Fast Food Restaurant 16 Pumps
18.	PROJ-2020-00127	South of Slover Avenue and West of Cactus Avenue	300,000 SF Warehouse
19.	PROJ-2020-00003	SWC of Santa ana Avenue and Cedar Avenue	5,200 SF Convenience Store 1,263 SF Car Wash 10 pumps
20.	PROJ-2019-00079	SEC OF Santa ana Avenue and Cedar Ave	9,990 SF Convenience Store 15 pumps 5,800 SF Fast Food Restaurant with Drive thru
21.	P201900307	11279 Cedar Avenue	5,000 SF Convenience Store 4 Pumps 2,634 SF Car Wash 2,550 SF Fast Food Restaurant with Drive thru 2,244 SF Storage
22.	P201800654	11342 Spruce Avenue	2,540 SF Church Expansion

Notes

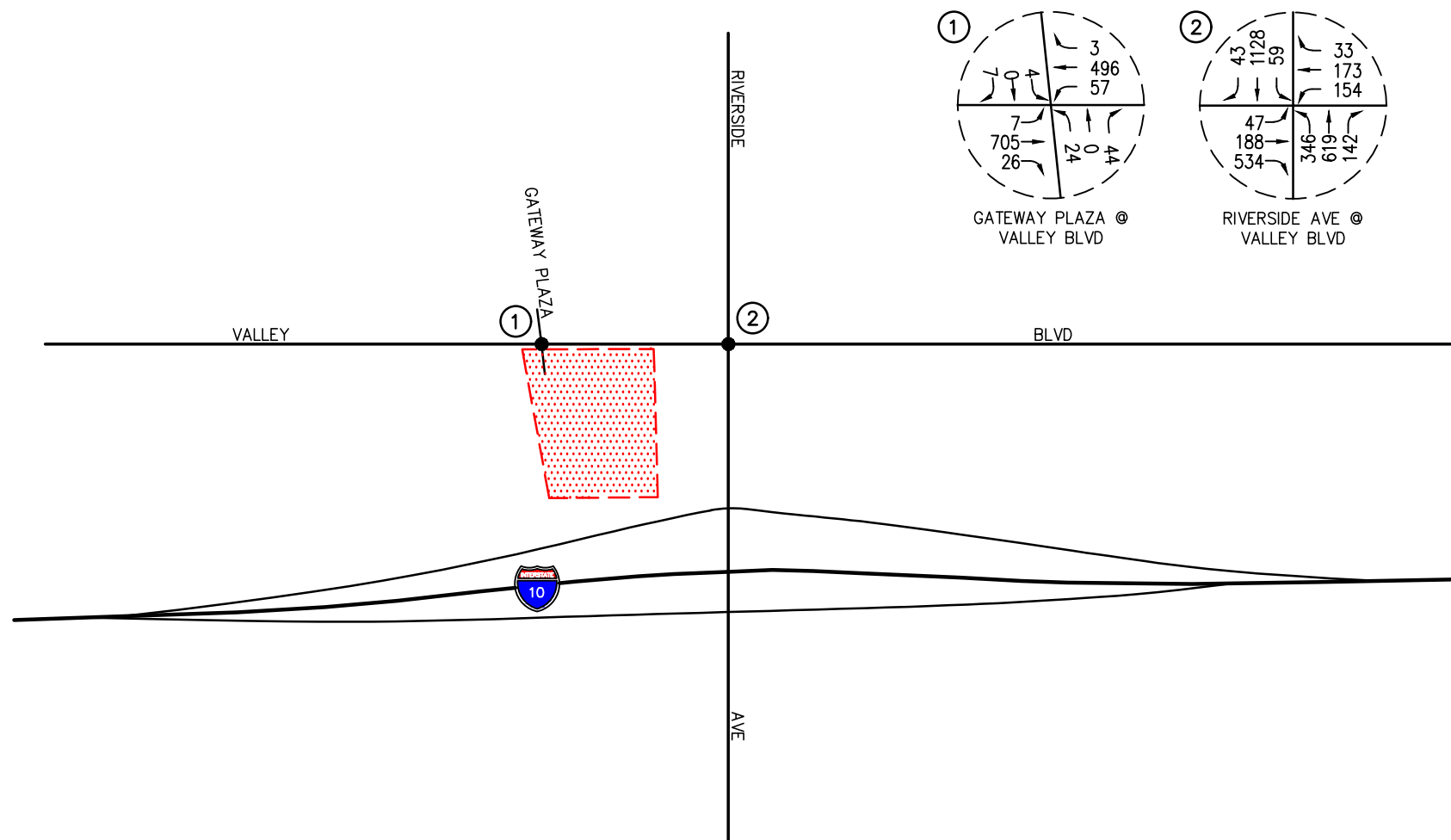
- DU = Dwelling Units
- SF = Square-Feet

⁶ Source: City of Rialto, City of Colton, and County of San Bernardino Planning Department staff.

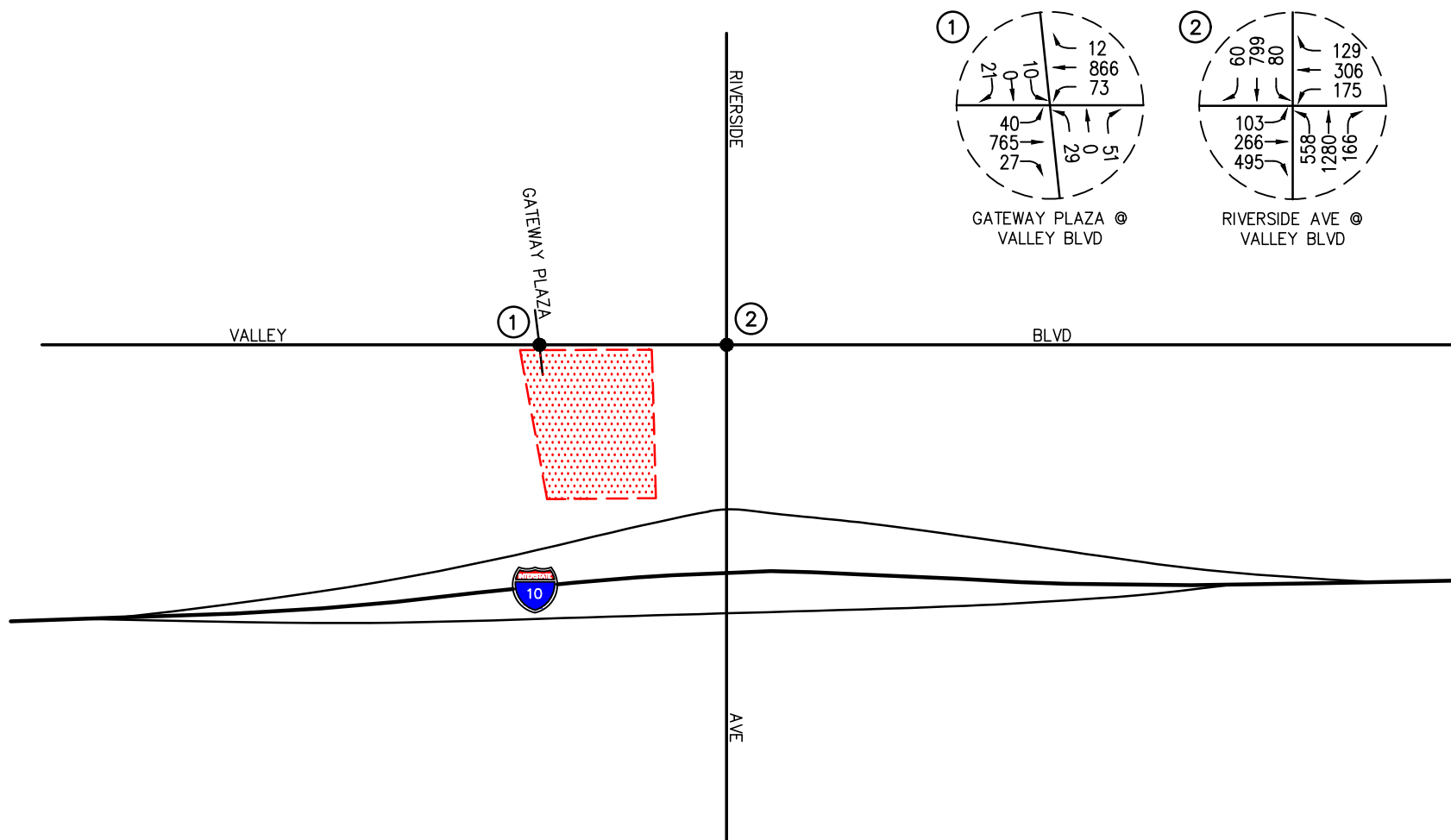
TABLE 6-2
CUMULATIVE PROJECTS TRAFFIC GENERATION FORECAST⁷

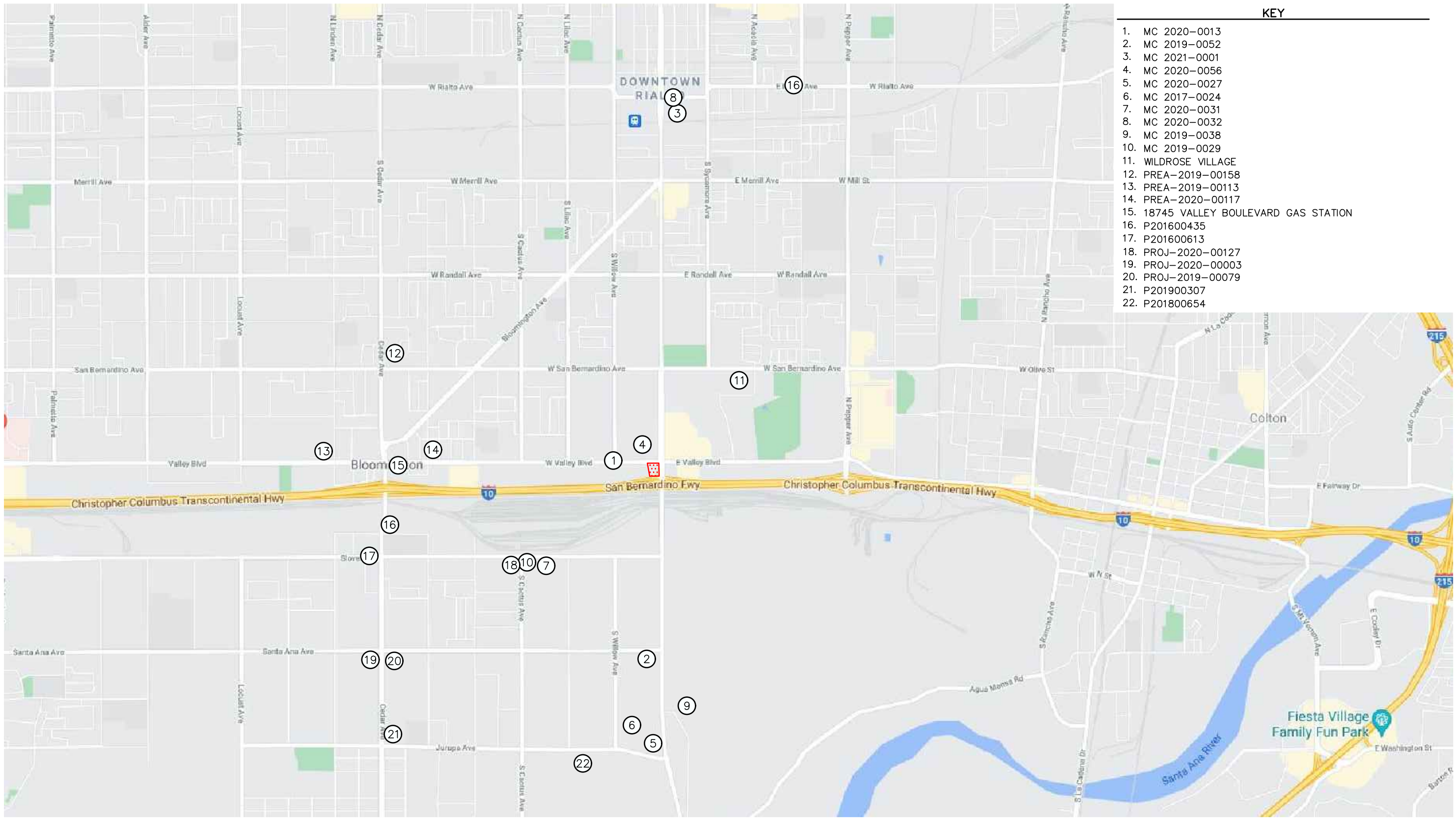
Cumulative Project Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
1. MC 2020-0013	856	65	19	84	25	68	93
2. MC 2019-0052	96	7	2	9	3	7	10
3. MC 2021-0001	32	1	1	2	2	2	4
4. MC 2020-0056	27	1	1	2	1	2	3
5. MC 2020-0027	144	12	5	17	8	12	20
6. MC 2017-0024	388	16	10	26	21	23	44
7. MC 2020-0031	82	6	2	8	2	7	9
8. MC 2020-0032	30	4	0	4	1	3	4
9. MC 2019-0038	7	1	0	1	0	1	1
10. MC 2019-0029	46	6	1	7	1	5	6
11. Wildrose Village	622	9	30	39	30	18	48
12. PREA-2019-00158	1,729	54	53	107	51	50	101
13. PREA-2019-00113	133	10	3	13	3	11	14
14. PREA-2020-00117	21	3	0	3	0	3	3
15. 18745 Valley Boulevard Gas Station	1,848	29	28	57	38	36	74
16. P201600435	321	24	7	31	9	26	35
17. P201600613	3,105	95	93	188	90	89	179
18. PROJ-2020-00127	522	39	12	51	15	42	57
19. PROJ-2020-00003	1,729	54	53	107	51	50	101
20. PROJ-2019-00079	4,642	141	138	279	125	120	245
21. P201900307	1,871	43	41	84	41	40	81
22. P201800654	18	1	0	1	0	1	1
Cumulative Projects Trip Generation Forecast	18,269	621	499	1,120	517	616	1,133

⁷ Source: *Trip Generation*, 10th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2017), unless otherwise noted.



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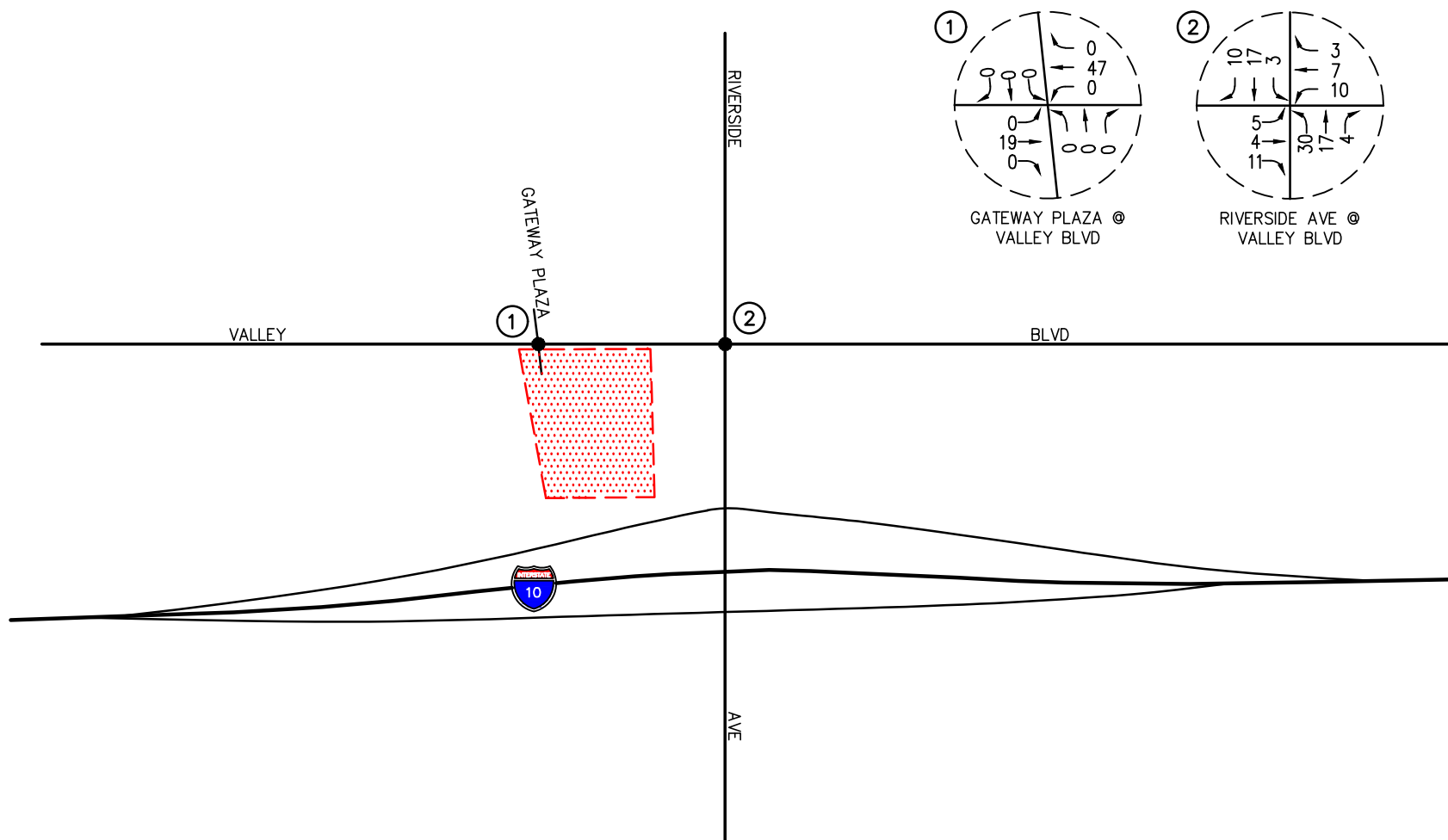
- # = CUMULATIVE PROJECT LOCATION
-  = PROJECT SITE

FIGURE 6-3

LOCATION OF CUMULATIVE PROJECTS
DUTCH BROTHERS COFFEE & EXPRESS WASH PROJECT, RIALTO



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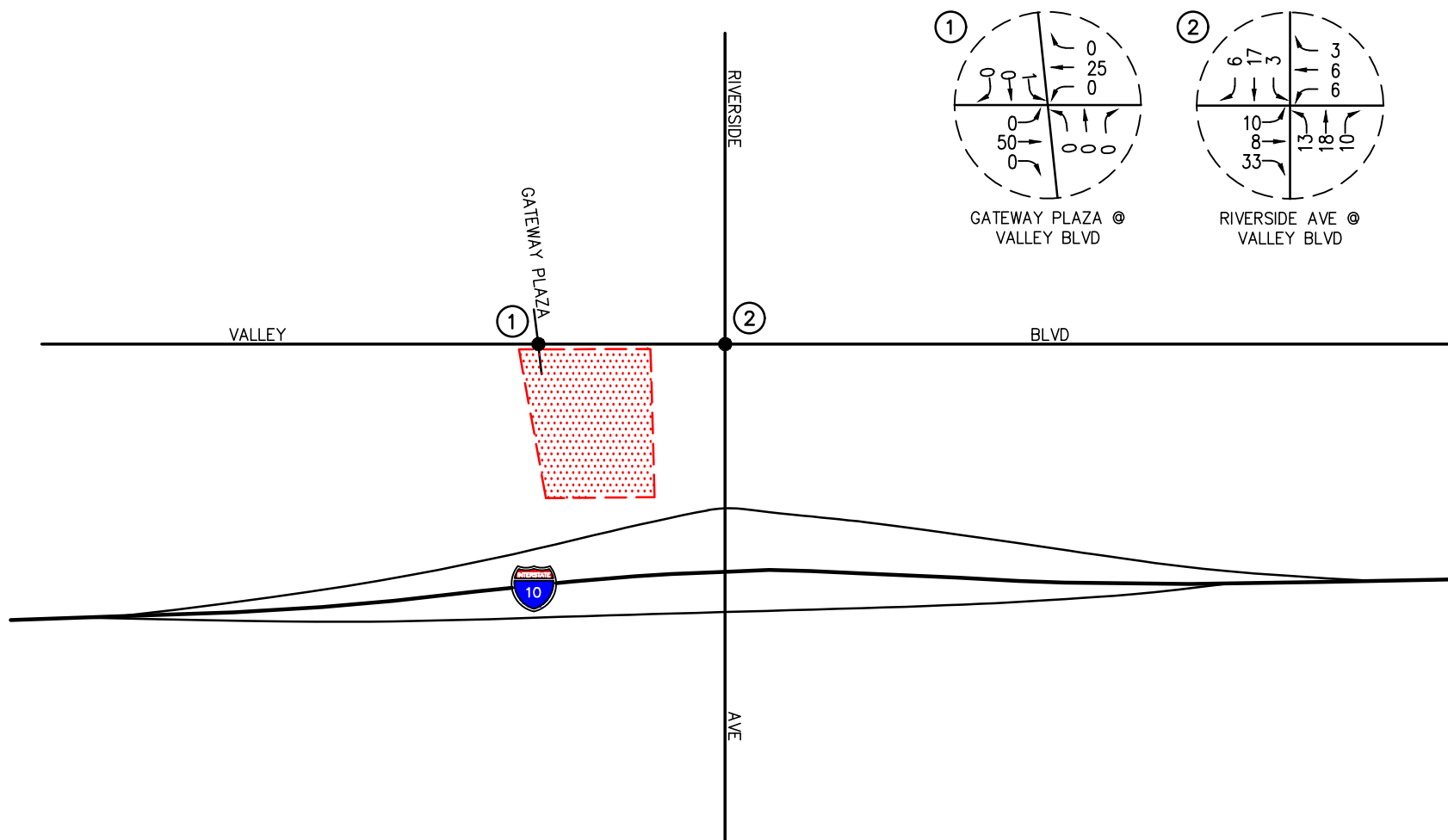
KEY

- ① = STUDY INTERSECTION
- [Red Hatched Box] = PROJECT SITE

FIGURE 6-4

CUMULATIVE PROJECT ONLY
AM PEAK HOUR TRAFFIC VOLUMES

DUTCH BROTHERS COFFEE & EXPRESS WASH PROJECT, RIALTO



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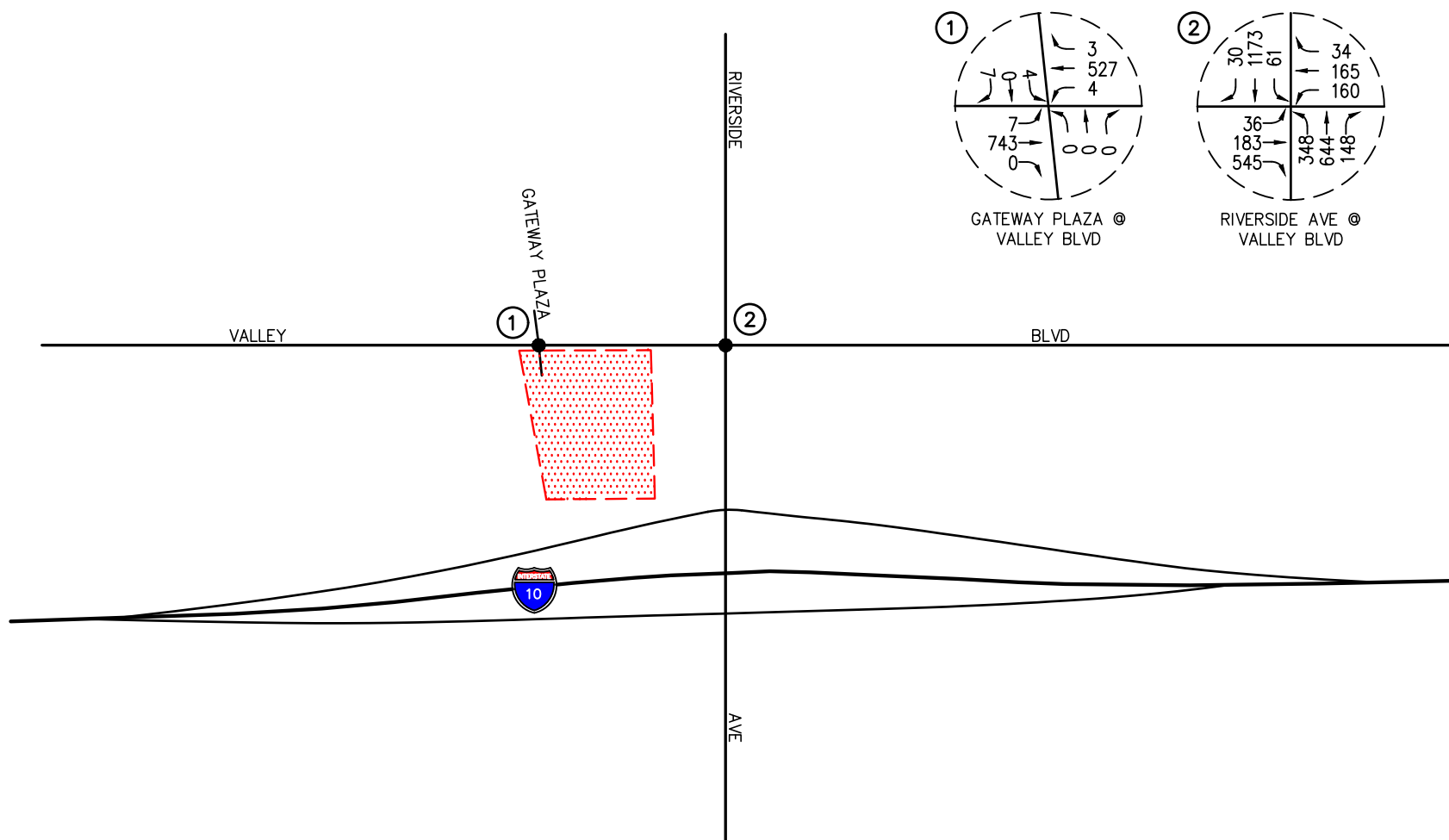
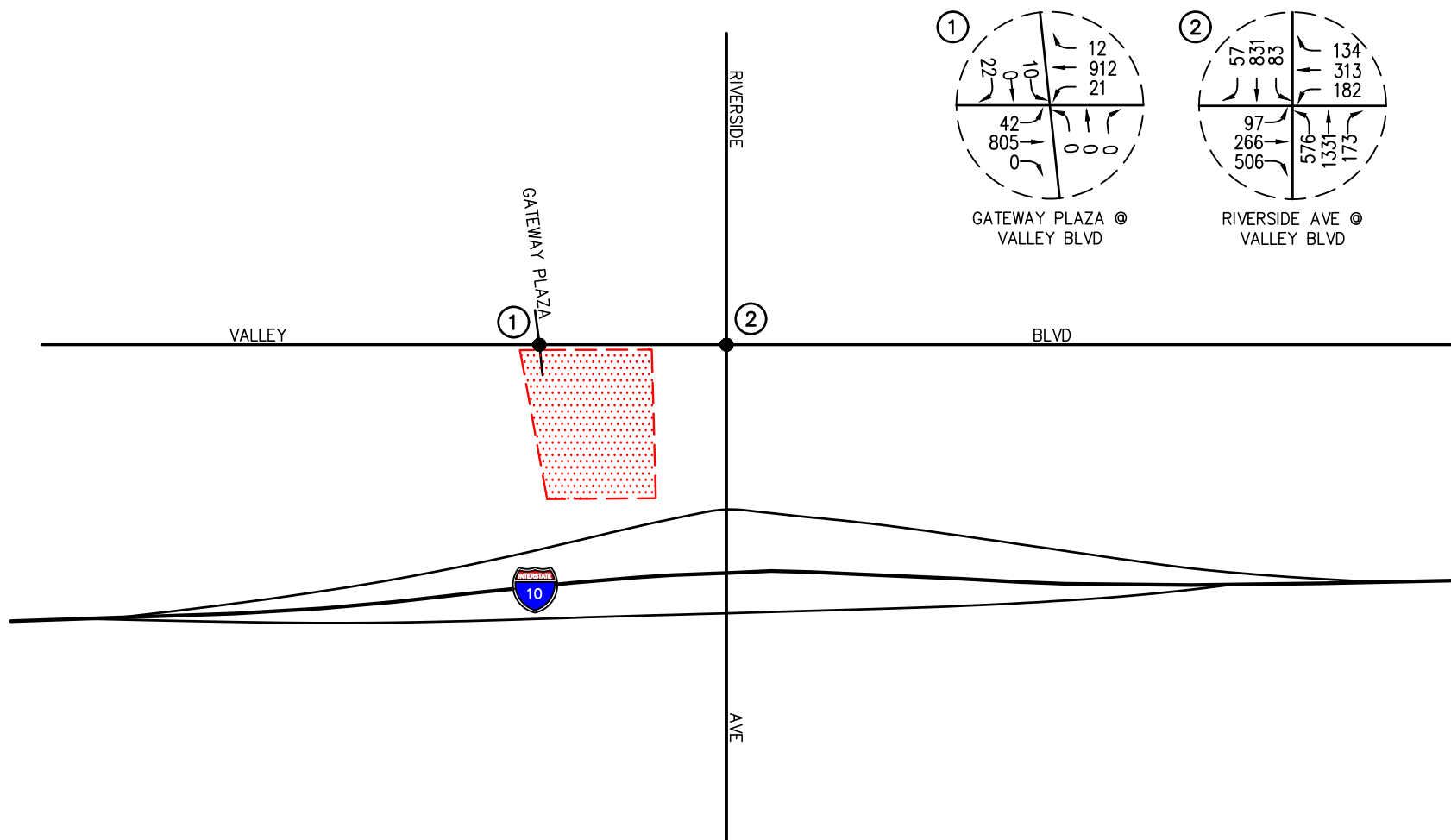
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-  = PROJECT SITE

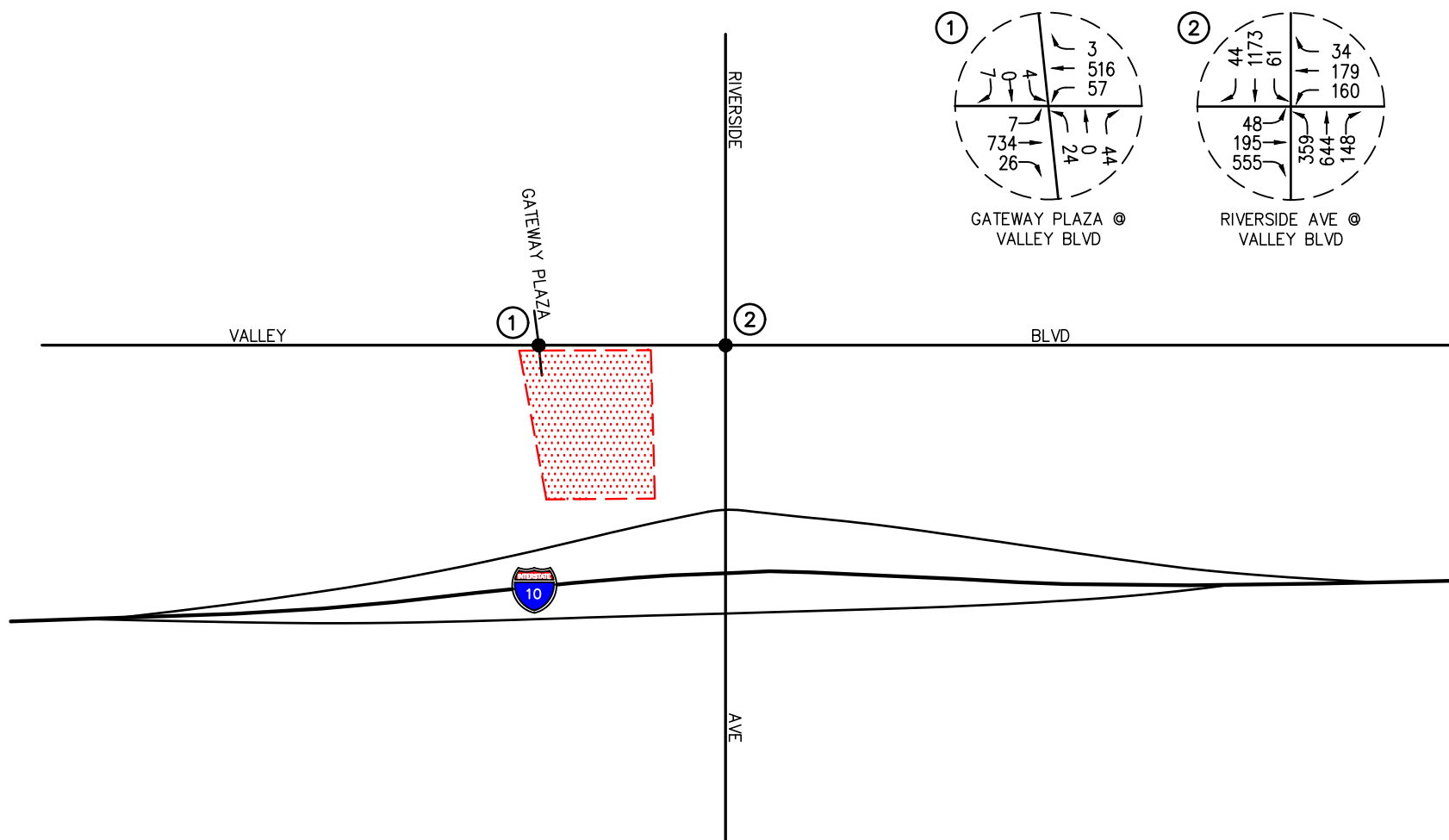
FIGURE 6-5

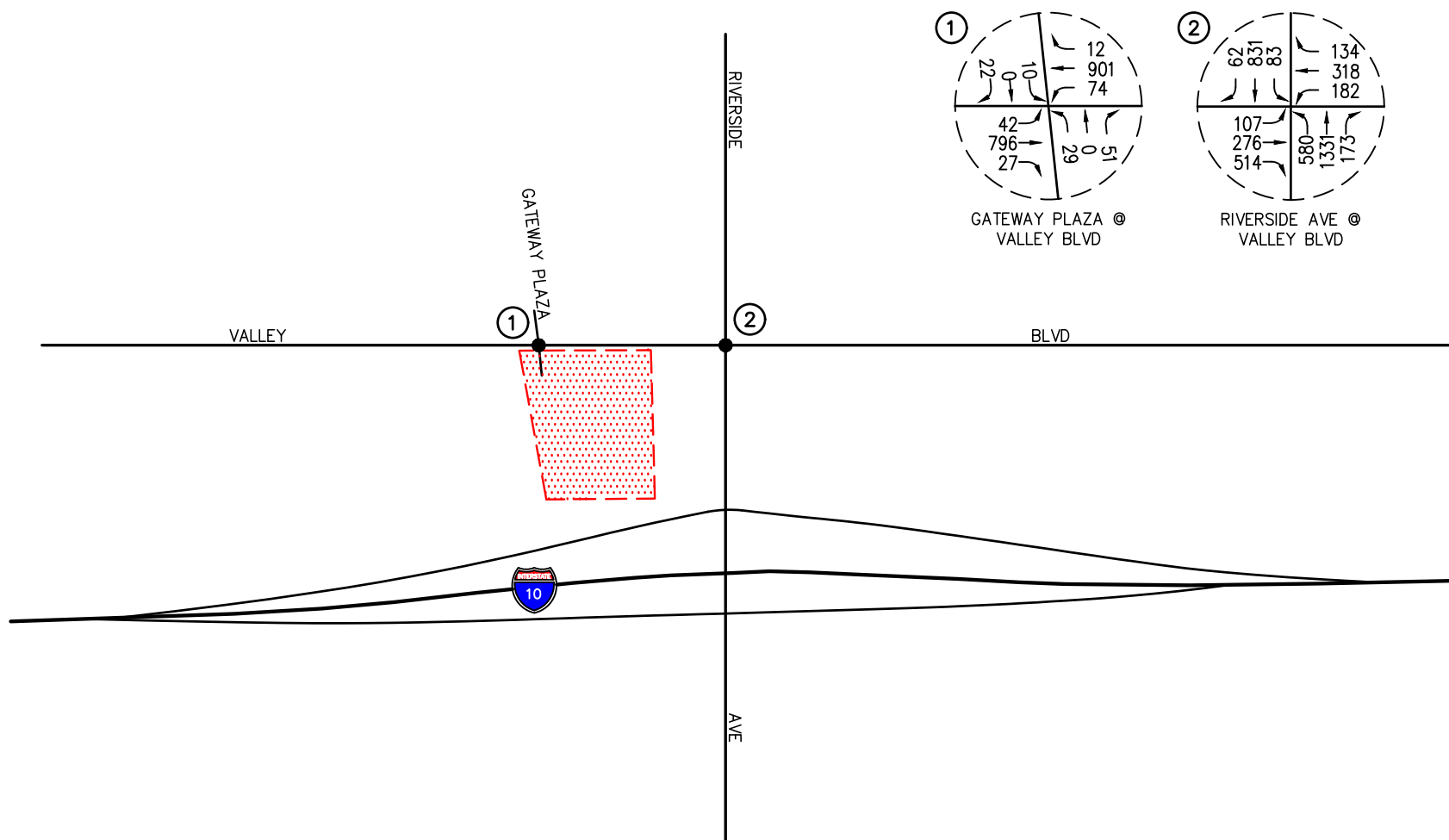
CUMULATIVE PROJECT ONLY PM PEAK HOUR TRAFFIC VOLUMES

DUTCH BROTHERS COFFEE & EXPRESS WASH PROJECT, RIALTO









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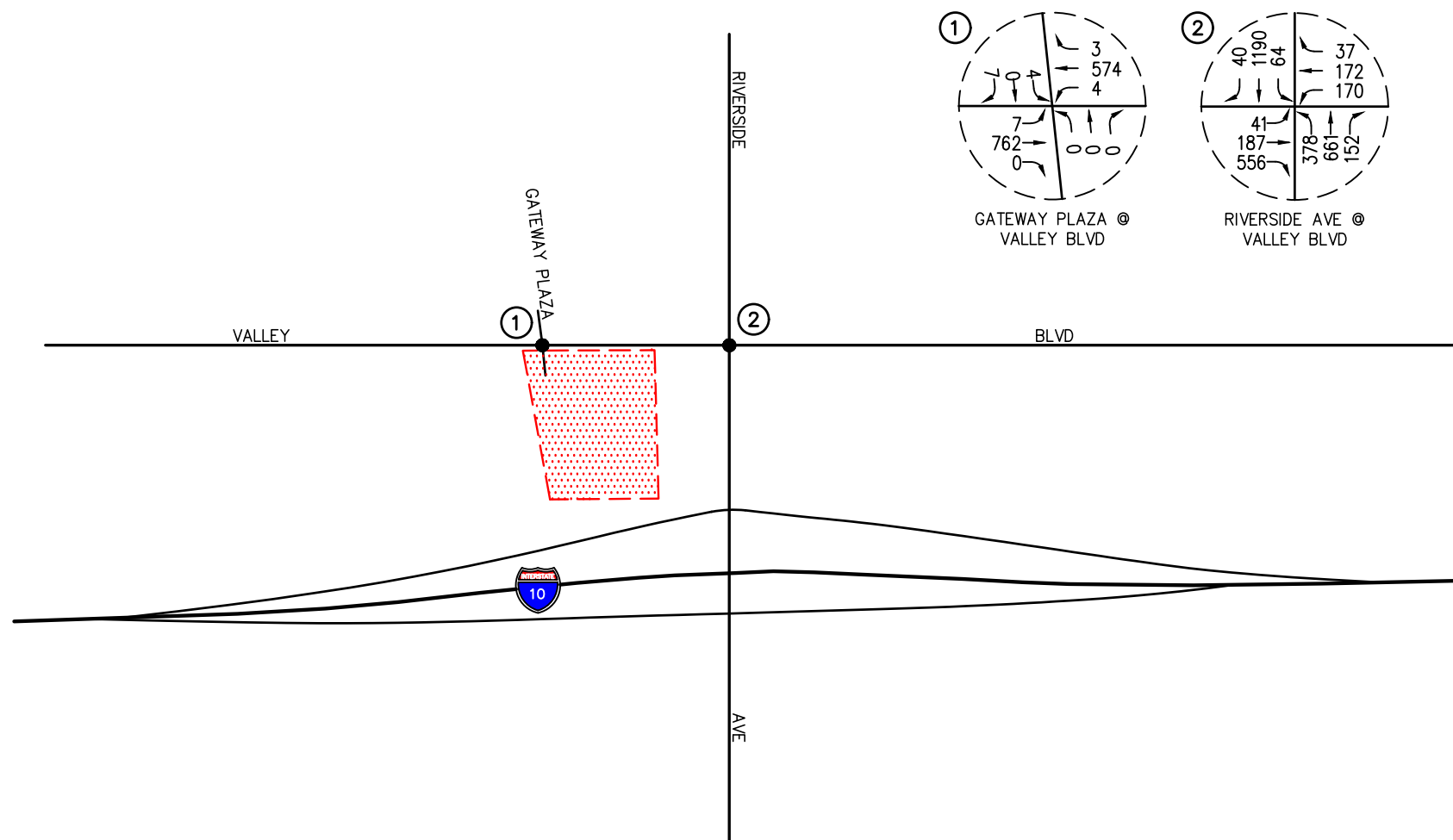
- ① = STUDY INTERSECTION
-  = PROJECT SITE

FIGURE 6-9

YEAR 2023 EXISTING WITH AMBIENT GROWTH
WITH PROJECT PM PEAK HOUR TRAFFIC VOLUMES
DUTCH BROTHERS COFFEE & EXPRESS WASH PROJECT, RIALTO



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KEY

- ① = STUDY INTERSECTION
- [Red Hatched Box] = PROJECT SITE

FIGURE 6-10

**YEAR 2023 EXISTING WITH AMBIENT GROWTH WITH
CUMULATIVE WITHOUT PROJECT AM PEAK HOUR TRAFFIC VOLUMES**

DUTCH BROTHERS COFFEE & EXPRESS WASH PROJECT, RIALTO

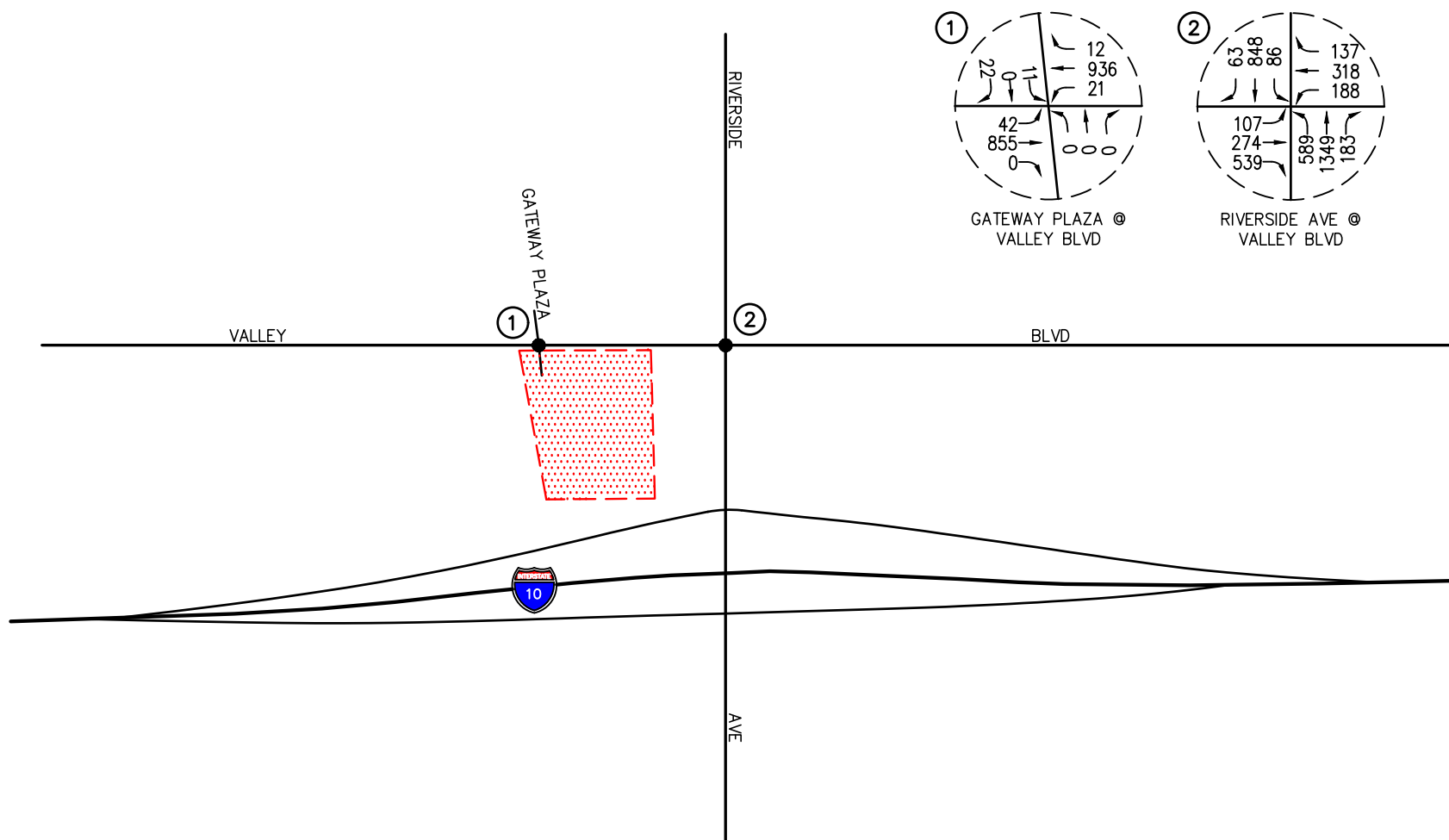
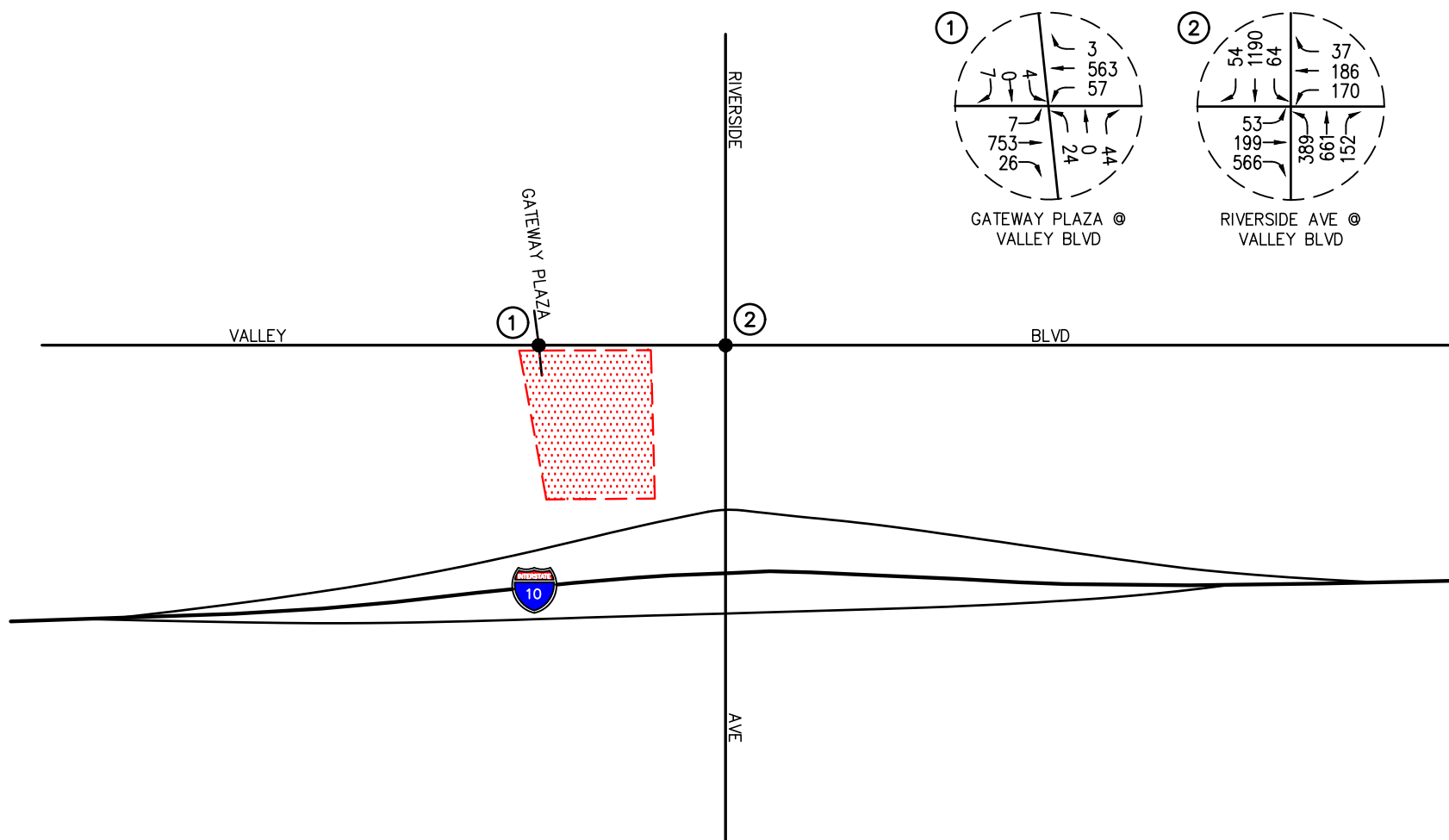


FIGURE 6-11

YEAR 2023 EXISTING WITH AMBIENT GROWTH WITH
CUMULATIVE WITHOUT PROJECT PM PEAK HOUR TRAFFIC VOLUMES
DUTCH BROTHERS COFFEE & EXPRESS WASH PROJECT, RIALTO



KEY



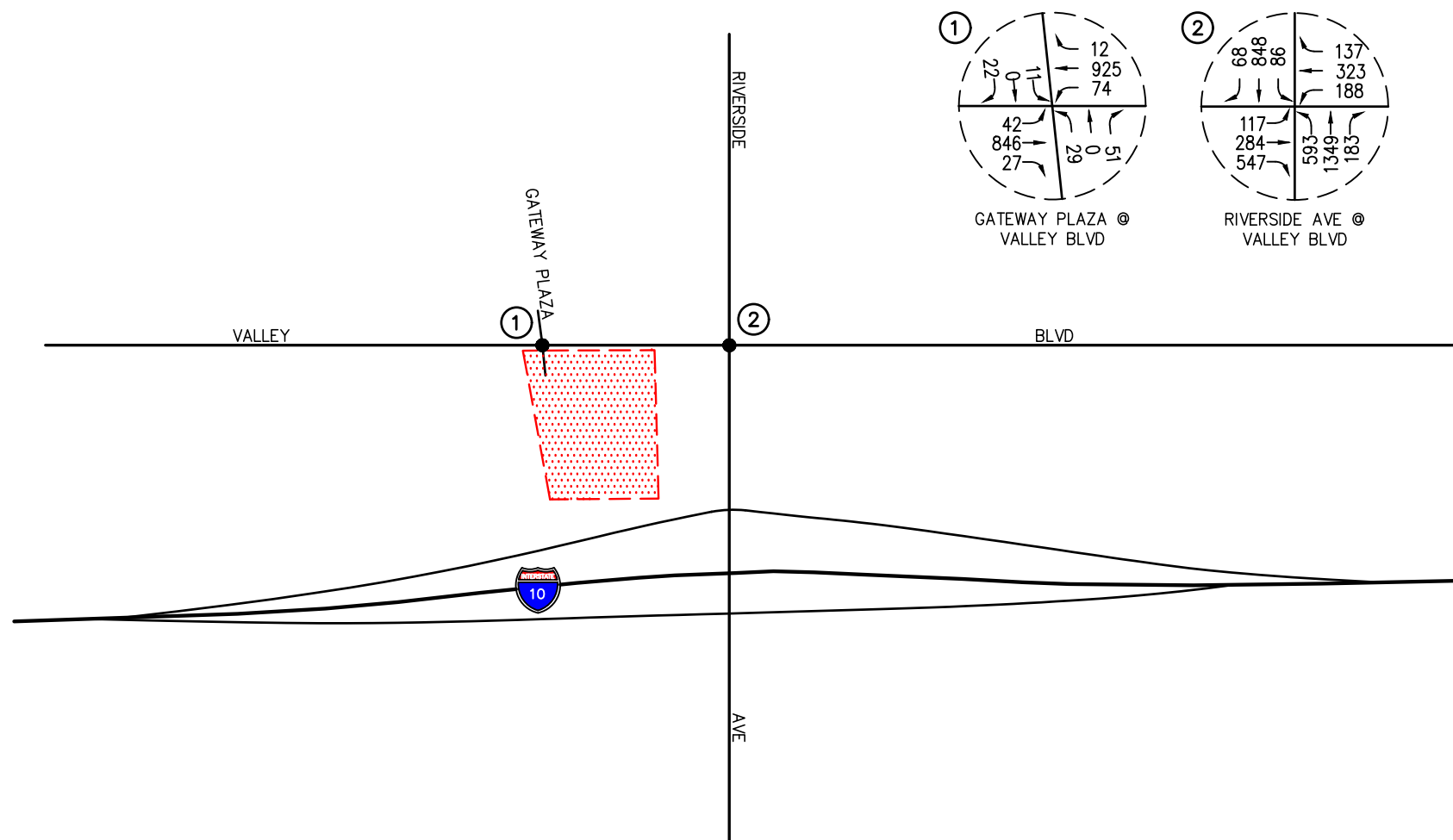
-  = STUDY INTERSECTION
-  = PROJECT SITE

FIGURE 6-12

YEAR 2023 EXISTING WITH AMBIENT GROWTH WITH
CUMULATIVE WITH PROJECT AM PEAK HOUR TRAFFIC VOLUMES

DUTCH BROTHERS COFFEE & EXPRESS WASH PROJECT, RIALTO



n:\4400\2214426 - dutch brothers coffee & express wash project, rialto\dwg\4426 fb-13.dwg LDP 07:51:10 07-15-2021 agular



KEY

- # = STUDY INTERSECTION
- [Red dotted box] = PROJECT SITE

FIGURE 6-13

**YEAR 2023 EXISTING WITH AMBIENT GROWTH WITH
CUMULATIVE WITH PROJECT PM PEAK HOUR TRAFFIC VOLUMES**
DUTCH BROTHERS COFFEE & EXPRESS WASH PROJECT, RIALTO

7.0 EXISTING WITH PROJECT ANALYSIS

Table 7-1 summarizes the peak hour Level of Service results at the two (2) key study intersections for existing traffic conditions, without and with the proposed Project. The first column (1) of Delay/LOS values in *Table 7-1* presents a summary of Existing AM and PM peak hour traffic conditions. The second column (2) presents forecast Existing With Project traffic conditions. The third column (3) shows whether the traffic associated with the Project will have an impact based on the LOS standards and impact criteria defined in this report.

7.1 Existing Traffic Conditions

Review of column (1) of *Table 7-1* indicates that for Existing traffic conditions, the two (2) key study intersections currently operate at acceptable LOS D or better during the AM and PM peak hours when compared to the LOS standards defined in this report.

7.2 Existing With Project Traffic Conditions

Review of columns (2) and (3) of *Table 7-1* indicates that traffic associated with the proposed Project ***will not*** impact the two (2) key study intersections when compared to the LOS standards and impact criteria specified in this report. The two (2) key study intersections currently operate and are forecast to continue to operate at an acceptable LOS during the AM and PM peak hours with the addition of Project generated traffic to existing traffic.

Appendix C contains the Delay/LOS calculation worksheets for Existing and Existing With Project Traffic Conditions.

TABLE 7-1
EXISTING WITH PROJECT CONDITIONS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY

Key Intersection	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Existing With Project Traffic Conditions		(3) Impact	
			Delay	LOS	Delay	LOS	Delay Increase	Yes/No
1. Gateway Plaza at Valley Boulevard	D	AM	2.4 s/v	A	7.5 s/v	A	5.1 s/v	No
		PM	5.4 s/v	A	9.1 s/v	A	3.7 s/v	No
2. Riverside Avenue at Valley Boulevard	E	AM	43.9 s/v	D	44.9 s/v	D	1.0 s/v	No
		PM	47.7 s/v	D	48.4 s/v	D	0.7 s/v	No

Notes:

- s/v = seconds per vehicle (delay)
- **Bold Delay/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report.

8.0 EXISTING WITH AMBIENT GROWTH (YEAR 2023) WITH PROJECT ANALYSIS

Table 8-1 summarizes the AM and PM peak hour Level of Service results at the two (2) key study intersections for Existing With Ambient Growth (Year 2023) With Project traffic conditions. The first column (1) of Delay/LOS values in *Table 8-1* presents a summary of existing AM and PM peak hour traffic conditions (which were also presented in *Table 7-1*). The second column (2) presents forecast existing with ambient growth (Year 2023) traffic conditions and the third column (3) identifies forecast existing with ambient growth (Year 2023) with project traffic conditions. The fourth column (4) indicates whether the traffic associated with the Project will have an impact based on the LOS standards and the impact criteria defined in this report.

8.1 Existing With Ambient Growth (Year 2023) Without Project Traffic Conditions

An analysis of future (Year 2023) traffic conditions indicates that the addition of ambient traffic growth will not impact the two (2) key study intersections. The two (2) key study intersections are forecast to continue to operate at acceptable levels of service during the AM and PM peak hours with the addition of ambient traffic growth.

8.2 Existing With Ambient Growth (Year 2023) With Project Traffic Conditions

Review of columns (3) and (4) of *Table 8-1* indicates that traffic associated with the proposed Project will not impact the two (2) key study intersections when compared to the LOS standards and impact criteria specified in this report. The two (2) key study intersections are forecast to continue to operate at an acceptable LOS during the AM and PM peak hours with the addition of Project generated traffic to ambient traffic growth (Year 2023).

Appendix D contains the Delay/LOS calculation worksheets for Existing With Ambient Growth Year 2023 Without and With Project Traffic Conditions.

TABLE 8-1

EXISTING WITH AMBIENT GROWTH YEAR 2023 WITH PROJECT CONDITIONS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY

Key Intersection	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Existing With Ambient Growth Without Project Traffic Conditions		(3) Existing With Ambient Growth With Project Traffic Conditions		(4) Impact	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay Increase	Yes/No
1. Gateway Plaza at Valley Boulevard	D	AM	2.4 s/v	A	2.4 s/v	A	7.4 s/v	A	5.0 s/v	No
		PM	5.4 s/v	A	5.5 s/v	A	9.1 s/v	A	3.6 s/v	No
2. Riverside Avenue at Valley Boulevard	E	AM	43.9 s/v	D	46.4 s/v	D	47.7 s/v	D	1.3 s/v	No
		PM	47.7 s/v	D	50.7 s/v	D	51.4 s/v	D	0.7 s/v	No

Notes:

- s/v = seconds per vehicle (delay)
- **Bold Delay/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report.

9.0 EXISTING WITH A.G. (YEAR 2023) WITH CUMULATIVE WITH PROJECT ANALYSIS

Table 9-1 summarizes the AM and PM peak hour Level of Service results at the two (2) key study intersections for Existing With Ambient Growth (Year 2023) With Cumulative With Project traffic conditions. The first column (1) of Delay/LOS values in *Table 9-1* presents a summary of existing AM and PM peak hour traffic conditions (which were also presented in *Table 7-1*). The second column (2) presents forecast existing with ambient growth (Year 2023) with cumulative traffic conditions and the third column (3) identifies forecast existing with ambient growth (Year 2023) with cumulative with project traffic conditions. The fourth column (4) indicates whether the traffic associated with the Project will have an impact based on the LOS standards and the impact criteria defined in this report.

9.1 Existing With A.G. (Year 2023) With Cumulative Without Project Traffic Conditions

An analysis of future (Year 2023) traffic conditions indicates that the addition of ambient traffic growth and cumulative traffic will not impact the two (2) key study intersections. The two (2) key study intersections are forecast to continue to operate at acceptable levels of service during the AM and PM peak hours with the addition of ambient traffic growth and cumulative traffic.

9.2 Existing With A.G. (Year 2023) With Cumulative With Project Traffic Conditions

Review of columns (3) and (4) of *Table 9-1* indicates that traffic associated with the proposed Project will not impact the two (2) key study intersections when compared to the LOS standards and impact criteria specified in this report. The two (2) key study intersections are forecast to continue to operate at an acceptable LOS during the AM and PM peak hours with the addition of Project generated traffic to ambient traffic growth (Year 2023) and cumulative traffic.

Appendix E contains the Delay/LOS calculation worksheets for Existing With Ambient Growth Year 2023 With Cumulative Without and With Project Traffic Conditions.

TABLE 9-1

EXISTING WITH AMBIENT GROWTH YEAR 2023 WITH CUMULATIVE WITH PROJECT CONDITIONS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY

Key Intersection	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Existing With Ambient Growth With Cumulative Without Project Traffic Conditions		(3) Existing With Ambient Growth With Cumulative With Project Traffic Conditions		(4) Impact	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay Increase	Yes/No
1. Gateway Plaza at Valley Boulevard	D	AM	2.4 s/v	A	2.4 s/v	A	7.2 s/v	A	4.8 s/v	No
		PM	5.4 s/v	A	5.5 s/v	A	9.0 s/v	A	3.5 s/v	No
2. Riverside Avenue at Valley Boulevard	E	AM	43.9 s/v	D	49.9 s/v	D	51.2 s/v	D	1.3 s/v	No
		PM	47.7 s/v	D	56.2 s/v	E	57.1 s/v	E	0.9 s/v	No

Notes:

- s/v = seconds per vehicle (delay)
- **Bold Delay/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report.

10.0 SITE ACCESS AND INTERNAL CIRCULATION EVALUATION

10.1 Site Access Evaluation

As presented previously in *Figure 2-2*, access to the project site is currently provided via the intersection of Gateway Plaza at Valley Boulevard (key study intersection #1). As shown previously in *Tables 7-1, 8-1 and 9-1*, the intersection of Gateway Plaza at Valley Boulevard (key study intersection #1) is forecast to operate at acceptable LOS A during the AM and PM peak hours for all traffic analysis scenarios. As such, project access will be adequate. Motorists entering and exiting the Project site will be able to do so without undue congestion.

10.2 Internal Circulation Evaluation

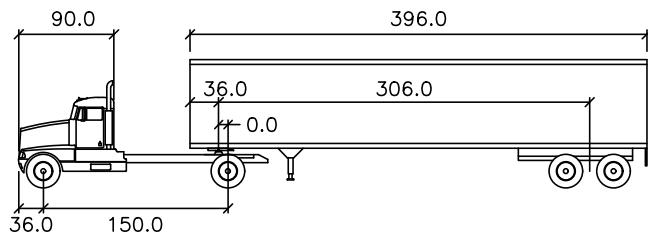
The on-site circulation as illustrated in *Figure 2-2* was evaluated in terms of vehicle-pedestrian conflicts and truck circulation. Based on our review of the site plan, the overall layout does not create significant vehicle-pedestrian conflict points. The project will provide pedestrian access to the existing sidewalk located along Valley Boulevard. Curb return radii have been confirmed and are generally adequate for small service/delivery (Fedex, UPS) trucks, trash trucks and WB-40 delivery trucks. It should be noted that a WB-40 truck is the maximum design vehicle anticipated to access the project site for deliveries. Based on information provided by the project applicant, Dutch Brothers Coffee anticipates one delivery per week on average that will typically occur in the late morning (during off peak hours) and the Express Wash anticipates one chemical delivery per month (during off peak hours). *Figure 10-1* illustrates the turning movement path of a WB-40 truck as it enters the site at the intersection of Gateway Plaza at Valley Boulevard and circulates throughout the site. As shown in *Figure 10-1*, access and circulation for a WB-40 truck is adequate.

10.3 Drive-Through Storage

The drive-through lane for Dutch Brothers Coffee will provide storage for up to seventeen (17) vehicles without encroaching into the internal drive aisles. Based on information provided by Dutch Brothers, the drive-through storage design exceeds the minimum corporate standard of fifteen (15) vehicles, which allows the store to achieve their average service times of 45-seconds per vehicle. It should be noted that additional drive-through storage is provided within a designated lane located within the internal drive aisle to further ensure that vehicles will not impact internal circulation and/or queue back to Valley Boulevard. Therefore, we conclude that adequate storage is provided for the Dutch Brothers Coffee drive-through and vehicles are not anticipated to queue back to Valley Boulevard.

The Express Wash will have the capacity to stack a minimum of twenty (20) vehicles from the pay station without encroaching into the internal drive aisles. Based on information provided by the operator, the express wash can process up to 120 vehicles per hour. Given the trip generation demand forecasted during the peak hours and the processing rate, minimal queuing is anticipated. Therefore, we conclude that adequate storage is provided for the Express Wash and vehicles are not anticipated to interfere with internal circulation and/or queue back to Valley Boulevard.

Appendix F contains the queuing requirements and average service times/processing times as provided by Dutch Brothers and the Express Wash operator.



WB-40

inches

Tractor Width	: 96.0	Lock to Lock Time	: 6.0
Trailer Width	: 96.0	Steering Angle	: 20.3
Tractor Track	: 96.0	Articulating Angle	: 70.0
Trailer Track	: 96.0		

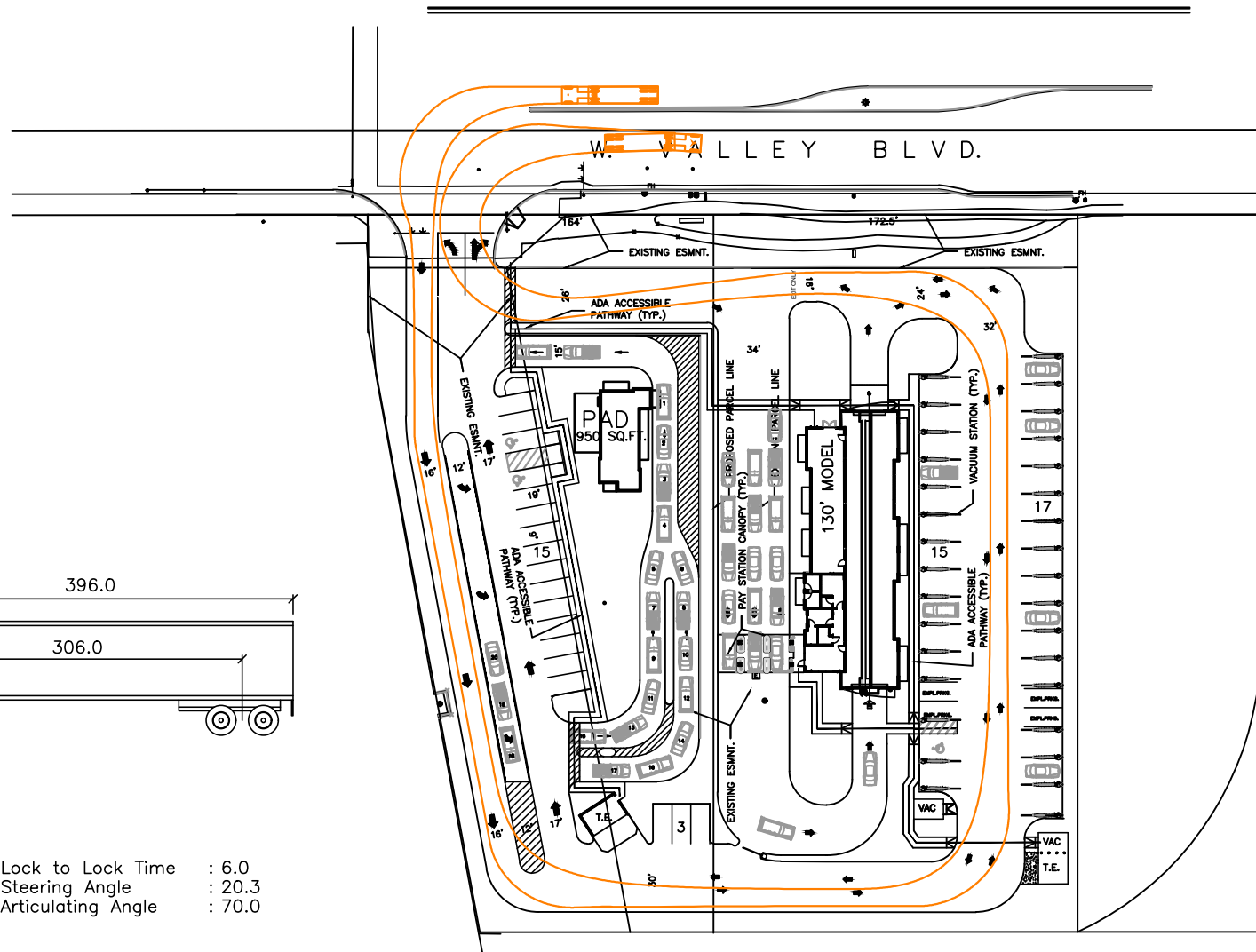


FIGURE 10-1

WB-40 TRUCK TURNING ANALYSIS

DUTCH BROTHERS COFFEE & EXPRESS WASH PROJECT, RIALTO

LINSCOTT
LAW &
GREENSPAN



NO SCALE

engineers

11.0 INTERSECTION QUEUING ANALYSIS

This section of the report addresses City of Rialto staff concerns regarding peak hour left-turn and right-turn stacking/storage lengths for the two (2) key study intersections. Specifically, the following turn pockets at the two (2) key study intersections were evaluated.

- Intersection No. 1 – Gateway Plaza at Valley Boulevard
 - Northbound left-turn lane
 - Northbound shared through/right-turn lane
 - Eastbound left-turn lane
 - Westbound left-turn lane
- Intersection No. 2 – Riverside Avenue at Valley Boulevard
 - Northbound dual left-turn lanes
 - Southbound left-turn lane
 - Eastbound left-turn lane
 - Eastbound right-turn lane
 - Westbound left-turn lane
 - Westbound right-turn lane

A queuing evaluation was prepared for the ten (10) identified turn pockets. The queuing evaluation was conducted based on Existing, Existing With Project, Existing With Ambient Growth, Existing With Ambient Growth With Project, Existing With Ambient Growth With Cumulative and Existing With Ambient Growth With Cumulative With Project peak hour traffic volumes and the Highway Capacity Manual 6th Edition (HCM 6) signalized methodology.

Table 11-1 presents the 95th percentile queuing analysis results for the aforementioned locations for Existing With Project traffic conditions. Column one (1) presents the estimated storage provided, column two (2) presents existing traffic conditions and column three (3) presents existing with project traffic conditions. Review of columns two (2) and three (3) of *Table 11-1* indicates that adequate storage is provided at all four locations at the intersection of Gateway Plaza/Valley Boulevard during the AM and PM peak hours for existing traffic conditions and existing with project traffic conditions. Further review of columns two (2) and three (3) of *Table 11-1* indicates that adequate storage is not provided for the northbound dual left-turn lanes, the eastbound left-turn lane, the eastbound right-turn lane and the westbound left-turn lane at the intersection of Riverside Avenue/Valley Boulevard during the AM and PM peak hours for existing traffic conditions and existing plus project traffic conditions. However, it should be noted that the proposed Project will add less than 25 feet to these already existing deficient storages at the intersection of Riverside Avenue/Valley Boulevard, which is considered an insignificant change.

Nonetheless, improvements have been identified/recommended at the intersection of Riverside Avenue/Valley Boulevard in order to improve the existing deficient storages at the intersection. The recommended improvements consist of restriping the number two eastbound through lane to a shared through/right-turn lane. The lower portion of *Table 11-1* shows the 95th percentile queue

lengths at the intersection of Riverside Avenue/Valley Boulevard with improvements. As shown, with recommended improvements, the existing deficient storage for the eastbound right-turn lane is now adequate and eastbound right-turning vehicles will not queue past the intersection of Gateway Plaza/Valley Boulevard. It should be noted that the other existing deficient queues generally improve with the recommended improvements and that the overall level of service for the intersection also improves. In order to further address the remaining deficient storages (i.e. the northbound dual left-turn lanes, the eastbound left-turn lane and the westbound left-turn lane), it is recommended that after completion of both the proposed Project and the recommended restriping of the second eastbound through lane to a shared through/right-turn lane that the existing signal timing be reviewed in the field and adjustments implemented (one-time adjustment), if needed, to improve the remaining deficient storages at the intersection of Riverside Avenue/Valley Boulevard.

Table 11-2 presents the 95th percentile queuing analysis results for the aforementioned locations for Year 2023 With Project traffic conditions. Column one (1) presents the estimated storage provided, column two (2) presents existing with ambient growth traffic conditions and column three (3) presents existing with ambient growth with project traffic conditions. Column four (4) presents existing with ambient growth with cumulative traffic conditions and column five (5) presents existing with ambient growth with cumulative with project traffic conditions. Review of columns two (2) through five (5) of *Table 11-2* indicates that adequate storage is provided at all four locations at the intersection of Gateway Plaza/Valley Boulevard during the AM and PM peak hours for Existing With Ambient Growth, Existing With Ambient Growth With Project, Existing With Ambient Growth With Cumulative and Existing With Ambient Growth With Cumulative With Project traffic conditions. Further review of columns two (2) through five (5) of *Table 11-2* indicates that adequate storage is not provided for the northbound dual left-turn lanes, the eastbound left-turn lane, the eastbound right-turn lane and the westbound left-turn lane at the intersection of Riverside Avenue/Valley Boulevard during the AM and PM peak hours for Existing With Ambient Growth, Existing With Ambient Growth With Project, Existing With Ambient Growth With Cumulative and Existing With Ambient Growth With Cumulative With Project traffic conditions. However, it should be noted that the proposed Project will add less than 30 feet to these already existing deficient storages at the intersection of Riverside Avenue/Valley Boulevard, which is considered an insignificant change.

Nonetheless, improvements have been identified/recommended at the intersection of Riverside Avenue/Valley Boulevard in order to improve the existing deficient storages at the intersection. The recommended improvements consist of restriping the number two eastbound through lane to a shared through/right-turn lane. The lower portion of *Table 11-2* shows the 95th percentile queue lengths at the intersection of Riverside Avenue/Valley Boulevard with improvements. As shown, with recommended improvements, the existing deficient storage for the eastbound right-turn lane is now adequate and eastbound right-turning vehicles will not queue past the intersection of Gateway Plaza/Valley Boulevard. It should be noted that the other existing deficient queues generally improve with the recommended improvements and that the overall level of service for the intersection also improves. In order to further address the remaining deficient storages (i.e. the northbound dual left-turn lanes, the eastbound left-turn lane and the westbound left-turn lane), it is

recommended that after completion of both the proposed Project and the recommended restriping of the second eastbound through lane to a shared through/right-turn lane that the existing signal timing be reviewed in the field and adjustments implemented (one-time adjustment), if needed, to improve the remaining deficient storages at the intersection of Riverside Avenue/Valley Boulevard.

Appendices C, D and E also contain the 95th percentile queuing results for Existing, Existing With Project, Existing With Ambient Growth, Existing With Ambient Growth With Project, Existing With Ambient Growth With Cumulative, Existing With Ambient Growth With Cumulative With Project Traffic Conditions and for with recommended improvements.

TABLE 11-1
EXISTING WITH PROJECT PEAK HOUR INTERSECTION QUEUING ANALYSIS

Key Study Intersection	(1) Estimated Storage Provided (feet)	(2) Existing Traffic Conditions				(3) Existing With Project Traffic Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Max. Queue/ Min. Storage Required ⁸	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required ⁸	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required ⁸	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required ⁸	Adequate Storage (Yes/No)
1. Gateway Plaza at Valley Boulevard									
Northbound Left-Turn Lane	65'	0'	Yes	0'	Yes	26'	Yes	32'	Yes
NB Shared Through/Right-Turn Lane	65'	0'	Yes	0'	Yes	48'	Yes	56'	Yes
Eastbound Left-Turn Lane	150'	9'	Yes	45'	Yes	9'	Yes	45'	Yes
Westbound Left-Turn Lane	100'	6'	Yes	24'	Yes	64'	Yes	83'	Yes
2. Riverside Avenue at Valley Boulevard									
Northbound Dual Left-Turn Lanes	205'	238'	No	357'	No	249'	No	361'	No
Southbound Left-Turn Lane	205'	92'	Yes	134'	Yes	92'	Yes	134'	Yes
Eastbound Left-Turn Lane	120'	53'	Yes	151'	No	71'	Yes	165'	No
Eastbound Right-Turn Lane	370'	628'	No	655'	No	641'	No	675'	No
Westbound Left-Turn Lane	185'	229'	No	280'	No	229'	No	280'	No
Westbound Right-Turn Lane	165'	27'	Yes	123'	Yes	27'	Yes	125'	Yes
➤ With Improvements									
Northbound Dual Left-Turn Lanes	205'	--	--	--	--	209'	No	350'	No
Southbound Left-Turn Lane	205'	--	--	--	--	78'	Yes	133'	Yes
Eastbound Left-Turn Lane	120'	--	--	--	--	61'	Yes	165'	No
Eastbound Through Lane	370'	--	--	--	--	200'	Yes	330'	Yes
Eastbound Shared Through/Right-Turn Lane	370'	--	--	--	--	294'	Yes	327'	Yes
Eastbound Right-Turn Lane	370'	--	--	--	--	294'	Yes	327'	Yes
Westbound Left-Turn Lane	185'	--	--	--	--	201'	No	260'	No
Westbound Right-Turn Lane	165'	--	--	--	--	30'	Yes	157'	Yes

⁸ Queue is based on the 95th Percentile Queues and is reported in total queue length (feet) per lane for signalized intersections.

TABLE 11-2
YEAR 2023 PEAK HOUR INTERSECTION QUEUING ANALYSIS

Key Study Intersection	(1) Estimated Storage Provided (feet)	(2) Existing With Ambient Growth Without Project Traffic Conditions				(3) Existing With Ambient Growth With Project Traffic Conditions				(4) Existing With Ambient Growth With Cumulative Without Project Traffic Conditions				(5) Existing With Ambient Growth With Cumulative With Project Traffic Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Max. Queue/ Min. Storage Required ⁹	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required ⁹	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required ⁹	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required ⁹	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required ⁹	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required ⁹	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required ⁹	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required ⁹	Adequate Storage (Yes/No)
1. Gateway Plaza at Valley Boulevard																	
Northbound Left-Turn Lane	65'	0'	Yes	0'	Yes	26'	Yes	32'	Yes	0'	Yes	0'	Yes	26'	Yes	32'	Yes
NB Shared Through/Right-Turn Lane	65'	0'	Yes	0'	Yes	48'	Yes	56'	Yes	0'	Yes	0'	Yes	48'	Yes	56'	Yes
Eastbound Left-Turn Lane	150'	9'	Yes	47'	Yes	9'	Yes	47'	Yes	9'	Yes	47'	Yes	9'	Yes	47'	Yes
Westbound Left-Turn Lane	100'	6'	Yes	25'	Yes	64'	Yes	84'	Yes	6'	Yes	25'	Yes	64'	Yes	84'	Yes
2. Riverside Avenue at Valley Boulevard																	
Northbound Dual Left-Turn Lanes	205'	239'	No	381'	No	250'	No	386'	No	269'	No	431'	No	262'	No	438'	No
Southbound Left-Turn Lane	205'	95'	Yes	141'	Yes	95'	Yes	141'	Yes	100'	Yes	152'	Yes	95'	Yes	152'	Yes
Eastbound Left-Turn Lane	120'	55'	Yes	156'	No	73'	Yes	171'	No	62'	Yes	171'	No	77'	Yes	187'	No
Eastbound Right-Turn Lane	370'	659'	No	712'	No	675'	No	742'	No	683'	No	802'	No	678'	No	831'	No
Westbound Left-Turn Lane	185'	242'	No	301'	No	242'	No	301'	No	250'	No	319'	No	251'	No	319'	No
Westbound Right-Turn Lane	165'	27'	Yes	128'	Yes	27'	Yes	130'	Yes	28'	Yes	131'	Yes	27'	Yes	133'	Yes
➤ With Improvements																	
Northbound Dual Left-Turn Lanes	205'	--	--	--	--	225'	No	363'	No	--	--	--	--	239'	No	437'	No
Southbound Left-Turn Lane	205'	--	--	--	--	85'	Yes	135'	Yes	--	--	--	--	90'	Yes	150'	Yes
Eastbound Left-Turn Lane	120'	--	--	--	--	66'	Yes	171'	No	--	--	--	--	72'	Yes	187'	No
Eastbound Through Lane	370'	--	--	--	--	213'	Yes	339'	Yes	--	--	--	--	216'	Yes	342'	Yes
Eastbound Shared Through/Right-Turn Lane	370'	--	--	--	--	319'	Yes	339'	Yes	--	--	--	--	322'	Yes	350'	Yes
Eastbound Right-Turn Lane	370'	--	--	--	--	319'	Yes	339'	Yes	--	--	--	--	322'	Yes	350'	Yes
Westbound Left-Turn Lane	185'	--	--	--	--	214'	No	264'	No	--	--	--	--	225'	No	273'	No
Westbound Right-Turn Lane	165'	--	--	--	--	32'	Yes	161'	Yes	--	--	--	--	35'	Yes	163'	Yes

⁹ Queue is based on the 95th Percentile Queues and is reported in total queue length (feet) per lane for signalized intersections.

12.0 CITY CODE PARKING ANALYSIS

Table 12-1 presents the City-code parking requirements for the proposed Project. The City-code parking calculations for the proposed Project are based on the City's requirements as outlined in the *City of Rialto Municipal Code; Chapter 18.58; Off-Street Parking*. As shown in *Table 12-1*, application of City-code parking ratios to the development totals results in a code-parking requirement of **30 spaces**. As discussed previously in Section 2.0, the proposed Project will provide 50 parking spaces. Of this total, 15 parking spaces are provided for Dutch Brothers Coffee and 35 spaces are provided for the express wash (i.e. 28 spaces with vacuums, 4 employee spaces and 3 unassigned spaces). It should be noted that the four express wash employee parking spaces will be free of any equipment, including vacuums, and will be available for express wash employees. With a proposed parking supply of 50 spaces, a parking surplus of 20 spaces is forecast and therefore, the proposed Project will provide adequate parking.

TABLE 12-1
CITY CODE PARKING REQUIREMENTS¹⁰

Project Description	Size	City of Rialto Code Parking Ratio	Spaces Required
▪ Dutch Brothers Coffee	950 SF	1.0 space for each 75 SF of gross floor area	13
▪ Express Wash	5,137 SF	1.0 space for each 300 SF of gross floor area	17
Total Spaces Required			30
Parking Supply			50
Parking Surplus/Deficiency (+/-)			+20

¹⁰ Source: *City of Rialto Municipal Code; Chapter 18.58; Off-Street Parking*.

13.0 RECOMMENDED IMPROVEMENTS

For those intersections where projected traffic volumes are expected to result in impacts, this report recommends traffic improvements that change the intersection 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. The identified improvements are expected to:

- Address the impact 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.

13.1 Existing With Project Traffic Conditions

The results of the Existing With Project traffic conditions level of service analyses indicate that the proposed Project ***will not*** impact any of the two (2) key study intersections. The two (2) key study intersections are forecast to operate at acceptable service levels under Existing With Project traffic conditions. As such, no improvement measures addressing LOS have been recommended.

The following improvements have been recommended at the intersection of Riverside Avenue/Valley Boulevard in order to improve the existing deficient storages at the intersection.

- Riverside Avenue at Valley Boulevard: Restripe the number two eastbound through lane to a shared through/right-turn lane. In order to further address the remaining deficient storages (i.e. the northbound dual left-turn lanes, the eastbound left-turn lane and the westbound left-turn lane), it is also recommended that after completion of both the proposed Project and the recommended restriping that the existing signal timing be reviewed in the field and adjustments implemented (one-time adjustment), if needed, to improve the remaining deficient storages at the intersection of Riverside Avenue/Valley Boulevard.

13.2 Existing With Ambient Growth (Year 2023) With Project Traffic Conditions

The results of the Existing With Ambient Growth (Year 2023) With Project traffic conditions level of service analyses indicate that the proposed Project ***will not*** impact any of the two (2) key study intersections. The two (2) key study intersections are forecast to operate at acceptable service levels under Existing With Ambient Growth (Year 2023) With Project traffic conditions. As such, no improvement measures addressing LOS have been recommended.

The following improvements have been recommended at the intersection of Riverside Avenue/Valley Boulevard in order to improve the existing deficient storages at the intersection.

- Riverside Avenue at Valley Boulevard: Restripe the number two eastbound through lane to a shared through/right-turn lane. In order to further address the remaining deficient storages (i.e. the northbound dual left-turn lanes, the eastbound left-turn lane and the westbound left-turn lane), it is also recommended that after completion of both the proposed Project and the recommended restriping that the existing signal timing be

reviewed in the field and adjustments implemented (one-time adjustment), if needed, to improve the remaining deficient storages at the intersection of Riverside Avenue/Valley Boulevard.

13.3 Existing With A.G. (Year 2023) With Cumulative With Project Traffic Conditions

The results of the Existing With Ambient Growth (Year 2023) With Cumulative With Project traffic conditions level of service analyses indicate that the proposed Project ***will not*** impact any of the two (2) key study intersections. The two (2) key study intersections are forecast to operate at acceptable service levels under Existing With Ambient Growth (Year 2023) With Cumulative With Project traffic conditions. As such, no improvement measures addressing LOS have been recommended.

The following improvements have been recommended at the intersection of Riverside Avenue/Valley Boulevard in order to improve the existing deficient storages at the intersection.

- Riverside Avenue at Valley Boulevard: Restripe the number two eastbound through lane to a shared through/right-turn lane. In order to further address the remaining deficient storages (i.e. the northbound dual left-turn lanes, the eastbound left-turn lane and the westbound left-turn lane), it is also recommended that after completion of both the proposed Project and the recommended restriping that the existing signal timing be reviewed in the field and adjustments implemented (one-time adjustment), if needed, to improve the remaining deficient storages at the intersection of Riverside Avenue/Valley Boulevard.

14.0 VEHICLE MILES TRAVELED (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. Lead agencies are allowed to continue using their current impact criteria, or to opt into the revised transportation guidelines. However, the new guidelines must be used starting July 1, 2020, as required in CEQA section 15064.3. The City of Rialto does not currently have Vehicle Miles Traveled (VMT) guidelines, therefore the guidelines contained within the *San Bernardino County Transportation Impact Study Guidelines*, dated July 2019 have been utilized for the project VMT screening analysis.

The *San Bernardino County Transportation Impact Study Guidelines* state that Projects which serve the local community and have the potential to reduce VMT should not be required to complete a VMT assessment. These projects are noted below:

- K-12 schools
- Local-serving retail less than 50,000 square feet
- Local parks
- Day care centers
- Local serving gas stations
- Local serving banks
- Student housing projects
- Local serving community colleges that are consistent with the assumptions noted in the RTP/SCS

As stated previously, the proposed Project will consist of a local serving 950 SF Dutch Brothers Coffee with drive-through window and a local serving express car wash with a 130 foot wash tunnel. Therefore, based on the aforementioned criteria (i.e. local-serving retail less than 50,000 square feet), this project would screen out from a VMT analysis and be presumed to have a less than significant impact on VMT, per the County's guidelines.