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RIO RANCH MARKETPLACE
TRAFFIC IMPACT ANALYSIS

ADMINISTRATIVE DRAFT REPORT

MONTEREY COUNTY, CALIFORNIA

Prepared for

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1 INTRODUCTION

This traffic study was prepared to analyze the impacts associated with the development of the proposed Rio Ranch Marketplace project located 3705 Rio Road in the Carmel Valley Master Plan Area of unincorporated Monterey County, California. **Exhibit 1** shows the location of the proposed project with respect to the local road network. **Exhibit 2** shows the proposed project site plan.

1.1 Project Description

The project site is located on a vacant 3.8-acre site on the north side of Rio Road. The proposed project includes a maximum of 42,310-square feet of commercial space in six buildings that will include a 23,000 square-foot specialty grocery store, small retail shops, restaurants and cafés, consumer-oriented professional services and two farm sheds. The farms sheds will each be 250 square-foot open-air structures with rotating uses such as casual food and beverage service, community and fundraising events, and seasonal merchants (i.e., pumpkin patch, Christmas trees, floral and agricultural products, etc.). The project will have its primary access at the Crossroads Boulevard / Rio Road intersection, which will be reconfigured from a signalized T-intersection to a signalized four-leg intersection. Secondary access will be provided through the existing Barnyard Shopping Center and Carmel Mission Inn parking areas.

1.2 Scope of Work

This study analyzes the traffic impacts of the proposed project on the surrounding roadway network. The study includes the evaluation of the following intersections:

1. State Route (SR) 1 / Carmel Valley Road (Caltrans)
2. Carmel Rancho Boulevard / Carmel Valley Road (Monterey County)
3. Rio Road / SR 1 (Caltrans)
4. Crossroads Boulevard / Rio Road (Monterey County)
5. Carmel Center Place / Rio Road (Monterey County)
6. Carmel Rancho Boulevard / Rio Road (Monterey County)
7. SR 1 / Ocean Avenue (Caltrans)
8. SR 1 / Carpenter Street (Caltrans)
9. Carmel Rancho Boulevard / Clocktower Place (Monterey County)
10. Via Nona Marie / Rio Road (Monterey County)
11. Rancho San Carlos Boulevard / Carmel Valley Road (Monterey County)
12. Valley Greens Drive / Carmel Valley Road (Monterey County)
13. SR 1 / Ribera Road (Caltrans)
14. Rio Road / Atherton Drive (Monterey County and City of Carmel)
15. Rio Road / Lasuen Drive (City of Carmel)
16. Rio Road / Santa Lucia Avenue (City of Carmel)
17. Rio Road-Junipero Street / 13th Avenue-Ridgewood Road (City of Carmel)

The study includes the evaluation of the following road segments:

1. SR 1, Carpenter Street to Ocean Avenue (Caltrans)
2. SR 1, Ocean Avenue to Carmel Valley Road (Caltrans)
3. SR 1, Carmel Valley Road to Rio Road (Caltrans)
4. SR 1, Rio Road to Ribera Road (Caltrans)
5. Rio Road, 13th Avenue to SR 1 (Monterey County and Carmel)
6. Carmel Valley Road, Robinson Canyon Road to Schulte Road (Monterey County)
7. Carmel Valley Road, Schulte Road to Rancho San Carlos Road (Monterey County)
8. Carmel Valley Road, Rancho San Carlos Road to Rio Road (Monterey County)
9. Carmel Valley Road, Rio Road to Carmel Rancho Boulevard (Monterey County)
10. Carmel Valley Road, Carmel Rancho Boulevard to SR 1 (Monterey County)
11. Carmel Rancho Boulevard, Carmel Valley Road to Rio Road (Monterey County)
12. Rio Road, Carmel Rancho Boulevard to SR 1(Monterey County)
13. SR 1, Ribera Road to Highlands Inn (Caltrans)
14. Crossroads Boulevard, Rio Road to Carmel Center Place (Monterey County)
15. Carmel Center Place, Rio Road to Crossroads Boulevard (Monterey County)

Maps showing the study intersections and road segments are provided in **Exhibits 3** and **4**, respectively. Beyond the limits of the study area, project trips disperse onto numerous local streets or regional facilities. The impact of dispersed project trips lessens as they move away from the project site. The study intersections included in the analysis were identified as potentially having the greatest impact from the project.

Weekday AM, PM, and Saturday peak hour traffic operations were analyzed for the following conditions:

1. Existing Conditions
2. Existing Plus Project Conditions
3. Background Conditions
4. Background Plus Project Conditions
5. Cumulative Conditions
6. Cumulative Plus Project Conditions

1.3 Traffic Operation Evaluation Methodologies and Level of Service Standards

The study area covers the jurisdictions of the County of Monterey, the City of Carmel-by-the-Sea, and Caltrans, and is within the Carmel Valley Master Plan area. Level of service standards and analysis methodologies for each jurisdiction and/or planning area have been applied as follows:

Traffic Operation Evaluation Methodologies

Intersection and road segment traffic operations were evaluated based on the Level of Service (LOS) concept, and the LOS standard adopted by the jurisdiction within which the intersection is located. LOS is a qualitative description of an intersection's operation, ranging from LOS A to LOS F. Level of service "A" represents free flow un-congested traffic conditions. Level of service "F" represents highly congested traffic conditions with what is commonly considered

unacceptable delay to vehicles at intersections. The intermediate levels of service represent incremental levels of congestion and delay between these two extremes.

Intersection traffic operations were evaluated using the Synchro analysis software (Version 9) which is based on the *Highway Capacity Manual (HCM) 2010* methodologies for signalized and un-signalized intersections. HCM 2000 methods were used in cases where the HCM 2010 methods do not allow the analysis of specific lane configurations or signal phasing.

Signalized and all-way stop controlled intersection operations are based on the average vehicular delay at the intersection. The average delay is then correlated to a level of service. For one-way and two-way stop controlled intersections, the vehicular delay for side street traffic is analyzed. LOS for each side street movement is based on the distribution of gaps in the major street traffic stream and driver judgment in selecting gaps. Improvements are warranted when a side street approach reaches LOS F for two-way stop controlled intersections. LOS descriptions for signalized intersections are included as **Appendix A**. LOS descriptions for one-way and two-way stop controlled intersections are included as **Appendix B**. LOS descriptions for all-way stop controlled intersections are included as **Appendix C**.

Arterial road segment operations are based on travel speed as a percentage of free flow speed, per Exhibit 17-2 of the 2010 HCM. Two-lane highway segment operations are based on percent time spent following (PTSF), per Exhibit 15-3 of the 2010 HCM. Multi-lane highway segment operations are based on density in passenger cars per mile per lane (pc/mi/ln) per Exhibit 14-4 of the 2010 HCM. LOS descriptions for arterial, two-lane highway, and multi-lane highway road segments are included as **Appendix D**. The Carmel Valley Master Plan (CVMP) also provides the following average daily traffic (ADT) volume thresholds for the study segments along Carmel Valley Road (segments 6 – 12), which are provided in **Table 1**.

Table 1
Carmel Valley Road ADT Thresholds

Segment	CVMP Threshold
6. CVR between Robinson Canyon Rd & Schulte Rd	15,499
7. CVR between Schulte Rd & Rancho San Carlos Rd	16,340
8. CVR between Rancho San Carlos Rd & Rio Rd	48,487
9. CVR between Rio Rd & Carmel Rancho Blvd	51,401
10. CVR between Carmel Rancho Blvd & SR 1	27,839
11. Carmel Rancho Blvd between CVR & Rio Rd	33,495
12. Rio Rd between Carmel Rancho Blvd & SR 1	33,928

Level of Service Standards

The Monterey County Public Works Department has established LOS D as the minimum acceptable level of service for signalized intersections and road segments. For un-signalized intersections LOS E is considered the maximum acceptable level of service for the worst movement/approach. Improvements are warranted when the minor street approach operates at

LOS F and any traffic control warrant is met. The LOS standard for the City of Carmel-by-the-Sea is LOS C.

Per the Caltrans "Guide for Preparation of Traffic Impact Studies" publication, "Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities, however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing State highway facility is operating at less than the appropriate target LOS, the existing MOE should be maintained." MOE refers to the measures of effectiveness which are used to describe the measures best suited for analyzing State highway facilities.

Except for some road segments along Carmel Valley Road, LOS C has been established as the minimum acceptable level of service for roadways and intersections within Carmel Valley. Per CVMP Policy 2.18, LOS D has been established as the minimum acceptable level of service for study segments 6 and 7, and LOS C has been established at the minimum acceptable level of service for study segments 9, 10, 11 and 12.

1.4 Criteria for Significant Project Impacts

According to the California Environmental Quality Act (CEQA) guidelines, a project may have a significant effect on the environment if it would cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system. In accordance with CEQA, specific impact criteria have been applied to the study intersections and road segments to determine if the project specific increase in traffic is substantial in relation to the existing traffic load and capacity of the street system.

The study area falls within multiple jurisdictions and planning areas, as described in Section 1.3. The significance criteria for the relevant jurisdictions and planning areas are listed below and have been applied to the analysis results.

Monterey County

A significant impact at a signalized study intersection is defined to occur under the following conditions:

- A significant impact would occur if an intersection operating at LOS A, B, C or D degrades to E or F. For intersections already operating at unacceptable level E, a significant impact would occur if a project adds 0.01 or more during peak hours to the critical movement's volume-to-capacity ratio. If the intersection is already operating at LOS F, any increase (one vehicle) in the critical movement's volume-to-capacity ratio is considered significant.

A significant impact at an unsignalized study intersection is defined to occur under the following conditions:

- A significant impact would occur if any traffic movement has LOS F and any traffic signal warrant is met.

A significant impact at a study road segment is defined to occur under the following conditions:

- A significant impact would occur if a roadway segment operating at LOS A through LOS E degrades to a lower level of service E or F. If a segment is already operating at LOS F any increase during the peak hour (one vehicle) is considered significant.

Carmel Valley Master Plan (CVMP)

The Monterey County significance criteria were applied to the study intersections that are within the Carmel Valley Master Plan Area (intersections 2, 4, 5, 6, 9, 10, 11, & 12) as follows:

A significant impact at a signalized study intersection is defined to occur under the following conditions:

- A significant impact would occur if an intersection operating at LOS A, B or C degrades to LOS D, E or F. For intersections already operating at unacceptable level D or E, a significant impact would occur if a project adds 0.01 or more during peak hours to the critical movement's volume-to-capacity ratio. If the intersection is already operating at LOS F, any increase (one vehicle) in the critical movement's volume-to-capacity ratio is considered significant.

A significant impact at an unsignalized study intersection is defined to occur under the following conditions:

- A significant impact would occur if any traffic movement has LOS F or any traffic signal warrant is met.

A significant impact on a study road segment would occur if operations degrade from LOS C or better to LOS D, E or F (segments 8, 9, 10, 11, 12) or if operations degrade from LOS D or better to LOS E or F (segments 6, 7); or if project traffic worsens the LOS of a segment operating at LOS E; or if project traffic is added to a segment operating at LOS F; or if the CVMP ADT threshold is exceeded.

Caltrans

Caltrans perceives an impact when there is any degradation in the performance measure below the cusp of C/D. If a facility is currently operating at or below LOS D, then any trips added represent a potential impact, and the performance measure should be brought back to predevelopment conditions. While a single trip added to a degraded facility is not usually reflected in the performance measure, Caltrans reserves the ability to consider a single trip as an impact. Any project trips added to a Caltrans facility operating at LOS D or below that results in an increase in the average delay at intersections or increase in Percent Time Spent Following (PTSF) on road segments is considered a significant impact in this analysis.

1.5 Funding for Transportation Improvements

Carmel Valley Traffic Impact Improvement Program

The Carmel Valley Traffic Improvement Program (CVTIP) includes a list of projects to relieve congestion and improve traffic operations on Carmel Valley Road. The CVTIP collects fees from new developments to contribute to these improvements. The traffic fees apply to projects within Carmel Valley and to projects in the Greater Carmel Valley Area that will add traffic to Carmel Valley Road. Per the Carmel Valley Traffic Improvement Program EIR, the fee amounts are updated on an annual basis.

TAMC Fee

The Transportation Agency for Monterey County (TAMC) and its member jurisdictions have adopted a county-wide, regional impact fee to cover the costs for studies and construction of many improvements throughout Monterey County. This impact fee, which went into effect on August 27, 2008, is applied to all new development within Monterey County. The governing document for the fee is the *Regional Impact Fee Nexus Study Update* (March 26, 2008) prepared by Kimley-Horn Associates, Inc. The *Regional Impact Fee Nexus Study Update* was updated again in 2013.

Monterey County Traffic Impact Fee

The 2010 Monterey County General Plan, which was adopted October 26, 2010, includes the following policies:

Policy C-1.8 Development proposed in cities and adjacent counties shall be carefully reviewed to assess the proposed development's impact on the County's circulation system. The County, in consultation with TAMC and Monterey County cities shall, within 18 months of adoption of the General Plan, develop a County Traffic Impact fee that addresses Tier 2 impacts of development in cities and unincorporated areas. From the time of adoption of the General Plan until the time of adoption of a County Traffic Impact Fee, the County shall impose an ad hoc fee on its applicants based upon a fair share traffic impact fee study.

Policy C-1.9 All available public and private sources shall be used for the funding of road and highway development, improvement and maintenance.

Policy C-1.10 The County, in coordination with TAMC and other affected agencies, shall continue efforts to improve traffic congestion at critical locations.

Policy C-1.11 In addition to the County Traffic Impact Fee established in Policy C-1.8, the County shall require new development to pay a Regional Traffic Impact Fee developed collaboratively between TAMC, the County, and other local and state agencies to ensure a funding mechanism for regional transportation improvements mitigating Traffic Tier 3 impacts.

To date, a county-wide traffic fee program has yet to be adopted. However, the County has been assessing fees for the Countywide Traffic Impact fee on an ad hoc basis per the fee program's draft fee schedule.

TAMC Measure X Transportation Safety and Investment Plan

The voters of Monterey County in November 2016 approved Measure X. It is anticipated to generate an estimated $20 million annually for a total of $600 million over thirty years through a retail transactions and use tax of a three-eighths' of one- percent (3/8%). The revenue from the sales tax measure will be used to fund transportation safety and mobility projects in Monterey County. Projects in the vicinity of Carmel Valley include safety, operations, and maintenance improvements along Carmel Valley Road, and intersection safety improvements at the Carmel Valley Road / Laureles Grade intersection. This sales tax measure will leverage additional state and federal funds to expand the total funding available for transportation improvements in the County.

2 EXISTING CONDITIONS

This section describes the existing street network relevant to the proposed project and the existing operational traffic conditions.

2.1 Existing Road Network

The key roadways near the proposed project are described below:

State Route 1 (SR 1) provides regional access to the project site. SR 1 is a major north-south roadway that connects the Monterey Peninsula with San Luis Obispo County to the south, and with Santa Cruz County and the San Francisco Bay Area to the north. SR 1 is a four-lane freeway north of Carpenter Street, a four- to five-lane (the five-lane section has a two-way center left-turn lane) roadway between Carpenter Street and Ocean Avenue, a three-lane roadway (two lanes northbound and one lane southbound) between Ocean Avenue and Carmel Valley Road, and a two-lane roadway south of Carmel Valley Road. SR 1 is part of the Monterey County Congestion Management Program (CMP) highway network and is designated as a State Scenic Highway.

Carmel Valley Road, Rio Road, and Carmel Rancho Boulevard provide local access to the project site. These roadways are described below.

Carmel Valley Road is an east-west roadway that begins at SR 1 and continues east to the City of Greenfield. Carmel Valley Road has four lanes from SR 1 to approximately 1,800 feet west of Rancho San Carlos Road. Carmel Valley Road has two lanes east of Rancho San Carlos Road. Carmel Valley Road is classified as a major arterial.

Rio Road includes two discontinuous segments of roadway east and west of the project site. The eastern part is a short north-south two-lane segment that connects to Carmel Valley Road and provides access to Carmel Middle School and the Community Church of the Monterey Peninsula. The western part is an east-west roadway with two lanes between SR 1 and Junipero Street, and four lanes between SR 1 and Val Verde Drive.

Carmel Rancho Boulevard is a four-lane north-south roadway that extends from Carmel Valley Road to Rio Road. It provides access to various commercial developments and also serves through traffic between Carmel Valley Road and SR 1 south of Rio Road.

2.2 Existing Bicycle, Pedestrian, and Transit Facilities

The County of Monterey has adopted a Bikeway Plan that designates routes along roadways that can be used by bicycling commuters and recreational riders for safe access to major employers, shopping centers and schools. Consistent with State and Federal designations, there are three basic types of bicycle facilities. Each type is described below:

1. Bike path (Class I) - A separate right-of-way designed for the exclusive use of cyclists and pedestrians, with minimal crossings for motorists.
2. Bike lane (Class II) - A lane on a regular roadway, separated from the motorized vehicle right-of-way by paint striping, designated for the exclusive or semi-exclusive

use of bicycles. Bike lanes allow one-way bike travel. Through travel by motor vehicles or pedestrians is prohibited, but crossing by pedestrians and motorists is permitted.

3. Bike route (Class III) - Provides shared use of the roadway with motorists, designated by signs or permanent markings.

Near the proposed project, Class II bike lanes are provided on the north side of Carmel Valley Road east of Carmel Rancho Boulevard, and on the south side Carmel Valley Road east of Carmel Middle School.

Sidewalks near the project site are provided on portions of Rio Road between Val Verde Drive and SR 1, and a Class I multi-use path is provided on the east side of SR 1 beginning at the Crossroads Shopping Center and continuing north to Canyon Drive.

The primary public transit service in the County of Monterey is the bus service provided by Monterey-Salinas Transit (MST). Near the project site, MST Route 24 provides bus service along Rio Road, Carmel Rancho Boulevard and Carmel Valley Road between Carmel Valley Village and the Monterey Transit Plaza with 60-minute headways during weekday peak hours. Bus stops within the study area are located on Carmel Rancho Boulevard north and south of Clock Tower Lane and on Rio Road between Carmel Center Place and Via Nona Marie.

2.3 Existing Intersection Operations

Weekday AM, PM, and Saturday peak hour turning movement counts were conducted at the study intersections in May, September, and November 2017. Peak hour traffic volumes at the commercial driveways along Rio Road between SR 1 and Carmel Rancho Boulevard were also counted. The raw traffic count data is included as **Appendix E**.

The raw traffic counts were balanced where appropriate. Weekday AM, PM, and Saturday peak hour traffic volumes at the study intersections are shown in **Exhibit 5**. Weekday AM, PM, and Saturday peak hour traffic volumes near the project site, including the commercial driveways on Rio Road, are shown in **Exhibit 6**.

Intersection levels of service are summarized in **Exhibit 7**. LOS calculation worksheets are included as **Appendix F**. The Caltrans peak hour signal warrant worksheet for the Carmel Rancho Boulevard / Clocktower Place intersection is included in **Appendix G.** Based on the level of service standards, all the study intersections operate at acceptable levels of service under Existing conditions with the following exceptions. These intersections operate at an unacceptable LOS D or E under Existing traffic conditions

- Intersection 3 – SR 1 / Rio Road – Caltrans, TAMC and Monterey County are completing the design of a second northbound SR 1 travel lane from just south of Rio Road to Carmel Valley Road where one northbound travel lane is currently provided. Additional improvements are also proposed at the Rio Road intersection including a second southbound through lane. This improvement will be constructed in the next several years.

- Intersection 8 – SR 1 / Carpenter Street – The provision of a third northbound through lane would improve traffic operations to an acceptable level. However, no improvements are currently planned at this intersection.

2.4 Existing Road Segment Operations

Peak hour segment volumes along SR 1, Rio Road, Carmel Rancho Boulevard, Crossroads Boulevard, and Carmel Center Place were derived from the traffic counts described in Section 2.3. Carmel Valley Road peak hour and Average Daily Traffic (ADT) volumes were obtained from Monterey County Department of Public Works staff. The Monterey County Department of Public Works conducts counts along Carmel Valley Road in June and October each year. The latest data available was from June and October 2016. The June and October 2016 counts were compared and the highest counts (which were conducted in October 2016) were used in the analysis. ADT volumes on Carmel Rancho Boulevard and Rio Road were also obtained from Monterey County staff. For these roadways, the June 2016 ADTs were higher, therefore the June 2016 ADT counts were used for these roadways.

Road segment levels of service are summarized in **Exhibit 8**. LOS calculation worksheets are included as **Appendix H**.

Except for segment 7, the ADT's on the roadways included in the Carmel Valley Master Plan (CVMP) are below the CVMP ADT thresholds under Existing conditions.

Based on the level of service standards, the following study road segments operate at unacceptable levels of service during the weekday AM, PM, and/or Saturday peak hours:

- Segment 2 – SB SR 1: Ocean Ave to Carmel Valley Rd
- Segment 3 – NB & SB SR 1: Carmel Valley Rd to Rio Rd
- Segment 4 – NB & SB SR 1: Rio Road to Ribera Road
- Segment 6 – EB & WB Carmel Valley Rd: Robinson Canyon Rd to Schulte Rd
- Segment 7 – EB & WB Carmel Valley Rd: Schulte Rd to Rancho San Carlos Rd
- Segment 12 – WB Rio Road: Carmel Rancho Blvd to SR 1
- Segment 13 – NB & SB SR 1: Ribera Rd to Highlands Inn

These road segments operate at an unacceptable LOS D, E, or F under Existing traffic conditions. The only scheduled segment improvement is the second northbound through lane described for Intersection 3 above. This improvement will improve traffic operations on Segment 12. No other segment improvements are currently planned.

3 PROJECT TRIP GENERATION, DISTRIBUTION, AND ASSIGNMENT

The procedures for generating and assigning project trips to the local road network are described in this section.

3.1 Project Trip Generation

The proposed project includes a maximum of 42,310-square feet of commercial space in six buildings that will include a 23,000 square-foot specialty grocery store, small retail shops, restaurants and cafés, consumer-oriented professional services and two farm sheds. The farm sheds will each be 250 square-foot open-air structures with rotating uses such as casual food and beverage service, community and fundraising events, and seasonal merchants (i.e., pumpkin patch, Christmas trees, floral and agricultural products, etc.).

Trip generation rates published by the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 9th Edition (2012) were used to estimate the trips that will be generated by the proposed project using the ITE land use code for a shopping center (820). Trips generated by the project are categorized as primary trips, pass-by and diverted linked trips, and trips to and from the existing retail businesses near the project. The project trip generation estimate is presented in **Exhibit 9**.

Pass-by trips are those turning into and out of the project site while passing directly along the project frontage on Rio Road. Diverted linked trips are vehicles already on the nearby street system who have changed their route by a block or two to patronize the project site. In this case, they would be from movements at the SR 1 / Rio Road and Carmel Rancho Boulevard / Carmel Valley Road intersections. A 15% total allowance was used for the pass-by / diverted linked trips (about 3% pass-by to and from Rio Road and 12% diverted linked trips).

Ten percent of the project trips were estimated to be to and from the approximately 400,000 square feet of existing retail businesses in the immediate vicinity of the project site (i.e., the Crossroads and Barnyard Shopping Centers). These consist of through movements across Rio Road and movements at the driveway at the back of the project site that connects to the Barnyard Shopping Center parking lot. An allowance was also made for existing traffic that would be redistributed from the Via Nona Marie / Rio Road intersection to the new project access point at the Crossroads Boulevard / Rio Road intersection.

The project is estimated to generate 3,833 gross daily trips with 92 in the AM peak hour and 337 in the PM peak hour. Accounting for pass-by and diverted linked trips, the project will generate about 2,913 net new daily trips, with 69 trips occurring during the AM peak hour (42 in, 27 out), 252 trips occurring during the PM peak hour (122 in, 130 out), and 375 trips occurring during the Saturday peak hour (195 in, 180 out).

3.2 Project Trip Distribution and Assignment

The project trip distribution, which is based on existing traffic volume data and land use patterns in the study area, is shown graphically in **Exhibit 10**. The project-generated trips were assigned to the road network using these trip distribution percentages. The project trip

assignment for the primary project trips is shown in **Exhibit 11**. The project trip assignment for the pass-by and diverted linked trips is shown in **Exhibit 12**. Project trips to and from the existing retail businesses near the project site are shown in **Exhibit 13**. Redistributed existing traffic volumes from the Via Nona Marie / Rio Road intersection to the Crossroads Boulevard / Rio Road intersection are shown in **Exhibit 14**. The primary project trips, pass-by and diverted linked trips, project trips to and from the existing retail businesses near the project site, and redistributed existing traffic volumes were combined to obtain the total net project trip assignment, which is shown in **Exhibit 15**.

4 EXISTING PLUS PROJECT CONDITIONS

This section describes existing plus project conditions. Traffic related impacts associated with project development are discussed in this section.

4.1 Existing Plus Project Intersection Operations

The total net project trip assignments were added to the existing traffic volumes to obtain Existing Plus Project traffic volumes. Existing Plus Project weekday AM, PM, and Saturday peak hour traffic volumes are shown in **Exhibit 16**. Weekday AM, PM, and Saturday peak hour traffic volumes near the project site, including the commercial driveways on Rio Road, are shown in **Exhibit 17**.

Intersection levels of service are summarized in **Exhibit 7**. LOS calculation worksheets are included as **Appendix F**. The Caltrans peak hour signal warrant worksheet for the Carmel Rancho Boulevard / Clocktower Place intersection is included in **Appendix G.** Based on the level of service standards, all the study intersections are projected to operate at acceptable levels of service under Existing Plus Project conditions with the following exceptions:

- Intersection 3 – SR 1 / Rio Road
- Intersection 8 – SR 1 / Carpenter Street

These intersections are projected to operate at an unacceptable LOS D or E under Existing Plus Project traffic conditions.

4.2 Existing Plus Project Road Segment Operations

Existing Plus Project conditions road segment levels of service are summarized in **Exhibit 8**. LOS calculation worksheets are included as **Appendix H**.

Except for segment 7, the ADT's on the roadways included in the Carmel Valley Master Plan (CVMP) are projected to be below the CVMP ADT thresholds under Existing Plus Project conditions.

Based on the level of service standards, the following study road segments are projected to operate at unacceptable levels of service during the weekday AM, PM, and/or Saturday peak hours:

- Segment 2 – SB SR 1: Ocean Ave to Carmel Valley Rd
- Segment 3 – NB & SB SR 1: Carmel Valley Rd to Rio Rd
- Segment 4 – NB & SB SR 1: Rio Road to Ribera Road
- Segment 6 – EB & WB Carmel Valley Rd: Robinson Canyon Rd to Schulte Rd
- Segment 7 – EB & WB Carmel Valley Rd: Schulte Rd to Rancho San Carlos Rd
- Segment 12 – EB & WB Rio Road: Carmel Rancho Blvd to SR 1
- Segment 13 – NB & SB SR 1: Ribera Rd to Highlands Inn

These road segments are projected to operate at an unacceptable LOS D, E, or F under Existing Plus Project traffic conditions.

4.3 Existing Plus Project Conditions Impacts

Intersections

- Intersection 3 – SR 1 / Rio Road

  Under Existing traffic conditions, this intersection operates at LOS C, D, and E during the respective AM, PM, and Saturday midday peak hours. Under Existing Plus Project conditions, it would operate at LOS D, E, and E. This intersection is under Caltrans jurisdiction. Based on the impact criteria, the project **would significantly impact** this intersection during the weekday AM, PM, and Saturday peak hours.

- Intersection 8 – SR 1 / Carpenter Street

  Under Existing traffic conditions, this intersection operates at LOS C, D, and C during the peak hours. Under Existing Plus Project conditions, it would continue to operate at LOS C, D, and C. This intersection is under Caltrans jurisdiction. Based on the impact criteria, the project **would significantly impact** this intersection during the weekday PM peak hour.

Road Segments

- Segment 2 – Southbound SR 1 between Ocean Ave and Carmel Valley Rd

  Under Existing traffic conditions, this segment operates at LOS F in the southbound direction during all three study peak hours. Under Existing Plus Project conditions, it would continue to operate at LOS F. This segment is under Caltrans jurisdiction. Based on the impact criteria, the project **would significantly impact** this segment in the southbound direction during the weekday AM, PM, and Saturday peak hours.

- Segment 3 – SR 1 between Carmel Valley Rd and Rio Rd

  Under Existing traffic conditions, this segment operates at LOS D and E in the northbound direction and LOS D in the southbound direction during the peak hours. Under Existing Plus Project conditions, although it would continue to operate at LOS D and E, it will increase the percent time spent following (PTSF) measure of effectiveness. This segment is under Caltrans jurisdiction. Based on the impact criteria, the project **would significantly impact** this segment.

- Segment 4 – SR 1 between Rio Rd and Ribera Rd

  Under Existing traffic conditions, this segment operates at LOS D in the northbound and southbound directions during the peak hours. Under Existing Plus Project conditions, although it would continue to operate at LOS D, it will increase the percent time spent following (PTSF) measure of effectiveness. This segment is under Caltrans jurisdiction. Based on the impact criteria, the project **would significantly impact** this segment.

- Segment 6 – Carmel Valley Rd between Robinson Canyon Rd and Schulte Rd

Under Existing traffic conditions, this segment operates at LOS D and E in the eastbound and westbound directions during the peak hours. Under Existing Plus Project conditions, it would continue to operate at LOS D and E. This segment is within the Carmel Valley Master Plan area. Based on the impact criteria, the project **would not impact** this segment.

- Segment 7 – Carmel Valley Rd between Schulte Rd and Rancho San Carlos Rd

  Under Existing traffic conditions, the Average Daily Traffic (ADT) volumes on this segment exceed the Carmel Valley Master Plan ADT threshold, and it operates at LOS D and E in the eastbound and westbound directions during the peak hours. Under Existing Plus Project conditions, it would continue to operate at LOS D and E during the weekday AM and PM peak hours. This segment would degrade from LOS D to LOS E in the westbound direction during the Saturday peak hour. This segment is within the Carmel Valley Master Plan area. Based on the impact criteria, the project **would impact** this segment on an ADT basis and in the westbound direction during the Saturday peak hour.

- Segment 12 – Rio Rd between Carmel Rancho Blvd and SR 1

  Under Existing traffic conditions, this segment operates at LOS D in the westbound direction during the peak hours. Under Existing Plus Project conditions, it would continue to operate at LOS D in the westbound direction. This segment would degrade from LOS C to LOS D in the eastbound direction during the weekday PM peak hour. This segment is within the Carmel Valley Master Plan area. Based on the impact criteria, the project **would impact** this segment in the eastbound direction during the weekday PM peak hour.

- Segment 13 – SR 1 between Ribera Rd and Highlands Inn

  Under Existing traffic conditions, this segment operates at LOS D in the northbound and southbound directions during the peak hours. Under Existing Plus Project conditions, although it would continue to operate at LOS D, it will increase the percent time spent following (PTSF) measure of effectiveness. This segment is under Caltrans jurisdiction. Based on the impact criteria, the project **would significantly impact** this segment.

4.4 Existing Plus Project Conditions Mitigation Measures

This section describes the recommended measures to mitigate the project's impacts on the local and regional road network.

Intersections

- Intersection 3 – SR 1 / Rio Road

  The Transportation Agency for Monterey County (TAMC) Regional Transportation Plan (RTP) includes the construction of a northbound climbing lane on SR 1 between Rio Road and Carmel Valley Road and improvements at the SR 1 / Rio Road intersection.

The planned improvements at the SR 1 / Rio Road intersection include converting the northbound SR 1 right-turn lane to a shared through/right-turn lane, and an additional southbound through lane. These improvements, in addition to a second Rio Road westbound left-turn lane that is not included in the TAMC project, would result in acceptable operations at this intersection under Existing Plus Project traffic conditions. The project would be responsible for the addition of the second westbound left turn lane. This is discussed in the Project Access and Internal Circulation section of this report.

- Intersection 8 – SR 1 / Carpenter Street

  The addition of a dedicated northbound SR 1 right-turn lane would improve operations to better than pre-project conditions. This improvement is not planned or funded. It should be implemented as a project-specific mitigation. The right turn lane should be designed to allow conversion into an optional through/right lane in the future to mitigate background, background plus project and cumulative impacts.

Road Segments

- Segment 2 – Southbound SR 1 between Ocean Ave and Carmel Valley Rd

  The construction of a second southbound lane on SR 1 between Ocean Avenue and Carmel Valley Road would result in acceptable traffic operations. However, this improvement is not planned or funded.

- Segment 3 – SR 1 between Carmel Valley Rd and Rio Rd

  The only scheduled segment improvement is the second northbound through lane described for Intersection 3 under Section 2.3 - Existing Intersection Operations. This improvement will improve traffic operations to an acceptable level.

- Segment 4 – SR 1 between Rio Rd and Ribera Rd

  Widening this segment to four lanes would improve operations to an acceptable level. However, this improvement is not planned or funded. It also would not be consistent with California Coastal Act Policy 30254 which states that “it is the intent of the Legislature that State Highway Route 1 in rural areas of the coastal zone remain a scenic two-lane road.”

- Segment 7 – Carmel Valley Rd between Schulte Rd and Rancho San Carlos Rd

  Widening this segment to two lanes in each direction would result in acceptable traffic operations. However, this improvement is not planned or funded.

- Segment 12 – Rio Rd between Carmel Rancho Blvd and SR 1

  The construction of a third eastbound lane on Rio Road between Carmel Rancho Boulevard and SR 1 would result in acceptable traffic operations. However, this improvement is not planned or funded. Traffic signal optimization along Rio Road,

including the SR 1 intersection, will partially mitigate this impact.

- Segment 13 – SR 1 between Ribera Rd and Highlands Inn

  Widening this segment to four lanes would improve operations to an acceptable level. However, this improvement is not planned or funded. It also would not be consistent with California Coastal Act Policy 30254 which states that "it is the intent of the Legislature that State Highway Route 1 in rural areas of the coastal zone remain a scenic two-lane road."

5 BACKGROUND TRAFFIC CONDITIONS

This section of the report describes the analyses of the study road network under Background traffic conditions. Background conditions models traffic conditions with traffic from approved but not yet constructed developments added to the study intersections and road segments.

5.1 Background Intersection Operations

Weekday AM, PM, and Saturday peak hour traffic generated by projects approved for development, but not yet constructed or occupied, was estimated based on trip generation rates in the Institute of Transportation Engineers' Trip Generation handbook, 9th Edition, 2012. A trip generation estimate for the approved projects is provided in **Appendix I**. The location of each approved project is shown in **Appendix J**.

The trips generated by the approved but not yet built or occupied projects were assigned to the road network and combined with the existing peak hour volumes to obtain Background traffic volumes. Weekday AM, PM, and Saturday peak hour traffic volumes at the study intersections are shown in **Exhibit 18**. Weekday AM, PM, and Saturday peak hour traffic volumes near the project site, including the commercial driveways on Rio Road, are shown in **Exhibit 19**.

Intersection levels of service are summarized in **Exhibit 7**. LOS calculation worksheets are included as **Appendix F**. The Caltrans peak hour signal warrant worksheet for the Carmel Rancho Boulevard / Clocktower Place intersection is included in **Appendix G.** Based on the level of service standards, all the study intersections are projected to operate at acceptable levels of service under Background conditions with the following exceptions:

- Intersection 3 – SR 1 / Rio Road – Improvements planned and recommended at this intersection are discussed under earlier development scenarios.
- Intersection 8 – SR 1 / Carpenter Street - Recommended improvements at this intersection are discussed under the Existing scenario.
- Intersection 12 – Valley Greens Drive / Carmel Valley Road – The northbound Valley Greens Drive approach will operate at LOS F. A roundabout is recommended, although a traffic signal is an alternative.

These intersections are projected to operate at an unacceptable LOS D, E, or F under Background traffic conditions.

5.2 Background Road Segment Operations

Road segment levels of service are summarized in **Exhibit 20**. LOS calculation worksheets are included as **Appendix H**. Except for segments 6 and 7, the ADT's on the roadways included in the Carmel Valley Master Plan (CVMP) are projected to be below the CVMP ADT thresholds under Background conditions.

Based on the level of service standards, the following study road segments are projected to operate at unacceptable levels of service during the weekday AM, PM, and/or Saturday peak hours:

- Segment 2 – SB SR 1: Ocean Ave to Carmel Valley Rd
- Segment 3 – NB & SB SR 1: Carmel Valley Rd to Rio Rd
- Segment 4 – NB & SB SR 1: Rio Road to Ribera Road
- Segment 6 – EB & WB Carmel Valley Rd: Robinson Canyon Rd to Schulte Rd
- Segment 7 – EB & WB Carmel Valley Rd: Schulte Rd to Rancho San Carlos Rd
- Segment 12 – WB Rio Road: Carmel Rancho Blvd to SR 1
- Segment 13 – NB & SB SR 1: Ribera Rd to Highlands Inn

These road segments are projected to operate at an unacceptable LOS D, E, or F under Background traffic conditions. These are same segments with deficiencies under Existing conditions. The Existing section of this report discusses the status of planned improvements affecting these segments.

6 BACKGROUND PLUS PROJECT TRAFFIC CONDITIONS

This section of the report describes the analyses of the study road network under Background Plus Project traffic conditions.

6.1 Background Plus Project Intersection Operations

The trips generated by the project were assigned to the road network and combined with the Background volumes to obtain Background Plus Project conditions traffic volumes. Background Plus Project weekday AM, PM, and Saturday peak hour traffic volumes are shown in **Exhibit 21**. Weekday AM, PM, and Saturday peak hour traffic volumes near the project site, including the commercial driveways on Rio Road, are shown in **Exhibit 22**.

Intersection levels of service are summarized in **Exhibit 7**. LOS calculation worksheets are included as **Appendix F**. The Caltrans peak hour signal warrant worksheet for the Carmel Rancho Boulevard / Clocktower Place intersection is included in **Appendix G.** Based on the level of service standards, all the study intersections are projected to operate at acceptable levels of service under Background Plus Project conditions with the following exceptions:

- Intersection 2 – Carmel Rancho Boulevard / Carmel Valley Road
- Intersection 3 – SR 1 / Rio Road
- Intersection 8 – SR 1 / Carpenter Street
- Intersection 12 – Valley Greens Drive / Carmel Valley Road

These intersections are projected to operate at an unacceptable LOS D, E, or F under Background Plus Project traffic conditions.

6.2 Background Plus Project Road Segment Operations

Background Plus Project conditions road segment levels of service are summarized in **Exhibit 20**. LOS calculation worksheets are included as **Appendix H**.

Except for segments 6 and 7, the ADT's on the roadways included in the Carmel Valley Master Plan (CVMP) are projected to be below the CVMP ADT thresholds under Background Plus Project conditions.

Based on the level of service standards, the following study road segments are projected to operate at unacceptable levels of service during the weekday AM, PM, and/or Saturday peak hours:

- Segment 2 – SB SR 1: Ocean Ave to Carmel Valley Rd
- Segment 3 – NB & SB SR 1: Carmel Valley Rd to Rio Rd
- Segment 4 – NB & SB SR 1: Rio Road to Ribera Road
- Segment 6 – EB & WB Carmel Valley Rd: Robinson Canyon Rd to Schulte Rd
- Segment 7 – EB & WB Carmel Valley Rd: Schulte Rd to Rancho San Carlos Rd
- Segment 12 – EB & WB Rio Road: Carmel Rancho Blvd to SR 1
- Segment 13 – NB & SB SR 1: Ribera Rd to Highlands Inn

These road segments are projected to operate at an unacceptable LOS D, E, or F under Background Plus Project traffic conditions. These are the same segments identified under all previous development scenarios.

6.3 Background Plus Project Conditions Impacts

Intersections

- Intersection 2 – Carmel Rancho Boulevard / Carmel Valley Road

  Under Background traffic conditions, this intersection is projected to operate at LOS C during the peak hours. Under Background Plus Project conditions, it would operate at LOS C during the AM and Saturday peak hours and LOS D during the PM peak hour. This intersection is under Caltrans jurisdiction. Based on the impact criteria, the project **would significantly impact** this intersection during the weekday PM peak hour.

- Intersection 3 – SR 1 / Rio Road

  Under Background traffic conditions, this intersection is projected to operate at LOS D during the AM and PM peak hours and LOS E during the Saturday peak hour. Under Background Plus Project conditions, it would operate at LOS D during the AM peak hour and LOS E during the PM and Saturday peak hours. This intersection is under Caltrans jurisdiction. Based on the impact criteria, the project **would significantly impact** this intersection during the weekday AM, PM, and Saturday peak hours.

- Intersection 8 – SR 1 / Carpenter Street

  Under Background traffic conditions, this intersection is projected to operate at LOS C during the AM and Saturday peak hours and LOS D during the PM peak hour. Under Background Plus Project conditions, it would continue to operate at LOS C during the AM and Saturday peak hours and LOS D during the PM peak hour. This intersection is under Caltrans jurisdiction. Based on the impact criteria, the project **would significantly impact** this intersection during the weekday PM peak hour.

- Intersection 12 – Valley Greens Drive / Carmel Valley Road

  Under Background traffic conditions, this intersection is projected to operate at LOS E during the AM and Saturday peak hours and LOS F during the PM peak hour. Under Background Plus Project conditions, it would operate at LOS F during the AM, PM, and Saturday peak hours. This intersection is within the Carmel Valley Master Plan area. Based on the impact criteria, the project **would significantly impact** this intersection during the weekday AM, PM, and Saturday peak hours.

Road Segments

- Segment 2 – Southbound SR 1 between Ocean Ave and Carmel Valley Rd

  Under Background traffic conditions, this segment is projected to operate at LOS F in the

southbound direction during the peak hours. Under Background Plus Project conditions, it would continue to operate at LOS F. This segment is under Caltrans jurisdiction. Based on the impact criteria, the project **would significantly impact** this segment in the southbound direction during the weekday AM, PM, and Saturday peak hours.

- Segment 3 – SR 1 between Carmel Valley Rd and Rio Rd

  Under Background traffic conditions, this segment is projected to operate at LOS D and E in the northbound direction and LOS D in the southbound direction during the peak hours. Under Background Plus Project conditions, although it would continue to operate at LOS D and E without the currently planned additional northbound SR 1 through lane, it will increase the percent time spent following (PTSF) measure of effectiveness. This segment is under Caltrans jurisdiction. Based on the impact criteria, the project **would significantly impact** this segment.

- Segment 4 – SR 1 between Rio Rd and Ribera Rd

  Under Background traffic conditions, this segment is projected to operate at LOS D in the northbound and southbound directions during the peak hours. Under Background Plus Project conditions, although it would continue to operate at LOS D, it will increase the percent time spent following (PTSF) measure of effectiveness. This segment is under Caltrans jurisdiction. Based on the impact criteria, the project **would impact** this segment.

- Segment 6 – Carmel Valley Rd between Robinson Canyon Rd and Schulte Rd

  Under Background traffic conditions, the Average Daily Traffic (ADT) volumes on this segment are projected to exceed the Carmel Valley Master Plan ADT threshold, and it would operate at LOS D and E in the eastbound and westbound directions during the peak hours. Under Background Plus Project conditions, it would continue to exceed the ADT threshold and would operate at LOS D and E during the peak hours. This segment is within the Carmel Valley Master Plan area. Based on the impact criteria, the project **would impact** this segment on an ADT basis.

- Segment 7 – Carmel Valley Rd between Schulte Rd and Rancho San Carlos Rd

  Under Background traffic conditions, the Average Daily Traffic (ADT) volumes on this segment are projected to exceed the Carmel Valley Master Plan ADT threshold, and it would operate at LOS D and E in the eastbound and westbound directions during the peak hours. Under Background Plus Project conditions, it would continue to exceed the ADT threshold and would operate at LOS D and E during the weekday AM and PM peak hours. This segment would degrade from LOS D to LOS E in the westbound direction during the Saturday peak hour. This segment is within the Carmel Valley Master Plan area. Based on the impact criteria, the project **would significantly impact** this segment on an ADT basis and in the westbound direction during the Saturday peak hour.

- Segment 12 – Rio Rd between Carmel Rancho Blvd and SR 1

Under Background traffic conditions, this segment is projected to operate at LOS D in the westbound direction during the peak hours. Under Background Plus Project conditions, it would continue to operate at LOS D in the westbound direction. This segment would degrade from LOS C to LOS D in the eastbound direction during the weekday PM peak hour. This segment is within the Carmel Valley Master Plan area. Based on the impact criteria, the project **would significantly impact** this segment in the eastbound direction during the weekday PM peak hour.

- Segment 13 – SR 1 between Ribera Rd and Highlands Inn

  Under Background traffic conditions, this segment is projected to operate at LOS D in the northbound and southbound directions during the peak hours. Under Background Plus Project conditions, it would degrade from LOS C to LOS D in the southbound direction during the PM peak hour. In addition, it will increase the percent time spent following (PTSF) measure of effectiveness in the PM and Saturday peak hours. This segment is under Caltrans jurisdiction. Based on the impact criteria, the project **would significantly impact** this segment.

6.4 Background Plus Project Conditions Mitigation Measures

This section describes the recommended measures to mitigate the project's impacts on the local and regional road network.

Intersections

- Intersection 2 – Carmel Rancho Boulevard / Carmel Valley Road

  The addition of an eastbound right-turn overlap phase would reduce delay at this intersection, but it would still operate at a deficient LOS D during the PM peak hour under Background Plus Project traffic conditions. This improvement would only partially mitigate this impact. There would be a remaining unmitigated significant impact.

- Intersection 3 – SR 1 / Rio Road

  The Transportation Agency for Monterey County (TAMC) Regional Transportation Plan (RTP) includes the construction of a northbound climbing lane on SR 1 between Rio Road and Carmel Valley Road and improvements at the SR 1 / Rio Road intersection. The planned improvements at the SR 1 / Rio Road intersection include converting the northbound right-turn lane to a shared through/right-turn lane, and an additional southbound through lane. These improvements, in addition to a second westbound left-turn lane, would result in acceptable operations at this intersection under Background Plus Project traffic conditions. The second westbound left turn lane will be the responsibility of the project. This is discussed in more detail in the Project Access and Internal Circulation section of this report.

- Intersection 8 – SR 1 / Carpenter Street

With the addition of a third northbound through lane, this intersection would operate at an acceptable LOS C during the weekday AM, PM, and Saturday peak hours under Background Plus Project traffic conditions. This improvement is not planned or funded.

- Intersection 12 – Valley Greens Drive / Carmel Valley Road

  Converting this intersection from two-way stop control to a roundabout would result in acceptable traffic operations during the weekday AM, PM, and Saturday peak hours under Background Plus Project traffic conditions. A traffic signal is an alternative improvement. The project is responsible for a fair-share contribution to this improvement. Payment of the CVTIP impact fee will satisfy this requirement.

Road Segments

- Segment 2 – Southbound SR 1 between Ocean Ave and Carmel Valley Rd

  The construction of a second southbound lane on SR 1 between Ocean Avenue and Carmel Valley Road would result in acceptable traffic operations. However, this improvement is not planned or funded.

- Segment 3 – SR 1 between Carmel Valley Rd and Rio Rd

  The only scheduled segment improvement is the second northbound through lane described for Intersection 3 under Section 2.3 - Existing Intersection Operations. This improvement will improve traffic operations to an acceptable level.

- Segment 4 – SR 1 between Rio Rd and Ribera Rd

  Widening this segment to four lanes would improve operations to an acceptable level. However, this improvement is not planned or funded. It also would not be consistent with California Coastal Act Policy 30254 which states that “it is the intent of the Legislature that State Highway Route 1 in rural areas of the coastal zone remain a scenic two-lane road.”

- Segment 6 – Carmel Valley Rd between Robinson Canyon Rd and Schulte Rd

  Widening this segment to two lanes in each direction would result in acceptable traffic operations. However, this improvement is not planned or funded.

- Segment 7 – Carmel Valley Rd between Schulte Rd and Rancho San Carlos Rd

  Widening this segment to two lanes in each direction would result in acceptable traffic operations. However, this improvement is not planned or funded.

- Segment 12 – Rio Rd between Carmel Rancho Blvd and SR 1

  The construction of a third eastbound lane on Rio Road between Carmel Rancho Boulevard and SR 1 would result in acceptable traffic operations. However, this

improvement is not planned or funded.

- Segment 13 – SR 1 between Ribera Rd and Highlands Inn

  Widening SR 1 to four lanes would result in acceptable traffic operations. However, this improvement is not planned or funded. It also would not be consistent with California Coastal Act Policy 30254 which states that “it is the intent of the Legislature that State Highway Route 1 in rural areas of the coastal zone remain a scenic two-lane road.”

7 CUMULATIVE TRAFFIC CONDITIONS

This section describes the analysis and results for 2035 cumulative conditions.

7.1 Cumulative Conditions Intersection Operations

Cumulative traffic volumes are based on the 2035 traffic volume forecasts from the 2014 AMBAG Regional Traffic Demand Model (RTDM) and proposed but not yet approved projects location within Carmel Valley. Traffic increases due to the list of pending projects were generally given precedence over the RTDM forecasts in the vicinity of the project because they are local in nature, result in higher volume forecasts than the RTDM, can be assigned to the network more accurately than a regional model and provide a more conservative estimate of future traffic volumes. The RTDM forecasts were used in areas where the addition of traffic from pending projects resulted in lower volumes than the RTDM forecasts, again providing a more conservative analysis.

Weekday AM, PM, and Saturday peak hour traffic generated by pending projects was estimated based on trip generation rates in the *Trip Generation* handbook, Institute of Transportation Engineers, 9th Edition, 2012. A trip generation estimate for the cumulative projects is provided in **Appendix K**. The location of each cumulative project is shown in **Appendix L**. The AMBAG 2014 and 2035 daily traffic model plots for the study area are provided in **Appendix M**.

Trips generated by the cumulative projects were assigned to the road network and combined with the Background traffic volumes to estimate Cumulative traffic volumes. Weekday AM, PM, and Saturday peak hour traffic volumes at the study intersections are shown in **Exhibit 23**. Weekday AM, PM, and Saturday peak hour traffic volumes near the project site, including the commercial driveways on Rio Road, are shown in **Exhibit 24**.

Intersection levels of service are summarized in **Exhibit 7**. LOS calculation worksheets are included as **Appendix F**. The Caltrans peak hour signal warrant worksheet for the Carmel Rancho Boulevard / Clocktower Place intersection is included in **Appendix G.** Based on the level of service standards, all the study intersections are forecasted to operate at acceptable levels of service under Cumulative conditions with the following exceptions:

- Intersection 3 – SR 1 / Rio Road
- Intersection 7 – SR 1 / Ocean Avenue
- Intersection 8 – SR 1 / Carpenter Street
- Intersection 12 – Valley Greens Drive / Carmel Valley Road
- Intersection 13 – SR 1 / Ribera Road

These intersections are projected to operate at an unacceptable LOS D, E, or F under Cumulative traffic conditions.

7.2 Cumulative Road Segment Operations

Road segment levels of service are summarized in **Exhibit 25**. LOS calculation worksheets are

included as **Appendix H**. Except for segments 6 and 7, the ADT's on the roadways included in the Carmel Valley Master Plan (CVMP) are projected to be below the CVMP ADT thresholds under Cumulative conditions.

Based on the level of service standards, the following study road segments are projected to operate at unacceptable levels of service during the weekday AM, PM, and/or Saturday peak hours:

- Segment 2 – SB SR 1: Ocean Ave to Carmel Valley Rd
- Segment 3 – NB & SB SR 1: Carmel Valley Rd to Rio Rd
- Segment 4 – NB & SB SR 1: Rio Road to Ribera Road
- Segment 6 – EB & WB Carmel Valley Rd: Robinson Canyon Rd to Schulte Rd
- Segment 7 – EB & WB Carmel Valley Rd: Schulte Rd to Rancho San Carlos Rd
- Segment 12 – WB Rio Road: Carmel Rancho Blvd to SR 1
- Segment 13 – NB & SB SR 1: Ribera Rd to Highlands Inn

These road segments are projected to operate at an unacceptable LOS D, E, or F under Cumulative traffic conditions.

8 CUMULATIVE PLUS PROJECT TRAFFIC CONDITIONS

This section describes the analysis and results for 2035 cumulative conditions with the proposed project.

8.1 Cumulative Plus Project Intersection Operations

The trips generated by the project were combined with the Cumulative volumes to obtain Cumulative Plus Project conditions traffic volumes. Cumulative Plus Project weekday AM, PM, and Saturday peak hour traffic volumes are shown in **Exhibit 26**. Weekday AM, PM, and Saturday peak hour traffic volumes near the project site, including the commercial driveways on Rio Road, are shown in **Exhibit 27**.

Intersection levels of service are summarized in **Exhibit 7**. LOS calculation worksheets are included as **Appendix F**. The Caltrans peak hour signal warrant worksheet for the Carmel Rancho Boulevard / Clocktower Place intersection is included in **Appendix G.** Based on the level of service standards, all the study intersections are projected to operate at acceptable levels of service under Cumulative Plus Project conditions with the following exceptions:

- Intersection 2 – Carmel Rancho Boulevard / Carmel Valley Road
- Intersection 3 – SR 1 / Rio Road
- Intersection 7 – SR 1 / Ocean Avenue
- Intersection 8 – SR 1 / Carpenter Street
- Intersection 12 – Valley Greens Drive / Carmel Valley Road
- Intersection 13 – SR 1 / Ribera Road

These intersections are projected to operate at an unacceptable LOS D, E, or F under Cumulative Plus Project traffic conditions.

8.2 Cumulative Plus Project Road Segment Operations

Cumulative Plus Project conditions road segment levels of service are summarized in **Exhibit 25**. LOS calculation worksheets are included as **Appendix H**.

Except for segments 6 and 7, the ADT's on the roadways included in the Carmel Valley Master Plan (CVMP) are projected to be below the CVMP ADT thresholds under Cumulative Plus Project conditions.

Based on the level of service standards, the following study road segments are projected to operate at unacceptable levels of service during the weekday AM, PM, and/or Saturday peak hours:

- Segment 2 – SB SR 1: Ocean Ave to Carmel Valley Rd
- Segment 3 – NB & SB SR 1: Carmel Valley Rd to Rio Rd
- Segment 4 – NB & SB SR 1: Rio Road to Ribera Road
- Segment 6 – EB & WB Carmel Valley Rd: Robinson Canyon Rd to Schulte Rd
- Segment 7 – EB & WB Carmel Valley Rd: Schulte Rd to Rancho San Carlos Rd

- Segment 12 – EB & WB Rio Road: Carmel Rancho Blvd to SR 1
- Segment 13 – NB & SB SR 1: Ribera Rd to Highlands Inn

These road segments are projected to operate at an unacceptable LOS D, E, or F under Cumulative Plus Project traffic conditions.

8.3 Cumulative Plus Project Conditions Impacts

Intersections

- Intersection 2 – Carmel Rancho Boulevard / Carmel Valley Road

  Under Cumulative traffic conditions, this intersection is projected to operate at LOS C during the peak hours. Under Cumulative Plus Project conditions, it would operate at LOS C during the AM and Saturday peak hours and LOS D during the PM peak hour. This intersection is under Caltrans jurisdiction. Based on the impact criteria, the project **would impact** this intersection during the weekday PM peak hour.

- Intersection 3 – SR 1 / Rio Road

  Under Cumulative traffic conditions, this intersection is projected to operate at LOS D during the AM peak hour and LOS E during the PM and Saturday peak hours. Under Cumulative Plus Project conditions, it would operate at LOS D during the AM peak hour, LOS E during the PM peak hour, and LOS F during the Saturday peak hour. This intersection is under Caltrans jurisdiction. Based on the impact criteria, the project **would impact** this intersection during the weekday AM, PM, and Saturday peak hours.

- Intersection 7 – SR 1 / Ocean Avenue

  Under Cumulative traffic conditions, this intersection is projected to operate at LOS D during the AM and Saturday peak hours. Under Cumulative Plus Project conditions, it would operate at LOS D during the AM, PM, and Saturday peak hours. This intersection is under Caltrans jurisdiction. Based on the impact criteria, the project **would impact** this intersection during the weekday PM and Saturday peak hours.

- Intersection 8 – SR 1 / Carpenter Street

  Under Cumulative traffic conditions, this intersection is projected to operate at LOS C during the AM and Saturday peak hours and LOS D during the PM peak hour. Under Cumulative Plus Project conditions, it would continue to operate at LOS C during the AM and Saturday peak hours and LOS D during the PM peak hour. This intersection is under Caltrans jurisdiction. Based on the impact criteria, the project **would impact** this intersection during the weekday PM peak hour.

- Intersection 12 – Valley Greens Drive / Carmel Valley Road

  Under Cumulative traffic conditions, this intersection is projected to operate at LOS F during the AM, PM, and Saturday peak hours. Under Cumulative Plus Project conditions,

it would continue to operate at LOS F during the AM, PM, and Saturday peak hours. This intersection is within the Carmel Valley Master Plan area. Based on the impact criteria, the project **would impact** this intersection during the weekday AM, PM, and Saturday peak hours.

- Intersection 13 – SR 1 / Ribera Road

  Under Cumulative traffic conditions, the worst approach of this intersection is projected to operate at an acceptable LOS C and LOS E during the AM and PM peak hours and an unacceptable LOS F during the Saturday peak hour. Under Cumulative Plus Project conditions, it would continue to operate at LOS C during the AM and would operate at an unacceptable LOS F during the PM and Saturday peak hours. This intersection is under Caltrans jurisdiction. Based on the impact criteria, the project **would impact** this intersection during the weekday PM and Saturday peak hours.

Road Segments

- Segment 2 – Southbound SR 1 between Ocean Ave and Carmel Valley Rd

  Under Cumulative traffic conditions, this segment is projected to operate at LOS F in the southbound direction during the peak hours. Under Cumulative Plus Project conditions, it would continue to operate at LOS F. This segment is under Caltrans jurisdiction. Based on the impact criteria, the project **would significantly impact** this segment in the southbound direction during the weekday AM, PM, and Saturday peak hours.

- Segment 3 – SR 1 between Carmel Valley Rd and Rio Rd

  Under Cumulative conditions, this segment is projected to operate at LOS D and E in the northbound and southbound directions during the peak hours. Under Cumulative Plus Project conditions, it would continue to operate at LOS D and E. However, it will increase the percent time spent following (PTSF) measure of effectiveness. This segment is under Caltrans jurisdiction. Based on the impact criteria, the project **would significantly impact** this segment.

- Segment 4 – SR 1 between Rio Rd and Ribera Rd

  Under Cumulative traffic conditions, this segment is projected to operate at LOS D or E in the northbound and southbound directions during the peak hours. Under Cumulative Plus Project conditions, it would degrade from LOS D to LOS E in the northbound direction during the Saturday peak hour. It will also increase the percent time spent following (PTSF) measure of effectiveness in the PM and Saturday peak hours. This segment is under Caltrans jurisdiction. Based on the impact criteria, the project **would significantly impact** this segment.

- Segment 6 – Carmel Valley Rd between Robinson Canyon Rd and Schulte Rd

  Under Cumulative traffic conditions, the Average Daily Traffic (ADT) volumes on this

segment are projected to exceed the Carmel Valley Master Plan ADT threshold, and it would operate at LOS D and E in the eastbound and westbound directions during the peak hours. Under Cumulative Plus Project conditions, it would continue to exceed the ADT threshold and would operate at LOS D and E during the peak hours. This segment is within the Carmel Valley Master Plan area. Based on the impact criteria, the project **would impact** this segment on an ADT basis.

- Segment 7 – Carmel Valley Rd between Schulte Rd and Rancho San Carlos Rd

  Under Cumulative traffic conditions, the Average Daily Traffic (ADT) volumes on this segment are projected to exceed the Carmel Valley Master Plan ADT threshold, and it would operate at LOS D and E in the eastbound and westbound directions during the peak hours. Under Cumulative Plus Project conditions, it would degrade from LOS D to LOS E in the westbound direction during the PM peak hour and would continue to exceed the ADT threshold. This segment is within the Carmel Valley Master Plan area. Based on the impact criteria, the project **would impact** this segment on an ADT basis and in the westbound direction during the PM peak hour.

- Segment 12 – Rio Rd between Carmel Rancho Blvd and SR 1

  Under Cumulative traffic conditions, this segment is projected to operate at LOS D in the westbound direction during the peak hours. Under Cumulative Plus Project conditions, it would continue to operate at LOS D in the westbound direction. This segment would degrade from LOS C to LOS D in the eastbound direction during the weekday PM peak hour. This segment is within the Carmel Valley Master Plan area. Based on the impact criteria, the project **would impact** this segment in the eastbound direction during the weekday PM peak hour.

- Segment 13 – SR 1 between Ribera Rd and Highlands Inn

  Under Cumulative traffic conditions, this segment is projected to operate at LOS D and E in the northbound and southbound directions during the peak hours. Under Cumulative Plus Project conditions, it would continue to operate at LOS D and E. However, it will increase the percent time spent following (PTSF) measure of effectiveness. This segment is under Caltrans jurisdiction. Based on the impact criteria, the project **would not impact** this segment.

8.4 Cumulative Plus Project Conditions Mitigation Measures

This section describes the recommended measures to mitigate the project's impacts on the local and regional road network.

Intersections

- Intersection 2 – Carmel Rancho Boulevard / Carmel Valley Road

  The addition of an eastbound right-turn overlap phase would reduce delay at this intersection, but it would still operate at a deficient LOS D during the PM peak hour

under Cumulative Plus Project traffic conditions. The project impact will only be partially mitigated. The project will have an unmitigated significant impact.

- Intersection 3 – SR 1 / Rio Road

  The Transportation Agency for Monterey County (TAMC) Regional Transportation Plan (RTP) includes the construction of a northbound climbing lane on SR 1 between Rio Road and Carmel Valley Road and improvements at the SR 1 / Rio Road intersection. The planned improvements at the SR 1 / Rio Road intersection include converting the northbound right-turn lane to a shared through/right-turn lane, and an additional southbound through lane. These improvements, in addition to a second westbound left-turn lane to be constructed by the project, would result in acceptable operations at this intersection during the AM peak hour under Cumulative Plus Project traffic conditions. The intersection would still operate at a deficient LOS D during the PM and Saturday peak hours, but would have less delay than under Existing conditions. Impacts at this intersection will be fully mitigated.

- Intersection 7 – SR 1 / Ocean Avenue

  There are no planned or funded improvements at this intersection. The project will contribute to a cumulative impact at this location.

- Intersection 8 – SR 1 / Carpenter Street

  With the addition of a third northbound through lane, this intersection would operate at an acceptable LOS C during the weekday AM, PM, and Saturday peak hours under Cumulative Plus Project traffic conditions.

- Intersection 12 – Valley Greens Drive / Carmel Valley Road

  Converting this intersection from two-way stop control to a roundabout would result in acceptable traffic operations during the weekday AM, PM, and Saturday peak hours under Cumulative Plus Project traffic conditions. A traffic signal is an alternative improvement. The project is responsible for a fair-share contribution to this improvement. Payment of the CVTIP impact fee will satisfy this requirement.

- Intersection 13 – SR 1 / Ribera Road

  There are no planned or funded improvements at this intersection. The project will contribute to a cumulative impact at this location.

<u>Road Segments</u>

- Segment 2 – Southbound SR 1 between Ocean Ave and Carmel Valley Rd

  The construction of a second southbound lane on SR 1 between Ocean Avenue and Carmel Valley Road would result in acceptable traffic operations. However, this improvement is not planned or funded. The project will contribute to a cumulative impact at this location.

- Segment 3 – SR 1 between Carmel Valley Rd and Rio Rd

  The only scheduled segment improvement is the second northbound through lane described for Intersection 3 under Section 2.3 - Existing Intersection Operations. This improvement will improve traffic operations to an acceptable level.

- Segment 4 – SR 1 between Rio Rd and Ribera Rd

  Widening this segment to four lanes would improve operations to an acceptable level. However, this improvement is not planned or funded. It also would not be consistent with California Coastal Act Policy 30254 which states that "it is the intent of the Legislature that State Highway Route 1 in rural areas of the coastal zone remain a scenic two-lane road."

- Segment 6 – Carmel Valley Rd between Robinson Canyon Rd and Schulte Rd

  Widening this segment to two lanes in each direction would result in acceptable traffic operations. However, this improvement is not planned or funded. The project will contribute to a cumulative impact at this location.

- Segment 7 – Carmel Valley Rd between Schulte Rd and Rancho San Carlos Rd

  Widening this segment to two lanes in each direction would result in acceptable traffic operations. However, this improvement is not planned or funded. The project will contribute to a cumulative impact at this location.

- Segment 12 – Rio Rd between Carmel Rancho Blvd and SR 1

  The construction of a third eastbound lane on Rio Road between Carmel Rancho Boulevard and SR 1 would result in acceptable traffic operations. However, this improvement is not planned or funded. The project will contribute to a cumulative impact at this location.

- Segment 13 – SR 1 between Ribera Rd and Highlands Inn

  Widening SR 1 to four lanes would result in acceptable traffic operations. However, this improvement is not planned or funded. It also would not be consistent with California Coastal Act Policy 30254 which states that "it is the intent of the Legislature that State Highway Route 1 in rural areas of the coastal zone remain a scenic two-lane road."

9 PROJECT ACCESS AND INTERNAL CIRCULATION

The project is proposed to include the main driveway (primary access) as a new north leg at the existing Crossroads Boulevard / Rio Road intersection. Secondary Access 1 will be provided on the west boundary of the project at the existing main driveway to the Carmel Mission Inn along the east side of the existing Chevron Gas Station. Secondary Access 2 will be provided at the north corner of the project that will connect to Clocktower Place in the southwest corner of the existing Barnyard parking lot. Secondary Access 3 will be provided as an extension of the main driveway aisle to the existing traffic circle near the lobby entrance of the Carmel Mission Inn. Each of these driveways are discussed below.

9.1 Rio Road Main Project Driveway (Primary Access)

The main project driveway will be an extension of Crossroads Boulevard, creating the fourth leg at this existing signalized intersection. The driveway will include two inbound lanes, one of which will extend through the main parking lot to the circulation aisle that will connect the two secondary driveways. The second lane will be a right turn only lane that will serve traffic destined for the Grocery Store and Stores A and B, all located along the project's east property line. Two exit lanes will be provided. The inside lane will be a left/through lane. The outside lane will be a right turn only lane.

Impact: The first on-site intersection will experience traffic conflicts that could impede the flow of inbound traffic. There is the potential of queue spillover onto Rio Road.

Mitigations:

a. Install stop signs on the three outbound legs of the first on-site intersection.
b. Provide crosswalks across all three stop-controlled approaches.
c. Incorporate the proposed sidewalk between the Grocery Store and Store B on the westerly corner of the site into the landscape islands.
d. Install all-way stop control at the cross-aisle intersection immediately south of Secondary Access 3.

Right turns entering the site from westbound Rio Road will use the existing outside westbound through lane. The volumes are expected to be low because project traffic from the east will be able to enter the project site from Carmel Rancho Boulevard via Clocktower Place. A right turn lane will not be required.

Traffic volumes between the project and the Crossroads Shopping Center will be low and will not require a separate lane.

Impact: Eastbound left turns into the project will add 128 left turns to the existing U-turn volume of 71 (199 total) in the weekday evening and 200 left turns to the existing U-turn volume 84 (284 total) in the midday on Saturday. Thjs would overflow beyond the existing 135-foot left turn lane, thus blocking the inside eastbound Rio Road through lane and increasing congestion

along Rio Road. The overflow of left turning vehicles into the adjacent travel lane would also create a potentially hazardous condition.

The following mitigations would reduce the impact to less-than-significant:

a. Lengthen the existing left turn lane from its current 170-foot left turn lane (130 feet of striping) to approximately 265 feet.
b. Extending the length of the existing left turn lane will require the existing 265-foot westbound left turn lane onto southbound Highway 1 to be shortened by an equal 95 feet. However, Caltrans and the Transportation Agency for Monterey County (TAMC) are completing the design of a second northbound lane on Highway 1 that will widen Highway 1 by about 30 feet to the east. This will also reduce the length of the westbound Rio Road left turn lane by an equivalent amount. The result will be that the left turn lane will be shortened by a total of 125 feet to about 140 feet, assuming a 60-foot bay taper separating the eastbound left turn lane into the Rio Ranch Shopping Center and the westbound left turn lane onto southbound Highway 1. This will not accommodate the anticipated 178 evening and 220 Saturday midday peak hour left turn volumes. It is recommended that a second westbound left turn lane be added. This will require a 90-foot bay taper, resulting in two left turn lanes each with a length of about 115 feet. The addition of the second left turn lane will require widening Rio Road 11 feet to the south between Highway 1 and the westerly Crossroads driveway, located about 170 feet east of Highway 1. A transition would be provided to match the existing Rio Road southerly curb line on the east side of the middle Crossroads Shopping Center driveway about 250 feet to the east.
c. Remove the existing mid-block painted crosswalk across Rio Road at the Chevron gas station.
d. It is strongly recommended that the modifications along Rio Road be coordinated with the Caltrans/TAMC project that is in final design.

9.2 Carmel Mission Inn Access Road Secondary Driveway – Secondary Access 1

The secondary driveway that will connect with the Carmel Mission Inn access road will have low project traffic volumes. It will allow exiting Carmel Mission Inn and Chevron traffic that is headed eastbound on Rio Road to no longer make a U-turn at Highway 1. Traffic from these adjoining existing uses will be able to travel through the project to Clocktower Lane to access retail centers on the west side of Carmel Rancho Boulevard or Carmel Rancho Boulevard without having to use Rio Road.

Impact: The connection to the Carmel Mission Inn driveway will add cross traffic on the Carmel Mission Inn access road.

Mitigation: Install a stop sign on the project exit at the Carmel Mission Inn driveway.

9.3 Clocktower Lane Secondary Driveway - Secondary Access 2

The secondary driveway that will connect with Clocktower Place will be the route for most project trips to and from Carmel Valley. It will also serve as a route between the Carmel Mission Inn as well as Chevron Station and the Barnyard, Carmel Rancho Boulevard commercial development and Carmel Valley. This will introduce through traffic within the project parking lot. The volume will be low and will not create a congestion problem. However, it will create potential traffic speeds above levels considered acceptable in a parking lot. Traffic conflicts will occur at this project driveway connection to the Barnyard parking lot.

Impact: The connection to the Barnyard parking lot will create vehicular conflicts at this intersection.

Mitigation:

a. Install a stop sign on the project exit at the Barnyard parking lot.

Recommendations:

a. Confirm that there is an easement to use Clocktower Place for project access.
b. Provide an access easement to the Barnyard, Carmel Mission Inn and Chevron.

9.4 Carmel Mission Inn Lobby Area Driveway – Secondary Access 3

The main driveway access aisle is proposed to be extended through the site and into the Carmel Mission Inn parking lot in the immediate vicinity of the hotel lobby. This will only serve Carmel Mission Inn traffic. It will allow traffic entering the Carmel Mission Inn to no longer be required travel a circuitous route between Rio Road and the Carmel Mission Inn. Instead, traffic to the Carmel Mission Inn will be able to turn left at Crossroads Boulevard and continue directly through the project driveway to the traffic circle in the Carmel Mission Inn lobby parking area.

This connection is optional with respect to traffic circulation. Its elimination would accommodate 3 to 4 additional parking spaces.

Impact: Secondary Access 3 will create a four-legged intersection between project parking lot aisles immediately south of the connection to the Carmel Mission Inn.

Mitigation: Install all-way stop control at the four-legged intersection immediately south of the connection to the Carmel Mission Inn.

9.5 Internal Delivery Vehicle Circulation

A loading dock is proposed on the north side of the proposed Grocery Store.

Impact: Semitrailer trucks, other delivery trucks, garbage trucks and emergency vehicles will circulate through the parking lot.

Mitigation: Design the internal circulation aisles that will be used by trucks to accommodate a minimum of a WB-50 semitrailer to the satisfaction of the Monterey County Public Works Department.

9.6 Westbound Rio Road Loading Turnout

A westbound Rio Road loading turnout is proposed on the north side of Rio Road near the southeastern corner of the project, just east of Carmel Center Place. A loading turnout on a four-lane arterial is not a standard method of providing loading facilities for a retail shopping center. The acceptance of this concept by the Monterey County Public Works Department should be confirmed. The design of the turnout should be verified, including length, entering, and exiting transitions, and interface with the Cypress Fire Protection District fire station immediately to the east.

Impact: The proposed loading turnout on Rio Road will create potential vehicular conflicts with westbound Rio Road traffic due to delivery truck drivers being exposed to vehicular traffic and loading activities occurring adjacent to a travel lane.

Mitigation: Either relocate this loading facility to the on-site parking lot near Stores A and B or design to the satisfaction of the Monterey County Public Works Department.

9.7 Westbound Monterey Salinas Transit (MST) Bus Turnout

A westbound Monterey Salinas Transit (MST) bus stop currently exists just east of Carmel Center Place. It does not have a bus turnout, requiring transit buses to stop in the outside westbound Rio Road travel lane. This bus stop is proposed to be relocated to a proposed bus turnout between Crossroads Boulevard and Carmel Center Place. The design of the bus stop should comply with MST standards and be approved by the Monterey County Public Works Department and MST.

Impact: The proposed bus turnout along the project frontage between Crossroads Boulevard and Carmel Center Place will have a beneficial impact on westbound Rio Road traffic operations.

Mitigation: No mitigation is required. However, the design of the bus stop should comply with MST standards and be approved by the Monterey County Public Works Department and MST.

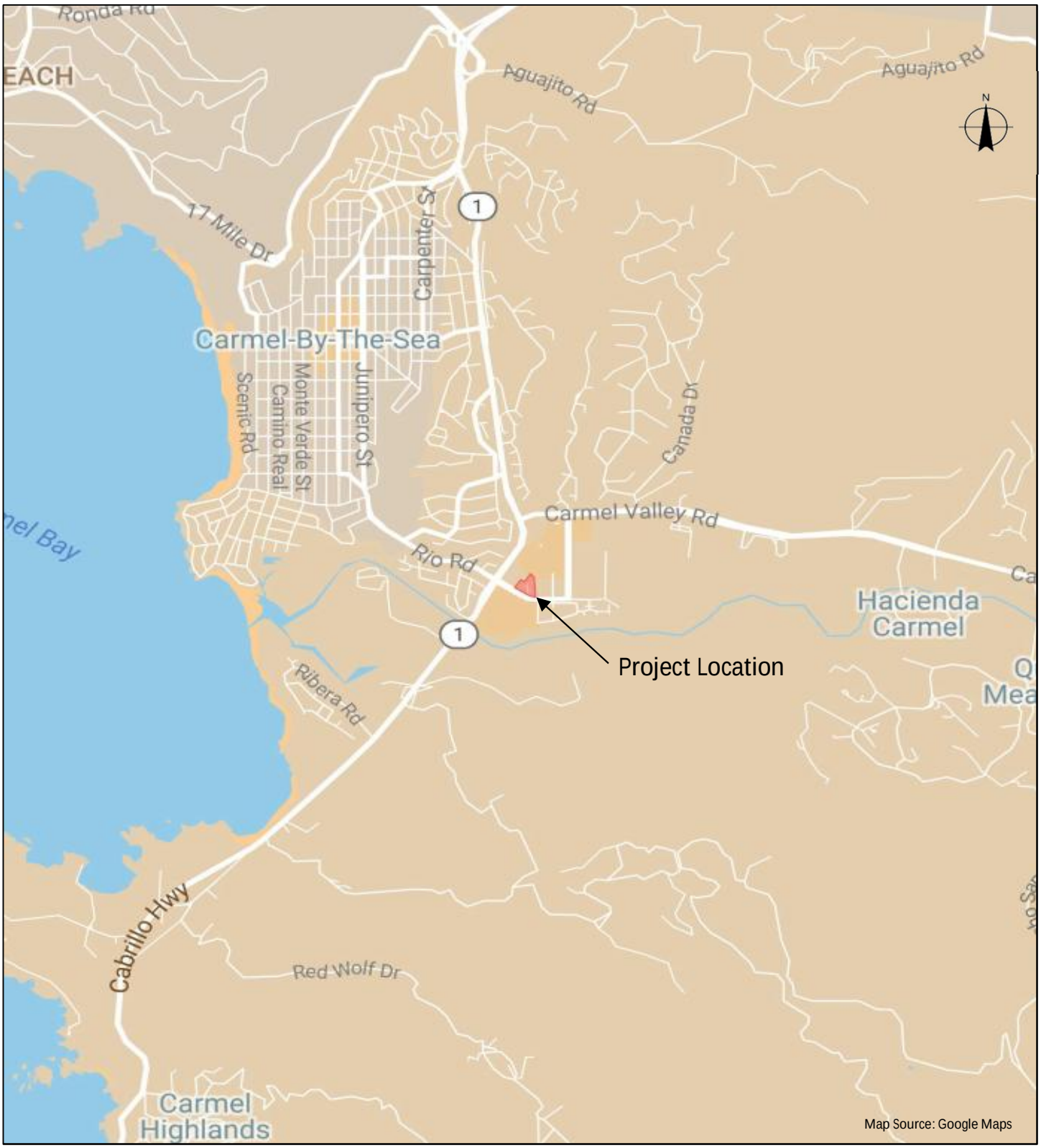
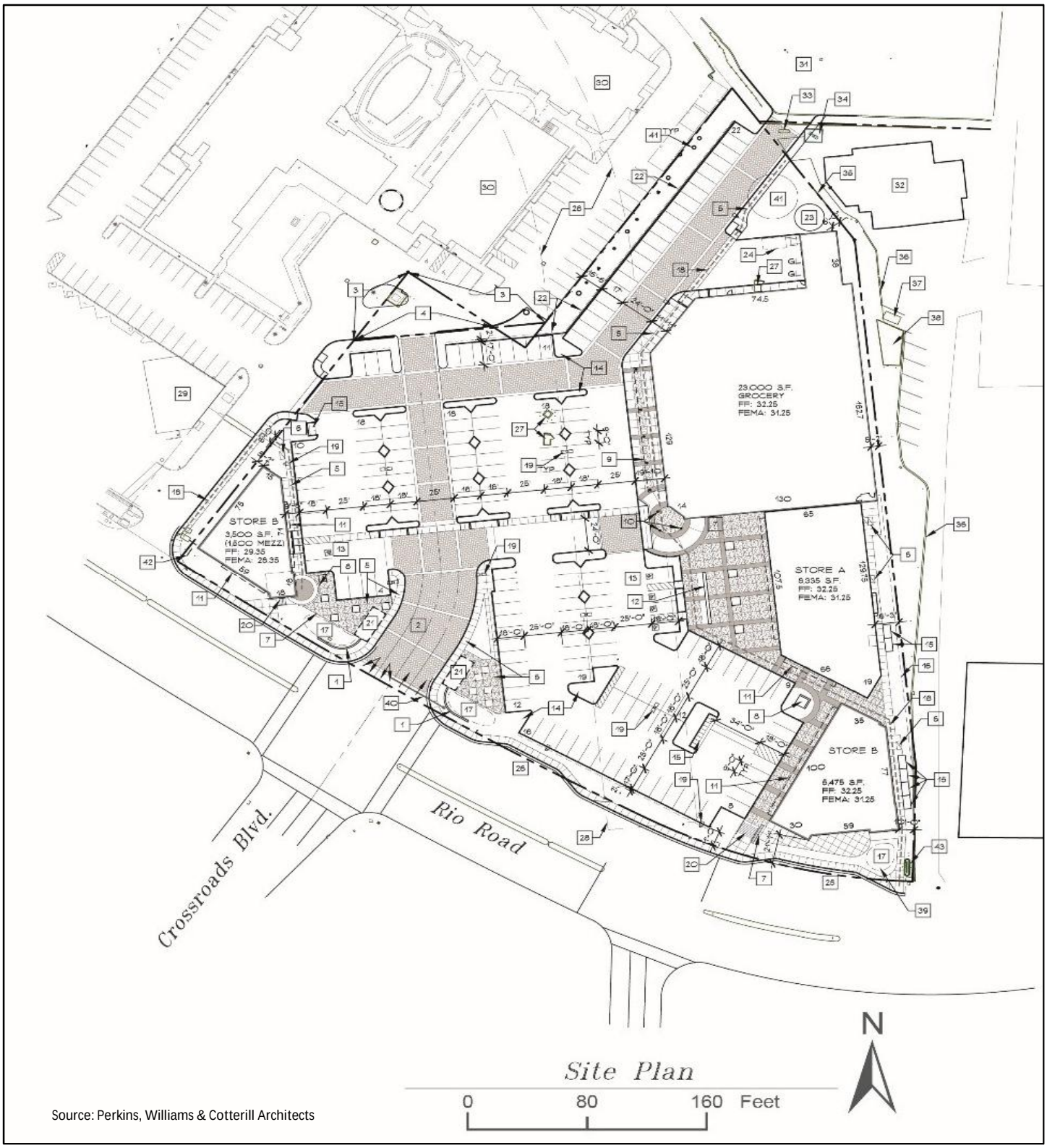


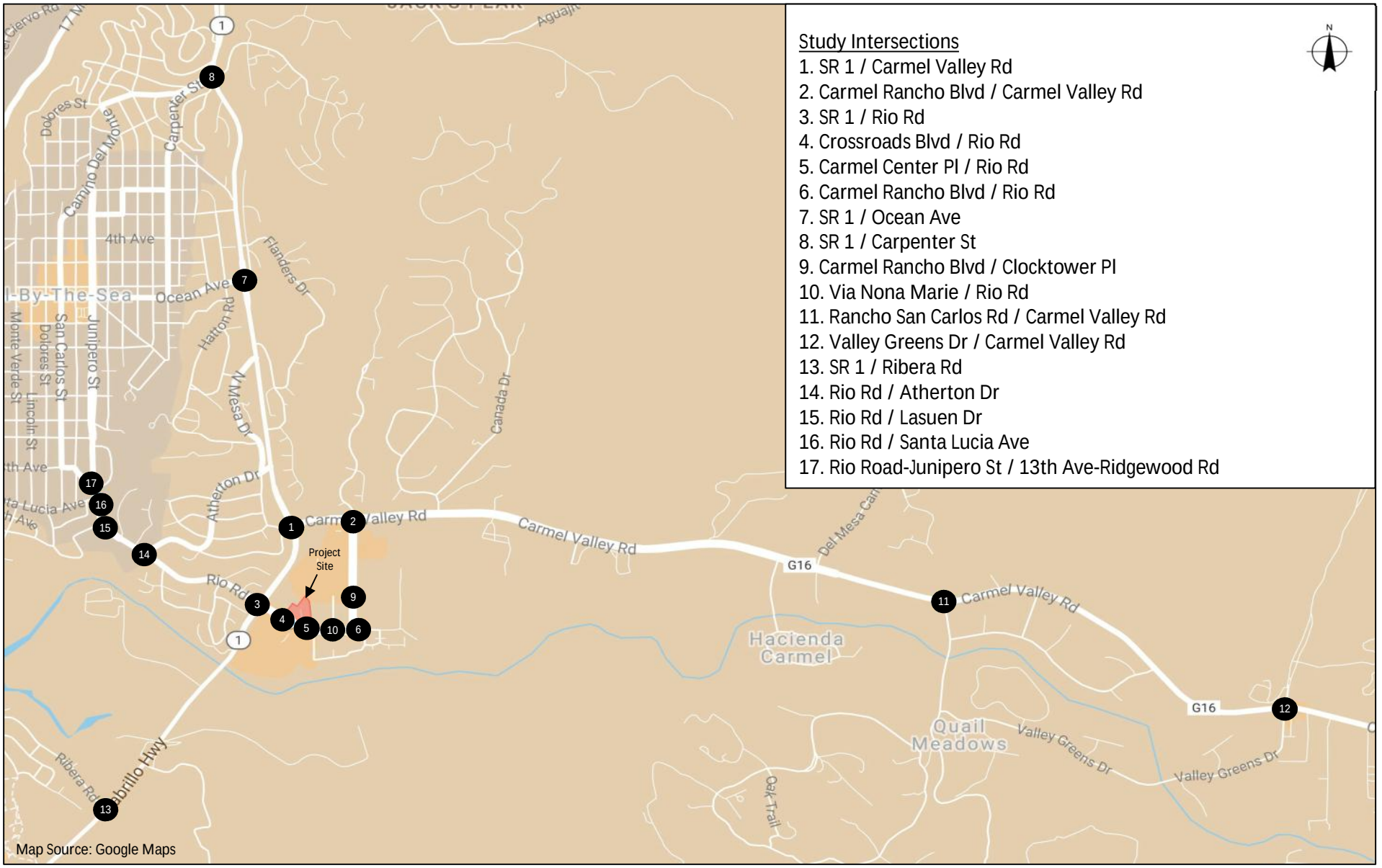
Exhibit 1

Project Location Map



Source: Perkins, Williams & Cotterill Architects

Exhibit 2
Project Site Plan



Legend

(X) Study Intersection #

Exhibit 3

Study Intersections

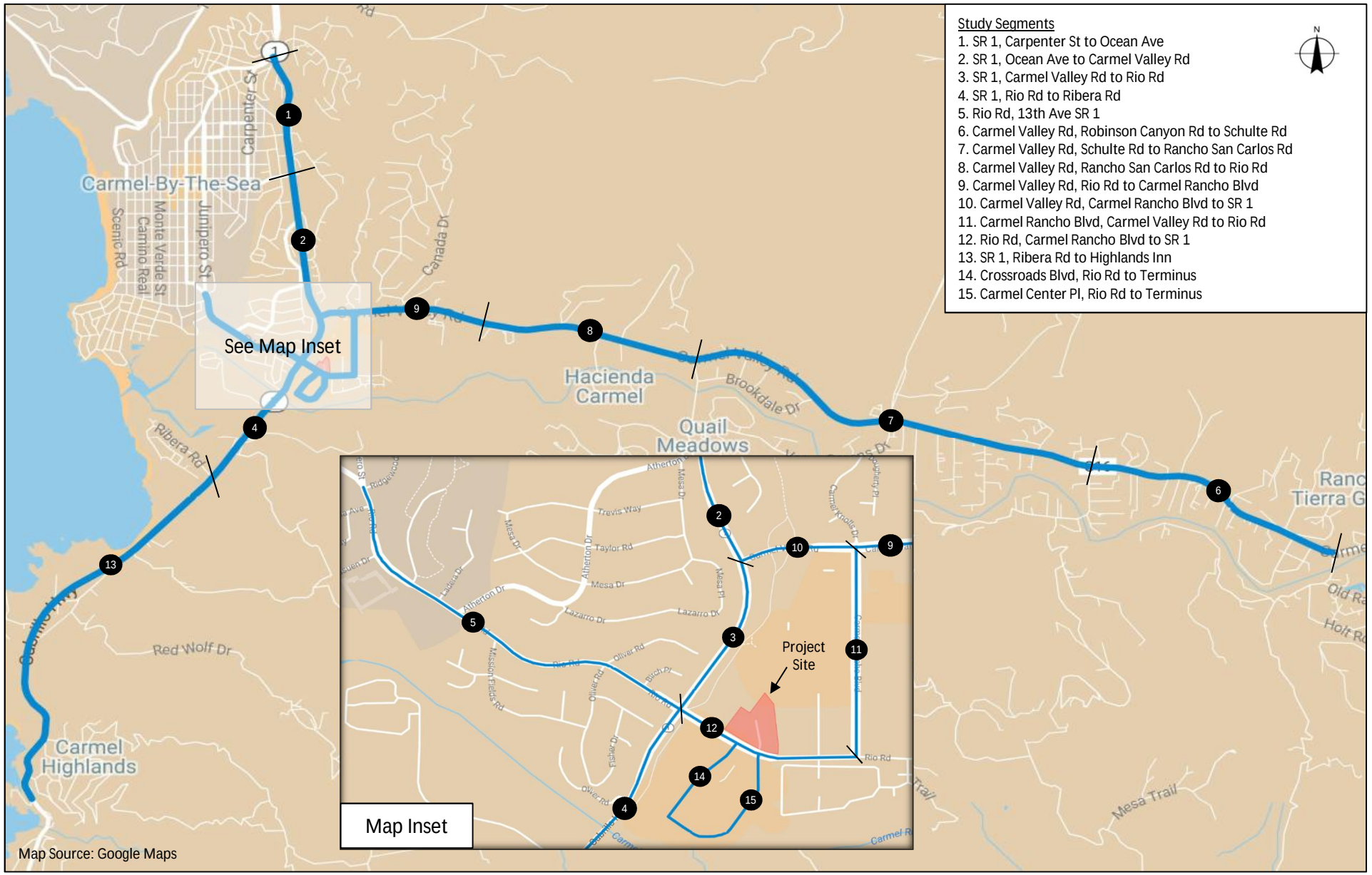


Exhibit 4

Study Segments

Weekday AM and PM Peak Hour

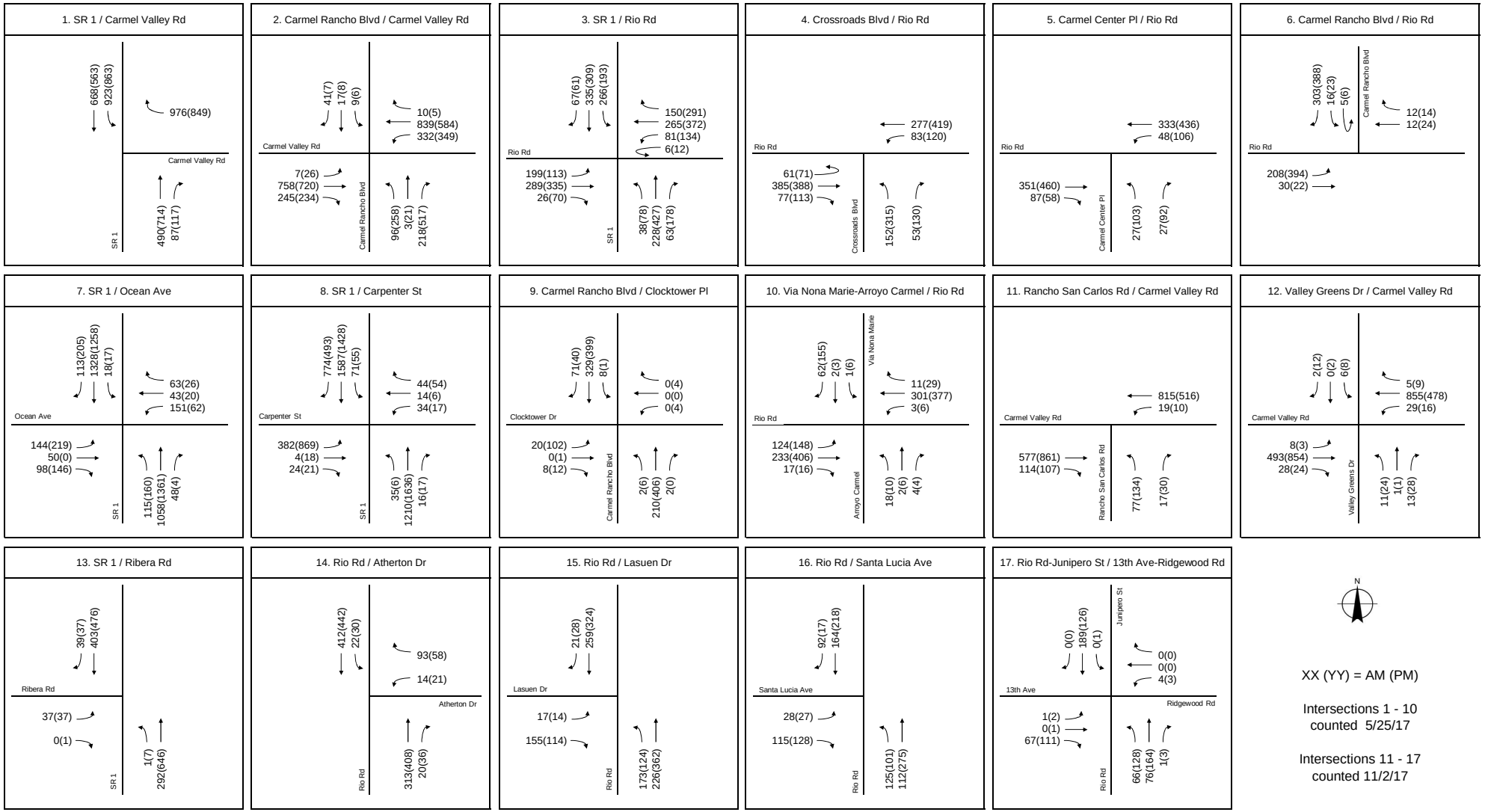
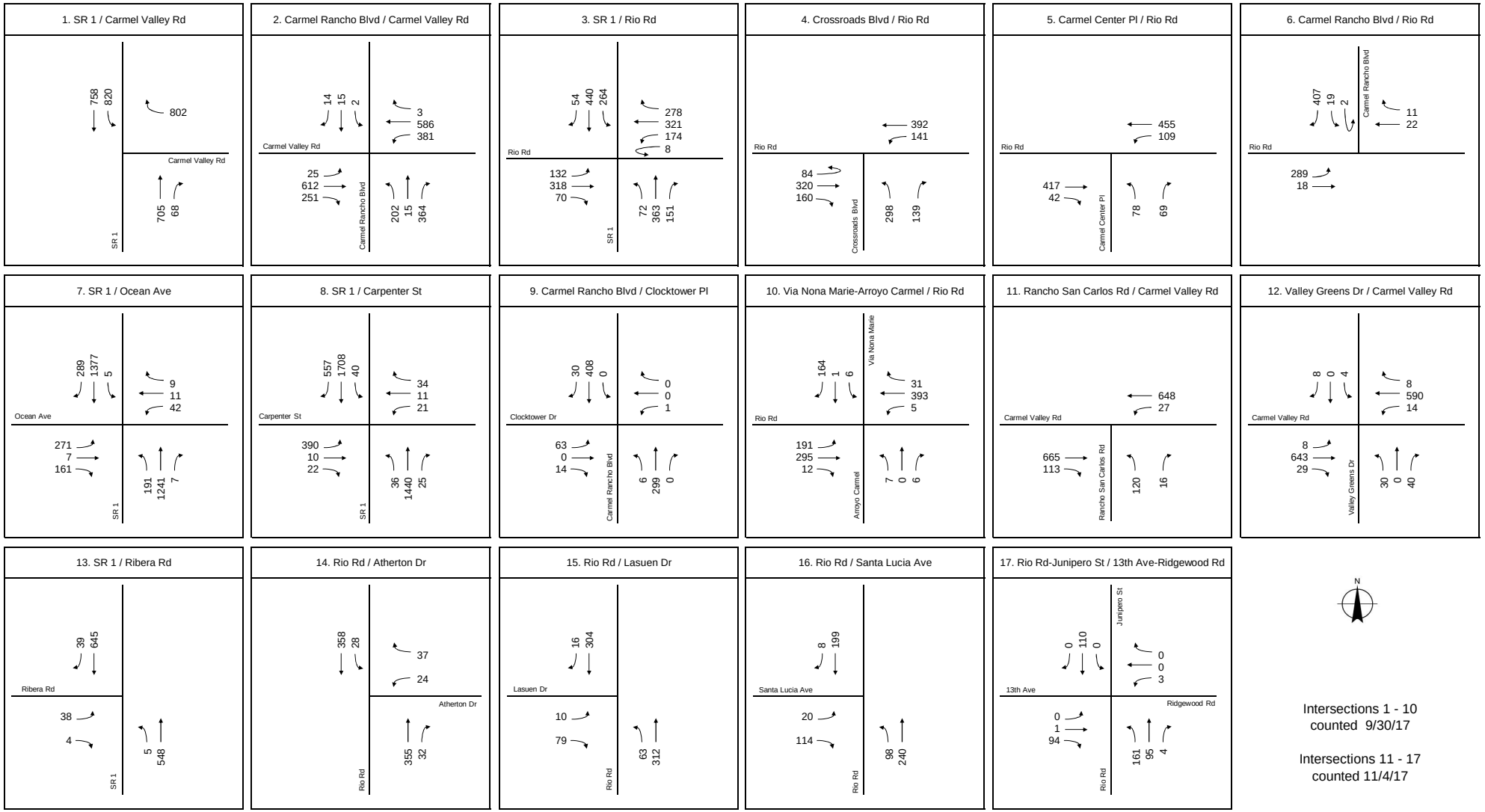


Exhibit 5

Existing Conditions Traffic Volumes

Saturday Peak Hour



Intersections 1 - 10
counted 9/30/17

Intersections 11 - 17
counted 11/4/17

Exhibit 5
Existing Conditions Traffic Volumes

Weekday AM Peak Hour

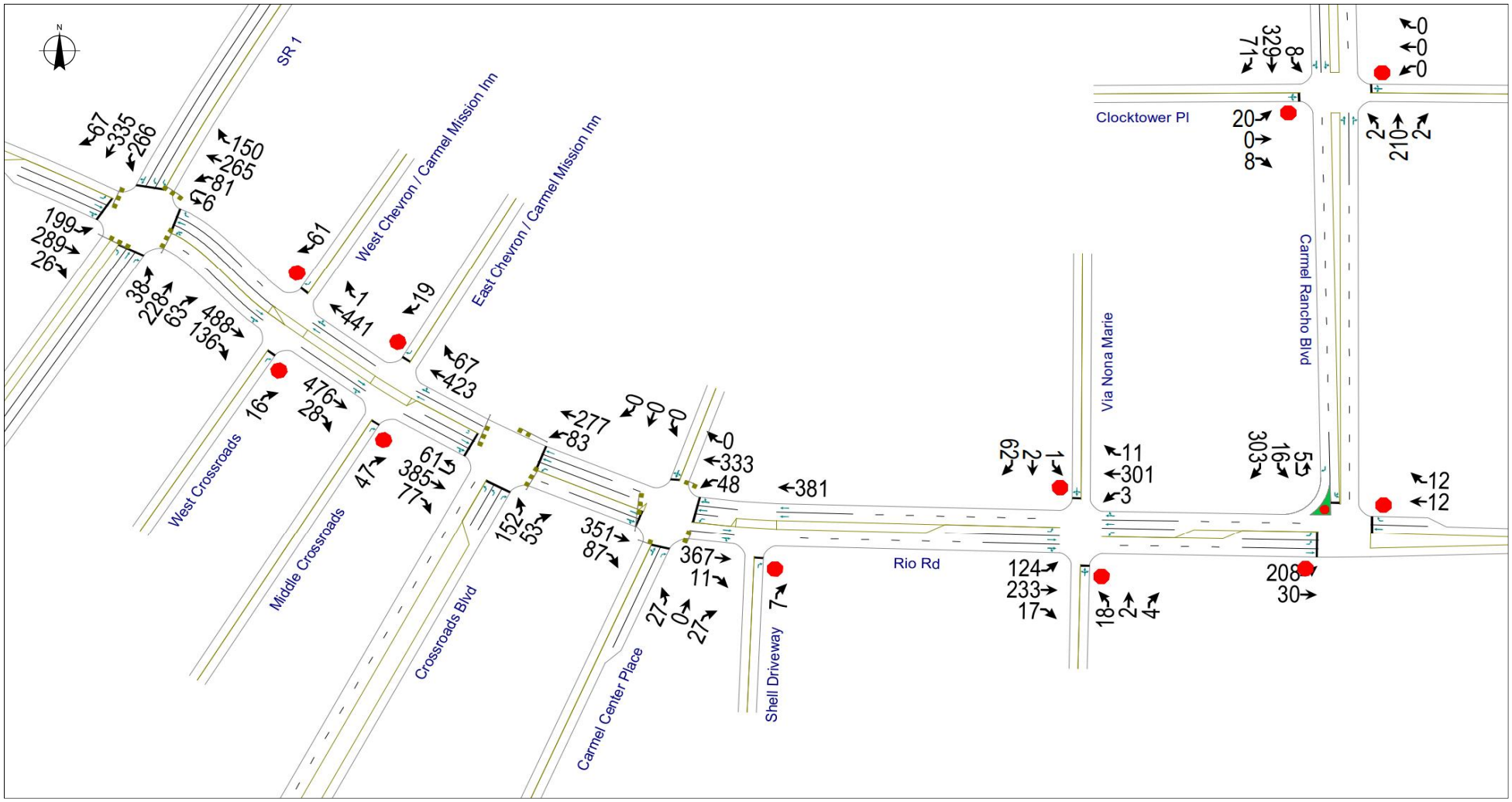


Exhibit 6

Existing Conditions

Rio Road Corridor Traffic Volumes

Weekday PM Peak Hour

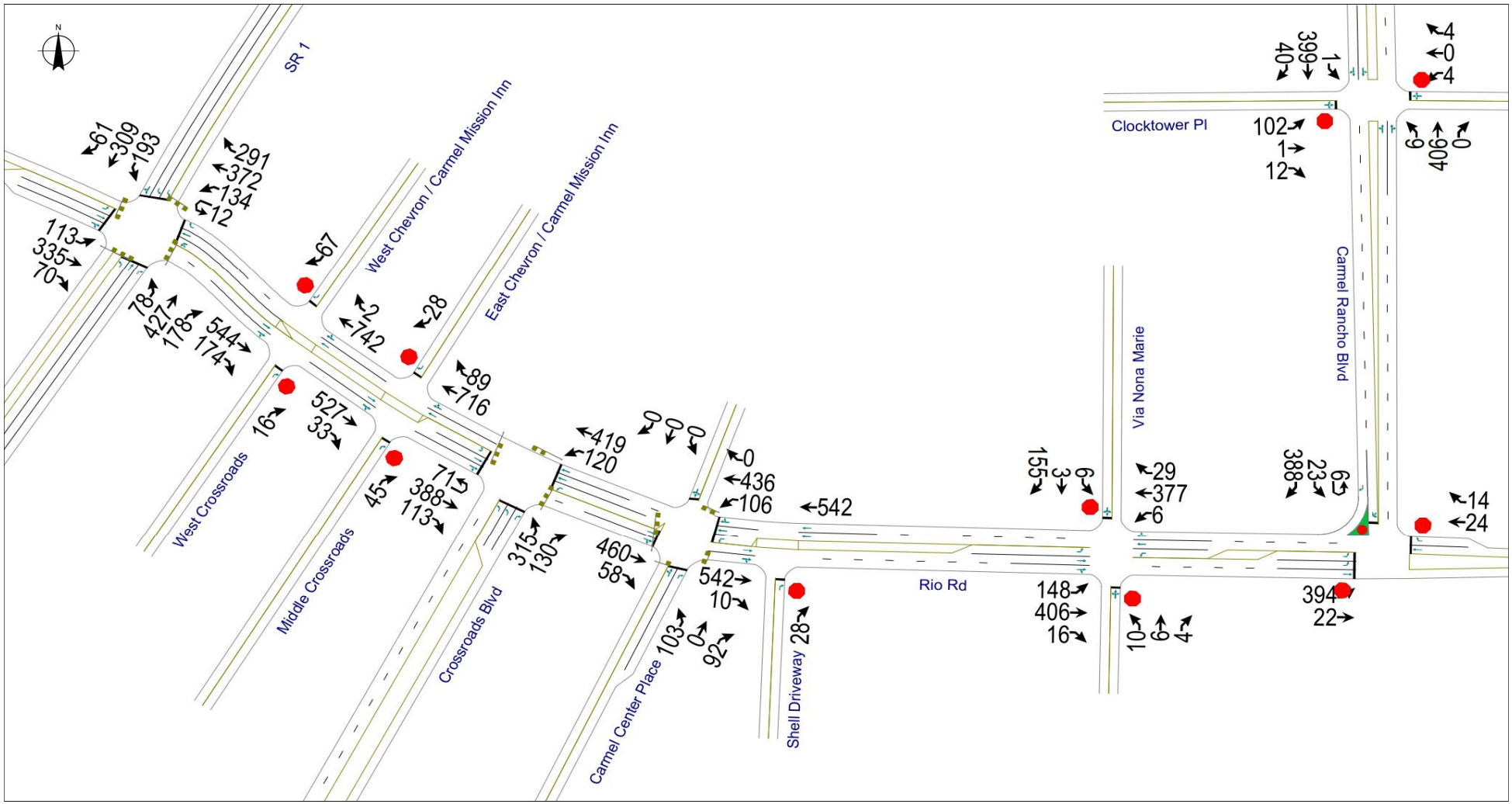


Exhibit 6

Existing Conditions

Rio Road Corridor Traffic Volumes

Saturday Peak Hour

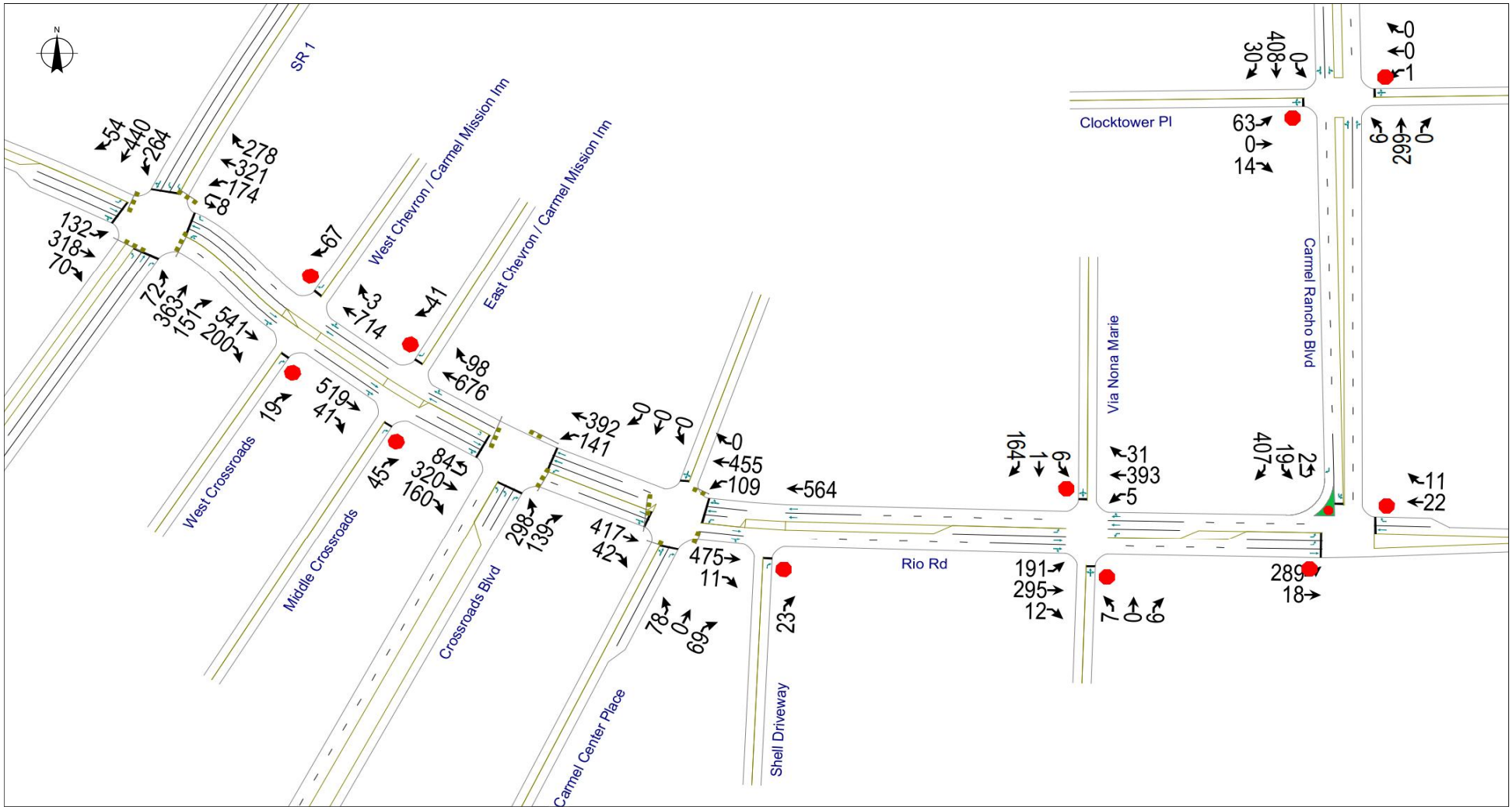


Exhibit 6

Existing Conditions

Rio Road Corridor Traffic Volumes

	N-S Street	E-W Street	Existing Lane Configuration / Proposed Mitigation	Existing Intersection Control	LOS Standard	Existing Conditions									Existing Plus Project Conditions									
						AM Pk Hr.			PM Pk Hr.			Sat Pk Hr.			AM Pk Hr.				PM Pk Hr.				Sat Pk Hr.		
						Delay (sec)	LOS	V/C	Delay (sec)	LOS	V/C	Delay (sec)	LOS	V/C	Delay (sec)	LOS	V/C	Chng V/C	Delay (sec)	LOS	V/C	Chng V/C	Delay (sec)	LOS	V/C	Chng V/C
1	SR 1	Carmel Valley Road	NB 1-T, 1-R SB 2-L, 1-T WB 2-R	Signal	C/D	12.2	B	0.73	13.2	B	0.79	11.5	B	0.76	11.6	B	0.77	0.04	13.8	B	0.81	0.02	12.0	B	0.80	0.04
2	Carmel Rancho Boulevard	Carmel Valley Road	NB 1-L, 1-L/T, 1-R SB 1-L/T, 1-R EB 1-L, 2-T, 1-R WB 2-L, 1-T, 1-T/R	Signal	C	21.1	C	0.61	24.0	C	0.73	18.1	B	0.53	21.8	C	0.62	0.01	27.0	C	0.76	0.03	20.4	C	0.58	0.05
			With EB RTO												24.0	C	0.65		31.2	C	0.80		21.0	C	0.60	
3	SR 1	Rio Road	NB 1-L, 1-T, 1-R SB 2-L, 1-T/R EB 1-L, 1-T, 1-T/R WB 1-L, 1-T, 1-R	Signal	C/D	35.0	C	0.78	48.9	D	0.86	59.9	E	0.93	37.9	D	0.77	-0.01	57.7	E	0.92	0.06	73.0	E	1.00	0.07
			With RTP Improvements And 2nd WBL												26.1	C	0.61	-0.17	31.3	C	0.72	-0.14	32.9	C	0.75	-0.18
															41.3	D	0.91		52.9	D	0.88		63.7	E	0.94	
4	Crossroads Blvd	Rio Road	NB 2-L, 1-T/R EB 1-L, 1-T, 1-T/R WB 1-L, 2-T	Signal	C	11.8	B	0.32	13.2	B	0.41	14.1	B	0.39	14.1	B	0.31	-0.01	20.6	C	0.53	0.12	25.0	C	0.61	0.22
5	Carmel Center Place	Rio Road	NB 1-L/T, 1-R SB 1-L/T/R EB 1-T, 1-T/R WB 1-L, 1-T, 1-T/R	Signal	C	8.9	A	0.26	7.7	A	0.41	7.2	A	0.35	7.3	A	0.23	-0.03	10.5	B	0.37	-0.04	14.2	B	0.30	-0.05
6	Carmel Rancho Boulevard	Rio Road	SB 1-L, 1-R EB 2-L, 1-T WB 1-T, 1-R	Two-Way Stop	E C	11.0	B		17.1	C		14.4	B		11.1	B			18.5	C			16.4	C		
7	SR 1	Ocean Avenue	NB 1-L, 1-T, 1-T/R SB 1-L, 2-T, 1-R EB 1-L, 1-L/T/R WB 1-L, 1-L/T/R	Signal	C/D	29.7	C	0.80	26.5	C	0.76	26.8	C	0.80	30.1	C	0.81	0.01	27.3	C	0.77	0.01	28.3	C	0.82	0.02
8	SR 1	Carpenter Street	NB 1-L, 1-T, 1-T/R SB 1-L, 2-T, 1-R EB 2-L, 1-T/R WB 1-L, 1-L/T, 1-R	Signal	C/D	22.3	C	0.88	37.1	D	0.89	20.4	C	0.81	22.4	C	0.88	0.00	37.7	D	0.89	0.00	20.6	C	0.82	0.01
			With NB RT Lane With 3rd NBT												22.3	C	0.88	0.00	37.0	D	0.89	0.00	20.4	C	0.82	0.01
															23.4	C	0.90		39.6	D	0.91		22.1	C	0.83	
9	Carmel Rancho Boulevard	Clocktower Place	NB 1-L, 1-T, 1-T/R SB 1-L, 1-T, 1-T/R EB 1-L/T/R WB 1-L/T/R	Two-Way Stop	E	13.8	B		22.6	C		17.2	C		14.7	B			32.1	D			26.0	D		

	N-S Street	E-W Street	Background Conditions									Background Plus Project Conditions									Cumulative Conditions						Cumulative Plus Project Conditions					
			AM Pk Hr.			PM Pk Hr.			Sat Pk Hr.			AM Pk Hr.				PM Pk Hr.				Sat Pk Hr.				AM Pk Hr.			PM Pk Hr.			Sat Pk Hr.		
			Delay (sec)	LOS	V/C	Delay (sec)	LOS	V/C	Delay (sec)	LOS	V/C	Delay (sec)	LOS	V/C	Chng V/C	Delay (sec)	LOS	V/C	Chng V/C	Delay (sec)	LOS	V/C	Chng V/C	Delay (sec)	LOS	V/C	Delay (sec)	LOS	V/C	Delay (sec)	LOS	V/C
1	SR 1	Carmel Valley Road	13.2	B	0.81	15.1	B	0.82	12.9	B	0.80	13.2	B	0.82	0.01	16.1	B	0.84	0.02	13.7	B	0.82	0.02	16.8	B	0.86	25.1	C	0.91	20.1	C	0.90
2	Carmel Rancho Boulevard	Carmel Valley Road	24.0	C	0.65	31.2	C	0.80	21.0	C	0.60	25.7	C	0.67	0.02	37.4	D	0.83	0.03	24.2	C	0.64	0.04	28.4	C	0.68	34.7	C	0.81	22.1	C	0.62
												24.7	C	0.69	0.04	35.6	D	0.85	0.05	22.7	C	0.66	0.06									
3	SR 1	Rio Road	41.3	D	0.91	52.9	D	0.88	63.7	E	0.94	42.8	D	0.93	0.02	61.6	E	0.94	0.06	77.3	E	1.02	0.08	44.9	D	0.89	68.6	E	1.03	73.0	E	1.04
												26.3	C	0.61	-0.30	32.9	C	0.74	-0.14	33.7	C	0.76	-0.18									
4	Crossroads Blvd	Rio Road	11.9	B	0.33	13.6	B	0.42	15.8	B	0.40	14.6	B	0.33	0.00	20.7	C	0.54	0.12	25.5	C	0.63	0.23	11.9	B	0.35	13.7	B	0.44	15.2	B	0.43
5	Carmel Center Place	Rio Road	8.8	A	0.26	7.5	A	0.42	8.9	A	0.36	5.9	A	0.24	-0.02	10.2	B	0.38	-0.04	13.9	B	0.30	-0.06	5.0	A	0.28	7.4	A	0.45	6.6	A	0.37
6	Carmel Rancho Boulevard	Rio Road	11.7	B		19.6	C		16.4	C		11.8	B			21.5	C			18.7	C			13.3	B		22.9	C		18.8	C	
7	SR 1	Ocean Avenue	32.6	C	0.83	27.7	C	0.79	30.9	C	0.85	33.1	C	0.83	0.00	29.1	C	0.80	0.01	32.9	C	0.87	0.02	41.9	D	0.90	33.5	C	0.85	40.2	D	0.91
8	SR 1	Carpenter Street	23.4	C	0.90	39.6	D	0.91	22.1	C	0.83	23.5	C	0.90	0.00	40.5	D	0.92	0.01	22.4	C	0.83	0.00	25.4	C	0.91	49.8	D	0.98	24.7	C	0.87
												22.5	C	0.90	0.00	30.9	C	0.85	-0.06	20.8	C	0.83	0.00									
9	Carmel Rancho Boulevard	Clocktower Place	14.4	B		24.7	C		18.4	C		15.4	C			37.0	E			29.1	D			14.8	B		27.8	D		19.8	C	

Notes:

1 L, T, R = Left, Through, Right
2 NB, SB, EB, WB = Northbound, Southbound, Eastbound, Westbound
3 V/C = Critical volume/capacity ratio.
4 Chng V/C = Change in critical V/C due to project traffic.
5 Level of service highlighted in red indicates that LOS exceeds the LOS standard.
6 Bold box indicates project impact or cumulative project impact.

Exhibit 7
Intersection Levels of Service

	N-S Street	E-W Street	Existing Lane Configuration	Existing Intersection Control	LOS Standard	Existing Conditions						Existing Plus Project Conditions						Background Conditions					
						AM Pk Hr.			PM Pk Hr.			Sat Pk Hr.			AM Pk Hr.			PM Pk Hr.			Sat Pk Hr.		
						Delay (sec)	LOS	V/C	Delay (sec)	LOS	V/C	Delay (sec)	LOS	V/C	Delay (sec)	LOS	V/C Chng V/C	Delay (sec)	LOS	V/C Chng V/C	Delay (sec)	LOS	V/C Chng V/C
10	Via Nona Marie	Rio Road	NB 1-L/T/R SB 1-L/T/R EB 1-L, 1-T, 1-T/R WB 1-L, 1-T, 1-T/R	Two-Way Stop	E	19.0	C		29.9	D		22.7	C		17.1	C		25.6	D		18.4	C	
11	Rancho San Carlos Road	Carmel Valley Road	NB 1-L/R EB 1-T, 1-R WB 1-L, 1-T	Signal	C	9.5	A	0.73	10.2	B	0.80	9.3	A	0.71	9.6	A	0.74 0.01	10.7	B	0.81 0.01	9.1	A	0.73 0.02
12	Valley Greens Drive	Carmel Valley Road	NB 1-L/T, 1-R SB 1-L/T, 1-R EB 1-L, 1-T/R WB 1-L, 1-T/R	Two-Way Stop	E	42.3	E		39.1	E		27.2	D		43.2	E		45.5	E		34.0	D	
			With Roundabout		C																		
13	SR 1	Ribera Road	NB 1-L/T WB 2-L, 1-T EB 1-T, 1-R	One-Way Stop	E	16.3	C		26.1	D		37.0	E		16.4	C		27.6	D		30.8	D	
14	Rio Road	Atherton Drive	NB 1-T/R SB 1-L/T WB 1-L/R	One-Way Stop	E	14.7	B		14.9	B		13.8	B		15.3	C		16.9	C		16.2	C	
15	Rio Road	Lasuen Drive	NB 1-L, 1-T SB 1-T/R EB 1-L/R	One-Way Stop	E	16.8	C		13.6	B		12.0	B		17.3	C		14.3	B		12.7	B	
16	Rio Road	Santa Lucia Drive	NB 1-L, 1-T SB 1-T/R EB 1-L/R	One-Way Stop	E	12.9	B		12.6	B		11.9	B		13.1	B		13.0	B		12.4	B	
17	Rio Road-Junipero Street	13th Avenue-Ridgewood Road	NB 1-L/T/R SB 1-L/T/R EB 1-L/T/R WB 1-L/T/R	All-Way Stop	C	8.9	A		9.5	A		9.2	A		8.9	A		9.8	A		9.5	A	

	N-S Street	E-W Street	Background Plus Project Conditions									Cumulative Conditions						Cumulative Plus Project Conditions					
			AM Pk Hr.			PM Pk Hr.			Sat Pk Hr.			AM Pk Hr.			PM Pk Hr.			AM Pk Hr.			PM Pk Hr.		
			Delay (sec)	LOS	V/C Chng V/C	Delay (sec)	LOS	V/C Chng V/C	Delay (sec)	LOS	V/C Chng V/C	Delay (sec)	LOS	V/C	Delay (sec)	LOS	V/C	Delay (sec)	LOS	V/C Chng V/C	Delay (sec)	LOS	V/C Chng V/C
10	Via Nona Marie	Rio Road	17.7	C		27.4	D		19.3	C		21.6	C		36.6	E		27.2	D		19.1	C		31.1	D		21.4	C	
11	Rancho San Carlos Road	Carmel Valley Road	9.6	A	0.78 0.01	12.2	B	0.85 0.01	9.7	A	0.77 0.01	9.1	A	0.78	12.3	B	0.86	9.6	A	0.76	9.2	A	0.78 0.00	13.3	B	0.87 0.01	10.3	B	0.79 0.03
12	Valley Greens Drive	Carmel Valley Road	51.1	F		97.9	F		62.9	F		53.9	F		94.9	F		53.7	F		59.5	F		126.2	F		77.0	F	
			8.0	A		8.7	A		7.6	A											8.3	A		9.1	A		7.9	A	
13	SR 1	Ribera Road	18.8	C		28.3	D		31.6	D		21.5	C		47.3	E		52.1	F		21.8	C		51.0	F		59.6	F	
14	Rio Road	Atherton Drive	15.4	C		16.9	C		16.4	C		15.1	C		15.1	C		14.0	B		15.7	C		17.2	C		16.6	C	
15	Rio Road	Lasuen Drive	17.4	C		14.3	B		12.7	B		17.2	C		13.9	B		12.2	B		17.7	C		14.6	B		12.9	B	
16	Rio Road	Santa Lucia Drive	13.1	B		13.1	B		12.5	B		13.1	B		12.8	B		12.1	B		13.3	B		13.3	B		12.7	B	
17	Rio Road-Junipero Street	13th Avenue-Ridgewood Road	9.0	A		9.8	A		9.6	A		9.0	A		9.6	A		9.4	A		9.0	A		9.9	A		9.8	A	

Notes:

1 L, T, R = Left, Through, Right
2 NB, SB, EB, WB = Northbound, Southbound, Eastbound, Westbound
3 V/C = Critical volume/capacity ratio.
4 Chng V/C = Change in critical V/C due to project traffic.
5 Level of service highlighted in red indicates that LOS exceeds the LOS standard.
6 Bold box indicates project impact or cumulative project impact.

	Segment	From	To	# of Lanes	CVMP ADT Threshold	ADT	Dir	Existing Conditions														
								AM Peak Hour					PM Peak Hour					Saturday Peak Hour				
								Volume	PTSF	Density	% FFS	LOS	Volume	PTSF	Density	% FFS	LOS	Volume	PTSF	Density	% FFS	LOS
1	SR 1	Carpenter St	Ocean Ave	4	N/A	N/A	NB	1,265	-	16.7	-	B	1,659	-	21.0	-	C	1,521	-	19.3	-	C
							SB	1,645	-	20.4	-	C	1,480	-	17.2	-	B	1,751	-	20.2	-	C
2	SR 1	Ocean Ave	Carmel Valley Rd	3	N/A	N/A	NB	1,466	-	20.6	-	C	1,563	-	18.9	-	C	1,507	-	18.8	-	C
							SB	1,591	93.5%	-	-	F	1,466	95.1%	-	-	F	1,580	96.5%	-	-	F
3	SR 1	Carmel Valley Rd	Rio Rd	2	N/A	N/A	NB	577	81.0%	-	-	D	831	89.2%	-	-	E	773	85.2%	-	-	E
							SB	668	78.9%	-	-	D	563	73.0%	-	-	D	758	82.0%	-	-	D
4	SR 1	Rio Rd	Ribera Rd	2	N/A	N/A	NB	329	61.5%	-	-	C	683	81.7%	-	-	D	586	76.4%	-	-	D
							SB	442	72.6%	-	-	D	513	70.4%	-	-	D	684	79.2%	-	-	D
5	Rio Rd	13th Ave	SR 1	2	N/A	N/A	EB	514	-	-	79.6%	B	518	-	-	80.4%	B	520	-	-	80.0%	B
							WB	370	-	-	79.6%	B	511	-	-	80.4%	B	447	-	-	80.0%	B
6	Carmel Valley Rd	Robinson Canyon Rd	Schulte Rd	2	15,499	14,975	EB	380	58.8%	-	-	C	908	88.4%	-	-	E	671	80.5%	-	-	D
							WB	843	88.7%	-	-	E	438	60.8%	-	-	C	538	75.1%	-	-	D
7	Carmel Valley Rd	Schulte Rd	Rancho San Carlos Rd	2	16,340	16,621	EB	533	74.3%	-	-	D	970	91.4%	-	-	E	585	77.2%	-	-	D
							WB	909	93.5%	-	-	E	500	76.4%	-	-	D	735	84.4%	-	-	D
8	Carmel Valley Rd	Rancho San Carlos Rd	Rio Rd	4	48,487	19,818	EB	691	-	8.0	-	A	968	-	10.0	-	A	778	-	7.8	-	A
							WB	892	-	9.4	-	A	650	-	6.4	-	A	768	-	7.5	-	A
9	Carmel Valley Rd	Rio Rd	Carmel Rancho Blvd	4	51,401	24,558	EB	985	-	10.5	-	A	1,243	-	12.0	-	B	978	-	9.3	-	A
							WB	1,181	-	15.9	-	B	938	-	9.7	-	A	970	-	9.4	-	A
10	Carmel Valley Rd	Carmel Rancho Blvd	SR 1	4	27,839	22,654	EB	1,010	-	10.8	-	A	980	-	9.5	-	A	888	-	8.5	-	A
							WB	976	-	11.8	-	B	849	-	8.7	-	A	802	-	7.5	-	A
11	Carmel Rancho Blvd	Carmel Valley Rd	Rio Rd	4	33,495	10,135	NB	317	-	-	93.0%	A	796	-	-	91.5%	A	581	-	-	91.9%	A
							SB	606	-	-	86.4%	A	591	-	-	84.9%	B	647	-	-	84.8%	B
12	Rio Rd	Carmel Rancho Blvd	SR 1	4	33,928	12,099	EB	624	-	-	57.9%	C	718	-	-	52.5%	C	741	-	-	53.2%	C
							WB	502	-	-	46.4%	D	809	-	-	43.9%	D	781	-	-	44.3%	D
13	SR 1	Ribera Rd	Highlands Inn	2	N/A	N/A	NB	293	65.2%	-	-	C	653	81.7%	-	-	D	553	73.5%	-	-	D
							SB	403	70.9%	-	-	D	477	70.2%	-	-	D	649	79.4%	-	-	D
14	Crossroads Blvd	Rio Rd	Terminus	2	N/A	N/A	NB	205	-	-	60.0%	C	445	-	-	55.2%	C	437	-	-	55.2%	C
							SB	160	-	-	60.0%	C	233	-	-	55.2%	C	301	-	-	55.2%	C
15	Carmel Center Place	Rio Rd	Terminus	2	N/A	N/A	NB	54	-	-	87.0%	A	195	-	-	87.2%	A	147	-	-	94.0%	A
							SB	135	-	-	87.0%	A	164	-	-	87.2%	A	151	-	-	94.0%	A

	Segment	From	To	# of Lanes	CVMP ADT Threshold	ADT	Dir	Existing + Project Conditions															
								Project Trips	AM Peak Hour					Project Trips	PM Peak Hour					Project Trips	Saturday Peak Hour				
									Volume	PTSF	Density	% FFS	LOS		Volume	PTSF	Density	% FFS	LOS		Volume	PTSF	Density	% FFS	LOS
1	SR 1	Carpenter St	Ocean Ave	4	N/A	N/A	NB	3	1,268	-	16.7	-	B	15	1,674	-	21.1	-	C	21	1,542	-	19.6	-	C
							SB	5	1,650	-	20.4	-	C	13	1,493	-	17.4	-	B	19	1,770	-	20.4	-	C
2	SR 1	Ocean Ave	Carmel Valley Rd	3	N/A	N/A	NB	5	1,471	-	20.7	-	C	27	1,590	-	19.2	-	C	37	1,544	-	19.3	-	C
							SB	8	1,599	97.2%	-	-	F	22	1,488	95.3%	-	-	F	35	1,615	96.8%	-	-	F
3	SR 1	Carmel Valley Rd	Rio Rd	2	N/A	N/A	NB	5	582	81.1%	-	-	D	27	858	89.4%	-	-	E	38	811	86.5%	-	-	E
							SB	8	676	78.9%	-	-	D	23	586	74.3%	-	-	D	37	795	83.2%	-	-	D
4	SR 1	Rio Rd	Ribera Rd	2	N/A	N/A	NB	5	334	61.9%	-	-	C	14	697	82.0%	-	-	D	24	610	77.4%	-	-	D
							SB	2	444	72.4%	-	-	D	14	527	71.4%	-	-	D	19	703	80.5%	-	-	D
5	Rio Rd	13th Ave	SR 1	2	N/A	N/A	EB	14	528	-	-	79.6%	B	40	558	-	-	80.0%	B	65	585	-	-	79.6%	B
							WB	9	379	-	-	79.6%	B	44	555	-	-	80.0%	B	62	509	-	-	79.6%	B
6	Carmel Valley Rd	Robinson Canyon Rd	Schulte Rd	2	15,499	15,436	EB	4	384	59.0%	-	-	C	21	929	88.6%	-	-	E	28	699	81.4%	-	-	D
							WB	7	850	90.0%	-	-	E	19	457	68.4%	-	-	C	31	569	76.9%	-	-	D
7	Carmel Valley Rd	Schulte Rd	Rancho San Carlos Rd	2	16,340	17,209	EB	5	538	74.4%	-	-	D	27	997	91.7%	-	-	E	36	621	79.3%	-	-	D
							WB	9	918	93.3%	-	-	E	24	524	78.1%	-	-	D	40	775	86.6%	-	-	E
8	Carmel Valley Rd	Rancho San Carlos Rd	Rio Rd	4	48,487	20,498	EB	6	697	-	8.0	-	A	31	999	-	10.4	-	A	40	818	-	8.2	-	A
							WB	10	902	-	9.5	-	A	28	678	-	6.7	-	A	47	815	-	7.9	-	A
9	Carmel Valley Rd	Rio Rd	Carmel Rancho Blvd	4	51,401	25,411	EB	8	993	-	10.6	-	A	39	1,282	-	12.4	-	B	52	1,030	-	9.8	-	A
							WB	11	1,192	-	16.1	-	B	35	973	-	10.1	-	A	58	1,028	-	10.0	-	A
10	Carmel Valley Rd	Carmel Rancho Blvd	SR 1	4	27,839	22,654	EB	0	1,010	-	10.8	-	A	0	980	-	9.5	-	A	0	888	-	8.5	-	A
							WB	0	976	-	11.8	-	B	0	849	-	8.7	-	A	0	802	-	7.5	-	A
11	Carmel Rancho Blvd	Carmel Valley Rd	Rio Rd	4	33,495	11,310	NB	12	329	-	-	93.0%	A	52	848	-	-	91.3%	A	72	653	-	-	91.8%	A
							SB	21	627	-	-	86.2%	A	50	641	-	-	84.8%	B	79	726	-	-	84.5%	B
12	Rio Rd	Carmel Rancho Blvd	SR 1	4	33,928	14,150	EB	29	653	-	-	55.5%	C	85	803	-	-	49.2%	D	136	877	-	-	51.7%	C
							WB	17	519	-	-	47.7%	D	93	902	-	-	42.4%	D	129	910	-	-	43.6%	D
13	SR 1	Ribera Rd	Highlands Inn	2	N/A	N/A	NB	4	297	65.0%	-	-	C	12	665	85.0%	-	-	D	19	572	75.2%	-	-	D
							SB	3	406	70.5%	-	-	D	13	490	70.1%	-	-	D	18	667	79.7%	-	-	D
14	Crossroads Blvd	Rio Rd	Terminus	2	N/A	N/A	NB	3	208	-	-	78.8%	B	9	454	-	-	76.4%	B	13	450	-	-	74.0%	B
							SB	2	162	-	-	78.8%	B	11	244	-	-	76.4%	B	16	317	-	-	74.0%	B
15	Carmel Center Place	Rio Rd	Terminus	2	N/A	N/A	NB	0	54	-	-	87.2%	A	0	195	-	-	87.2%	A	0	147	-	-	94.0%	A
							SB	0	135	-	-	87.2%	A	0	164	-	-	87.2%	A	0	151	-	-	94.0%	A

Notes:
1. LOS = Level of Service
2. Two-lane highway LOS based on percent time spent following (PTSF), Two-Lane Highways, HCM 2010, Exhibit 15-3.
3. Four-lane highway LOS based on density in passenger cars per mile per lane (pc/mi/ln), Multi-Lane Highways, HCM 2010, Exhibit 14-4.
4. Arterial LOS based on travel speed as a percentage of base free-flow speed (% FFS), Urban Street Segments, HCM 2010, Exhibit 17-2.
5. LOS highlighted in red exceeds LOS standard.
6. LOS in bold box indicates project or cumulative project impact.

Exhibit 8
Existing and Existing Plus Project
Road Segment Levels of Service

TRIP GENERATION RATES[1]	ITE Land Use Code	Daily Trip Rate	AM Peak Hour				PM Peak Hour				Sat Daily Trip Rate	Sat Peak Hour			
			Peak Hour Rate	% of ADT	% In	% Out	Peak Hour Rate	% of ADT	% In	% Out		Peak Hour Rate	% of ADT	% In	% Out
Shopping Center[2]	820	91.77	2.17	2%	62%	38%	7.97	9%	48%	52%	127.01	11.82	9%	52%	48%

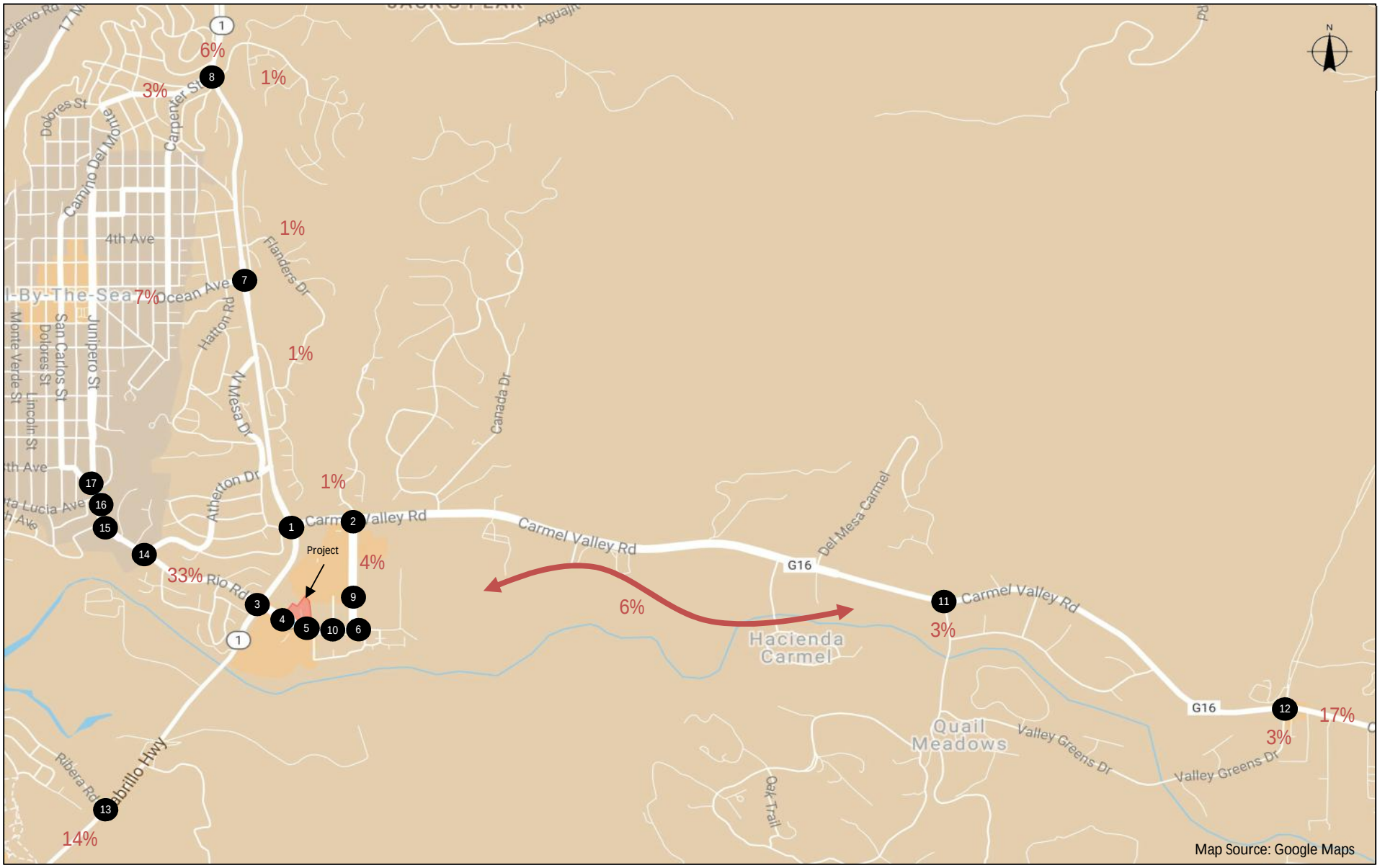
GENERATED TRIPS	Project Size	Daily Trips	Peak Hour Trips	% of ADT	In	Out	Peak Hour Trips	% of ADT	In	Out	Daily Trips	Peak Hour Trips	% of ADT	In	Out
SHOPPING CENTER															
Gross Trips	**42,310 s.f.**	**3,883**	**92**	**2%**	**57**	**35**	**337**	**9%**	**162**	**175**	**5,374**	**500**	**9%**	**260**	**240**
Pass-By and Diverted Linked Trips		**582**	**14**	**2%**	**9**	**5**	**51**	**9%**	**24**	**27**	**806**	**75**	**9%**	**39**	**36**
(15% of Gross Trips)															
Trips to and from Existing Retail		**388**	**9**	**2%**	**6**	**3**	**34**	**9%**	**16**	**18**	**537**	**50**	**9%**	**26**	**24**
(10% of Gross Trips, 4% Barnyard, 6% Crossroads)															
Primary Trips (75% of Gross Trips)		**2,913**	**69**	**2%**	**42**	**27**	**252**	**9%**	**122**	**130**	**4,031**	**375**	**9%**	**195**	**180**

Notes:

1. Trip generation rates published by Institute of Transportation Engineers, "Trip Generation," 9th Edition, 2012.
2. Shopping center trip rates based ITE on fitted curve equation.

Exhibit 9

Project Trip Generation



Legend

X Study Intersection #

X% Trip Distribution %

Exhibit 10

Project Trip Distribution

Weekday AM and PM Peak Hour

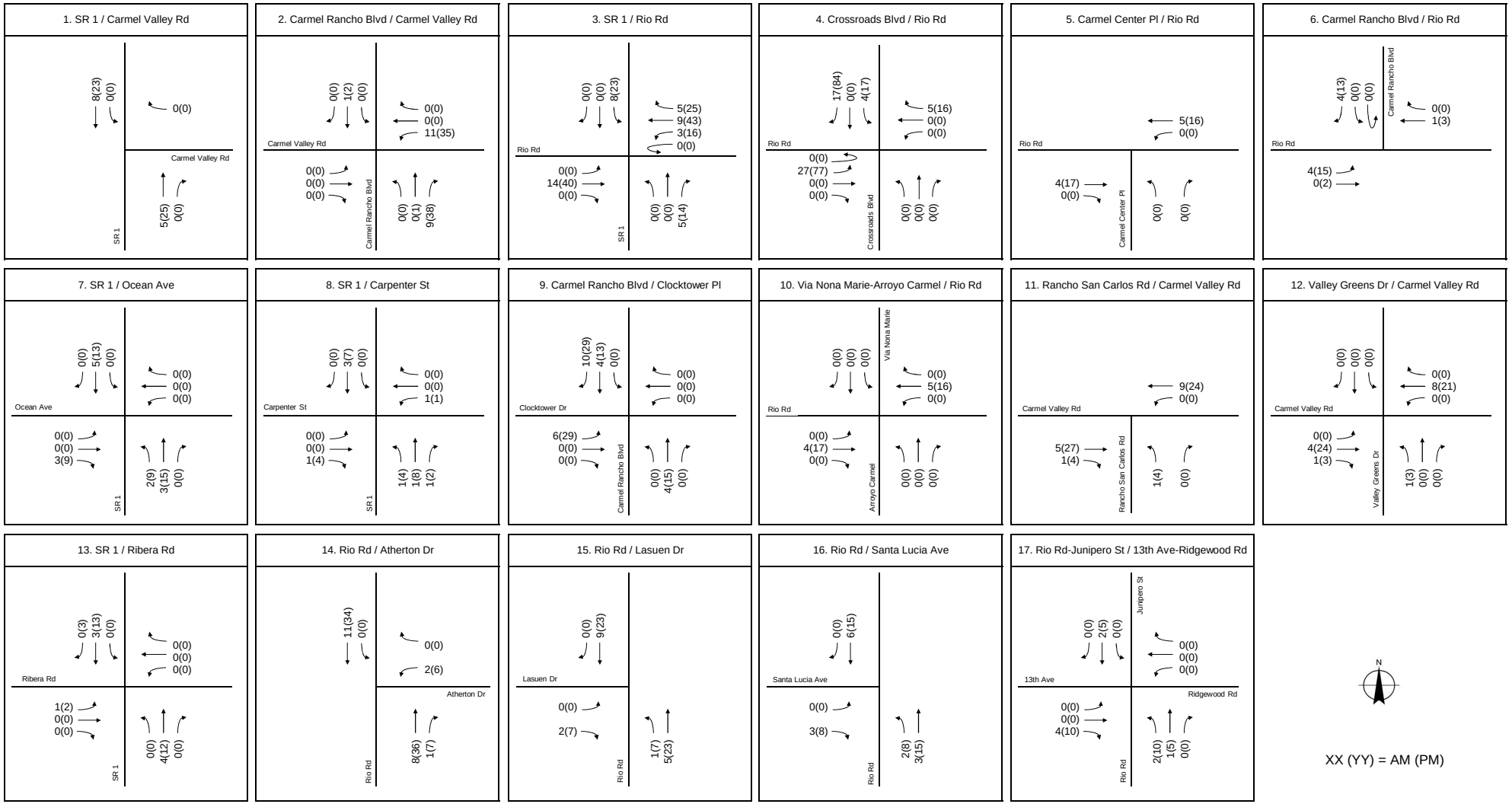


Exhibit 11

Project Trip Assignment - Primary Trips

Saturday Peak Hour

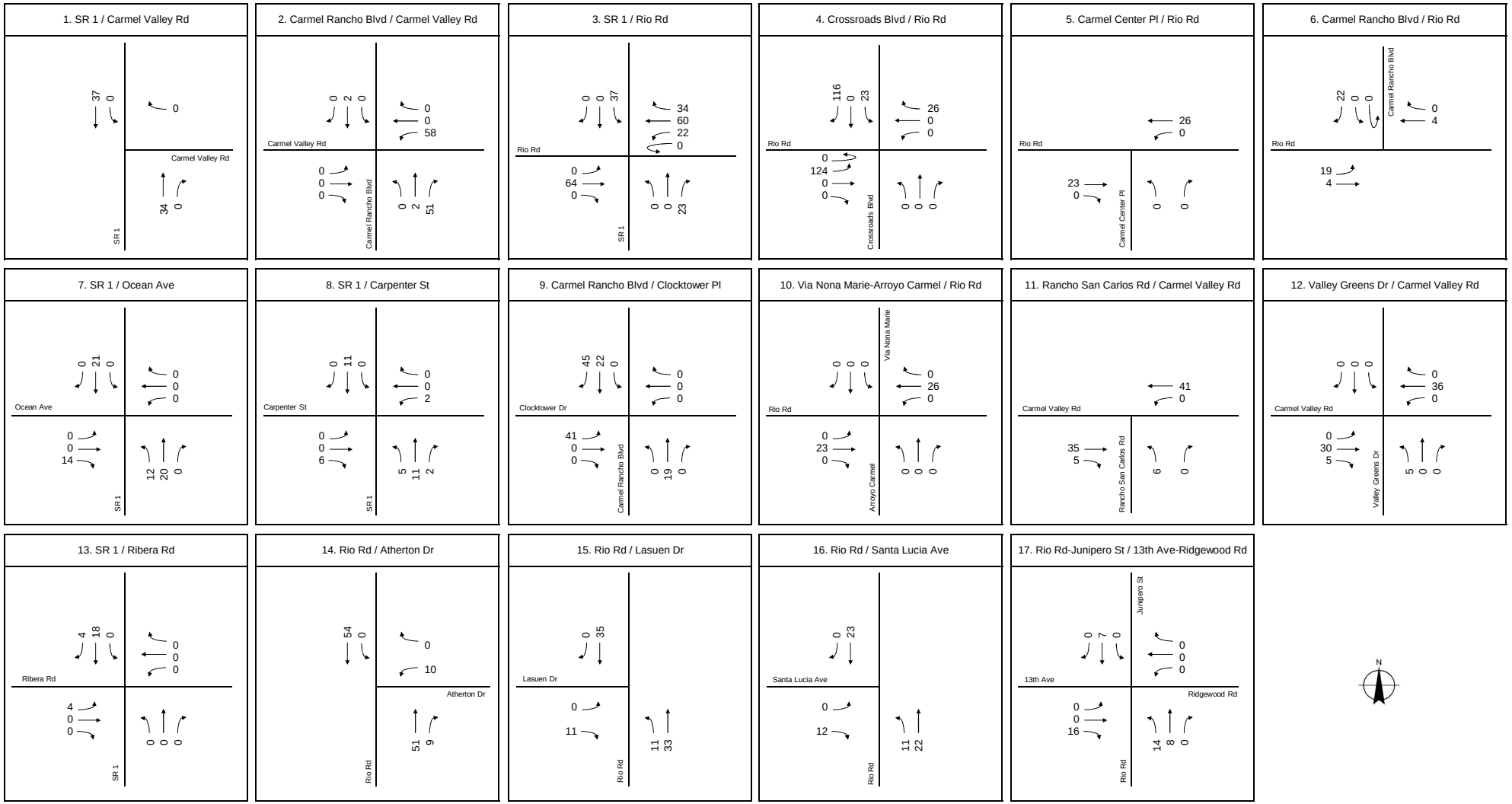


Exhibit 11

Project Trip Assignment - Primary Trips

Weekday AM and PM Peak Hour

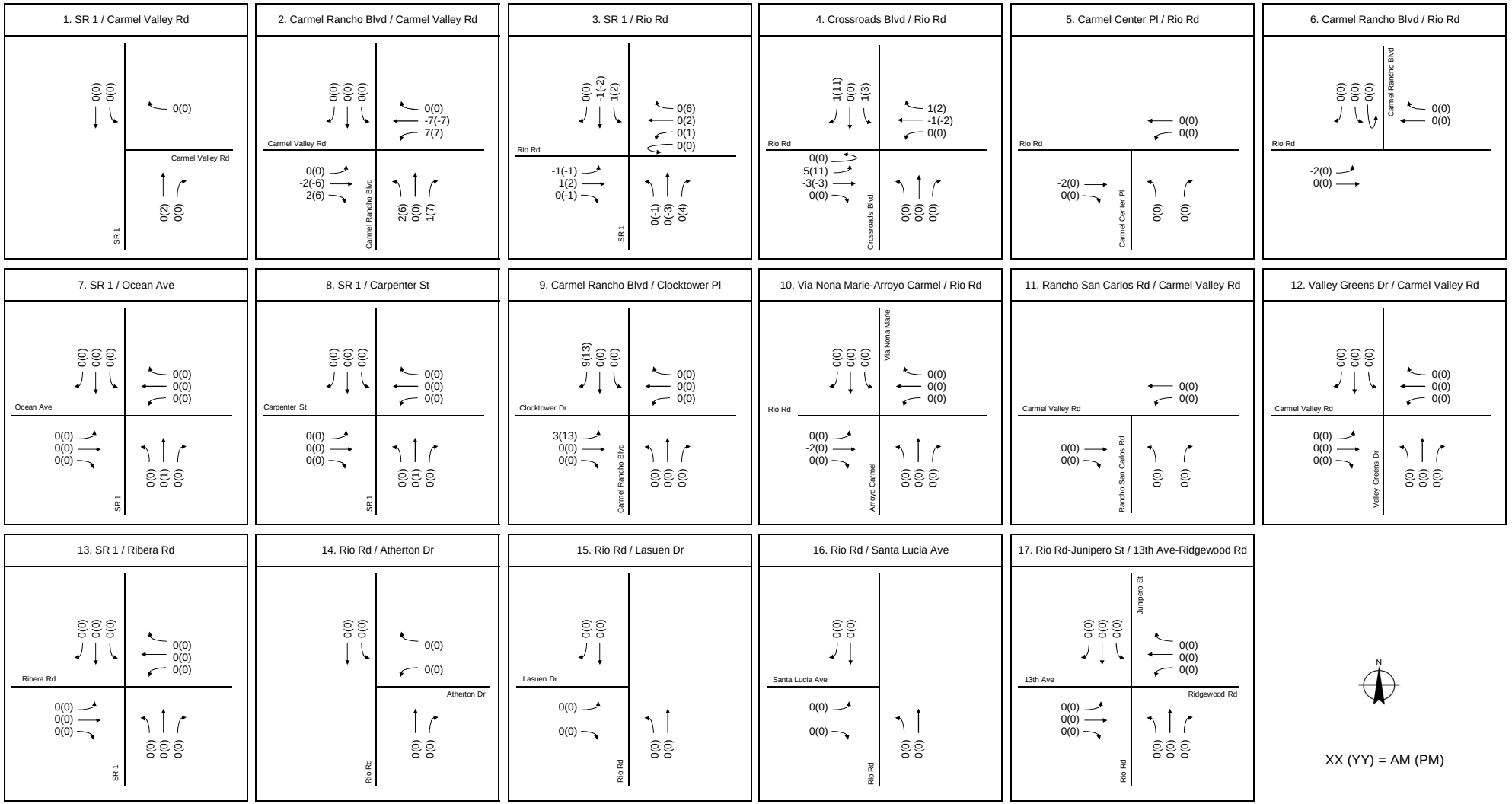


Exhibit 12

Project Trip Assignment - Pass-By and Diverted Linked Trips

Saturday Peak Hour

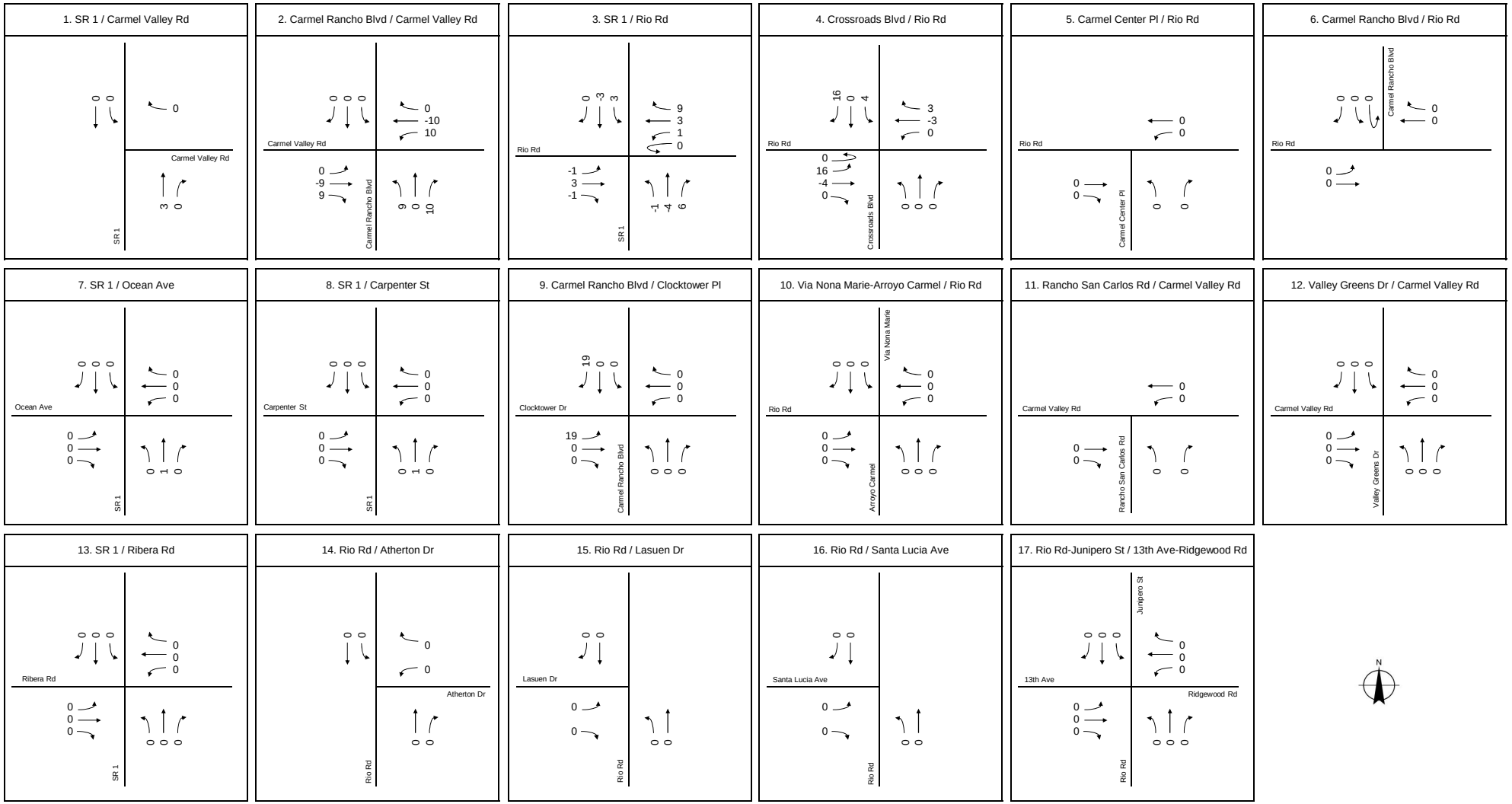


Exhibit 12

Project Trip Assignment - Pass-By and Diverted Linked Trips

Weekday AM and PM Peak Hour

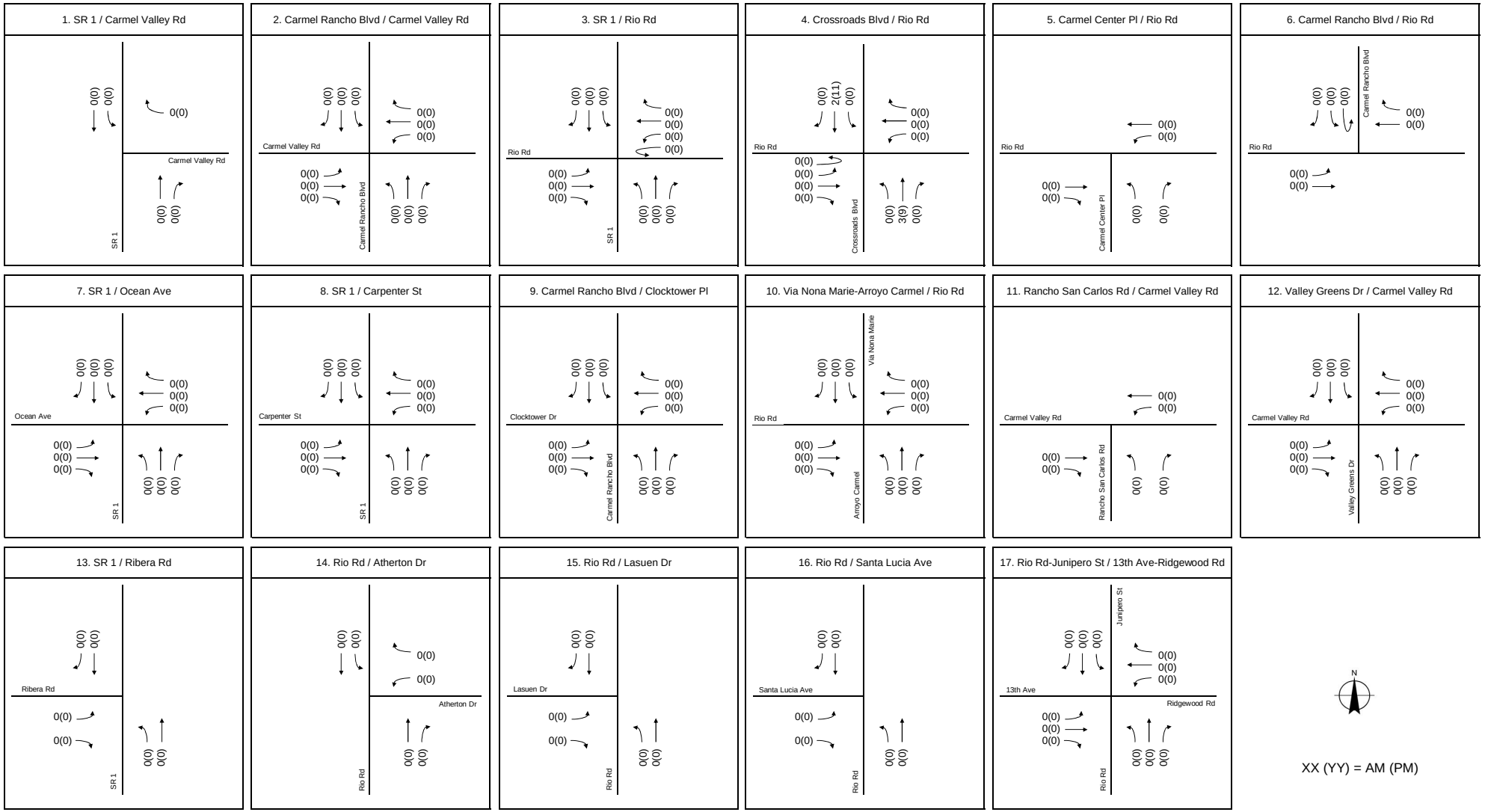


Exhibit 13

Project Trip Assignment - Trips To and From Nearby Retail

Saturday Peak Hour

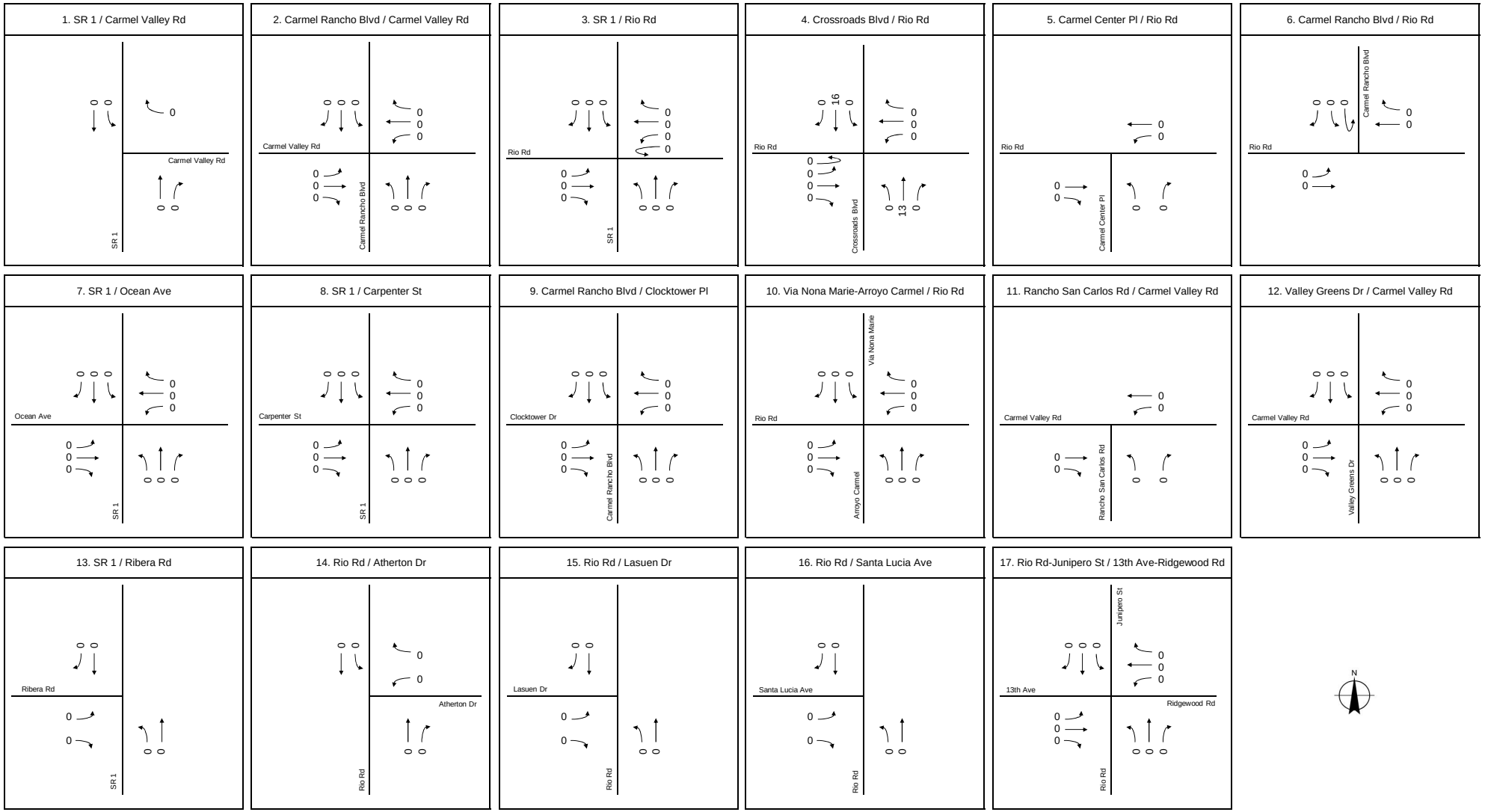


Exhibit 13

Project Trip Assignment - Trips To and From Nearby Retail

Weekday AM and PM Peak Hour

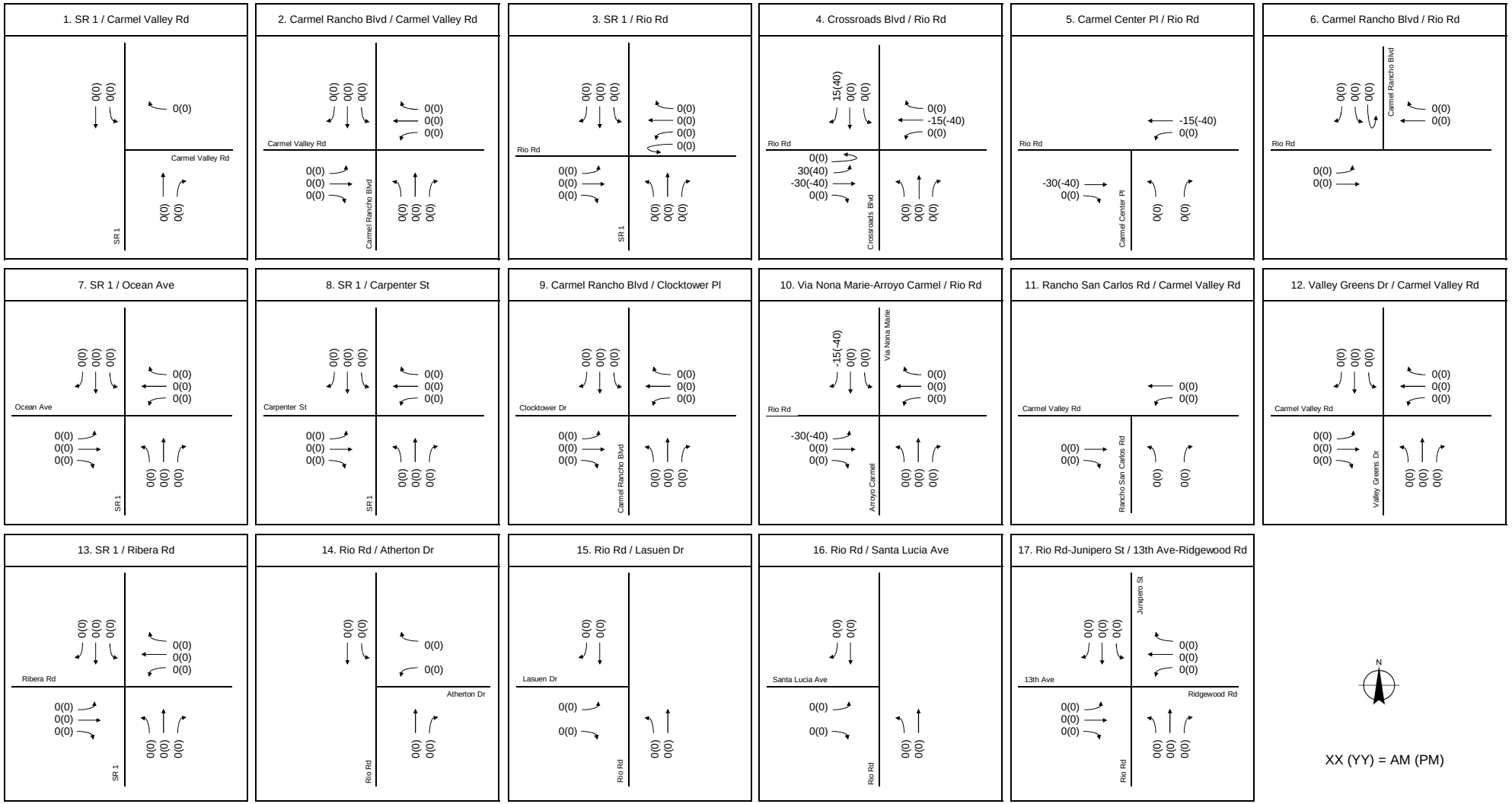


Exhibit 14

Redistributed Existing Traffic Volumes

Saturday Peak Hour

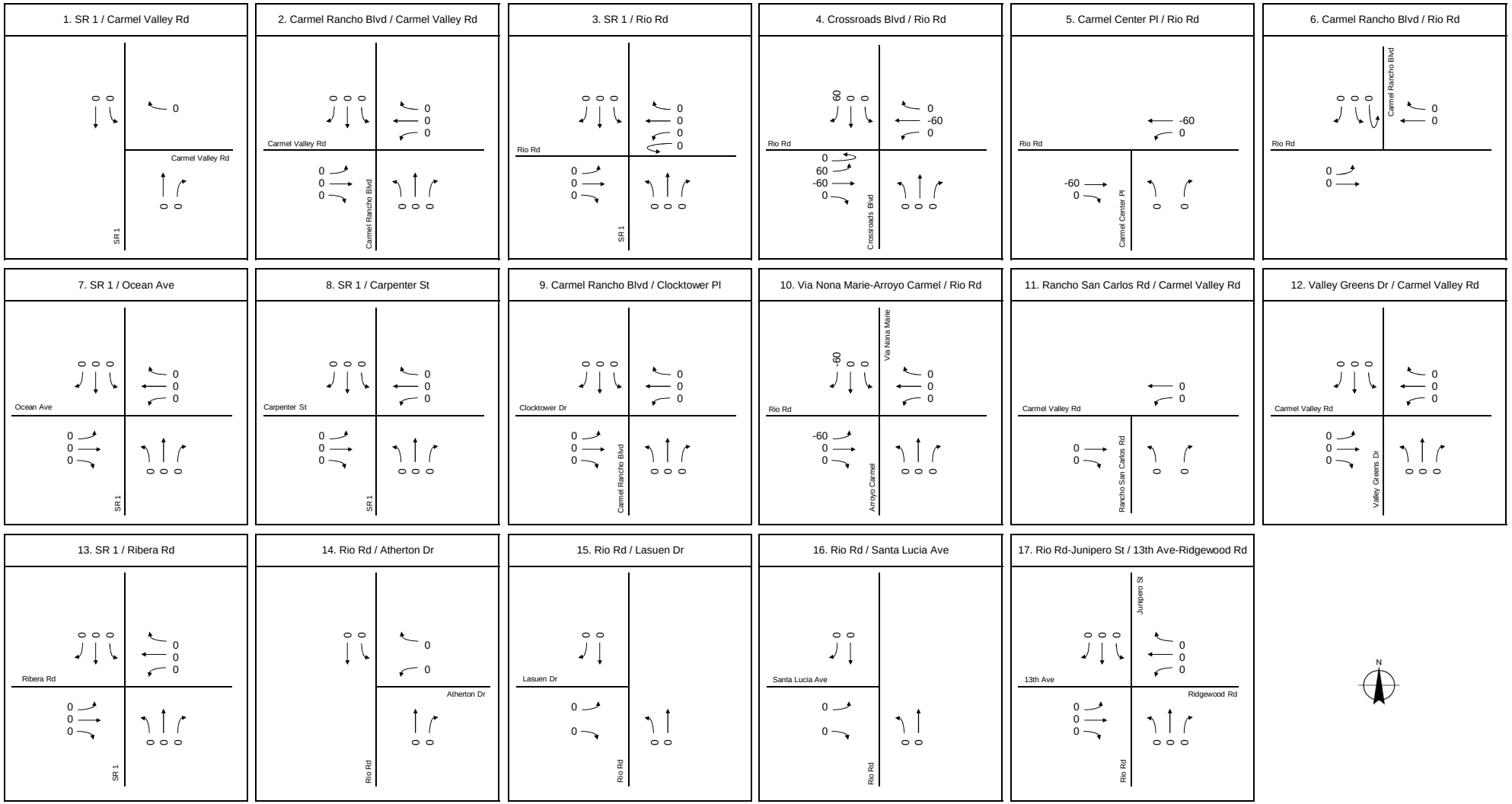


Exhibit 14

Redistributed Existing Traffic Volumes

Weekday AM and PM Peak Hour

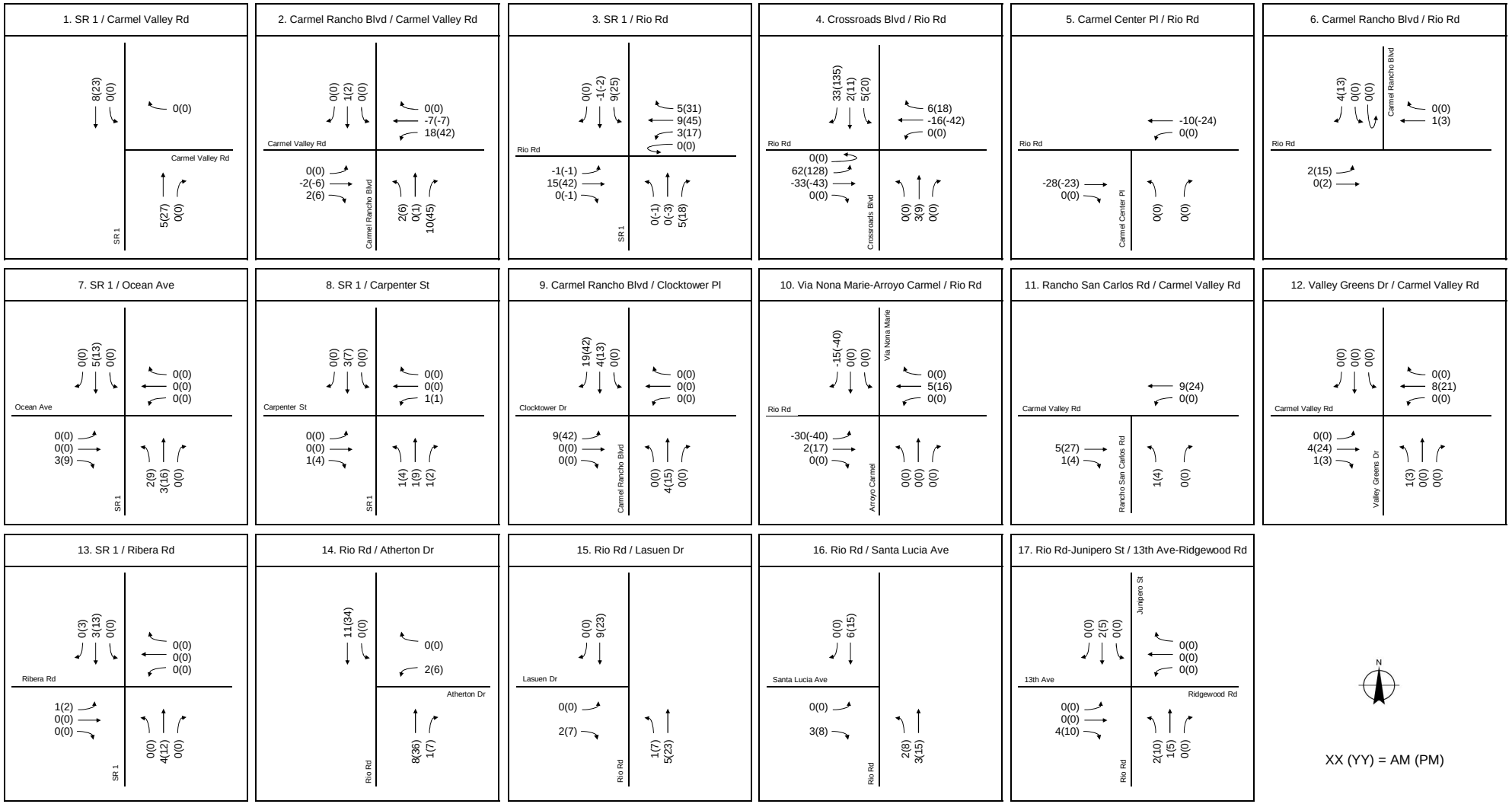


Exhibit 15

Total Net Project Trip Assignment

Saturday Peak Hour

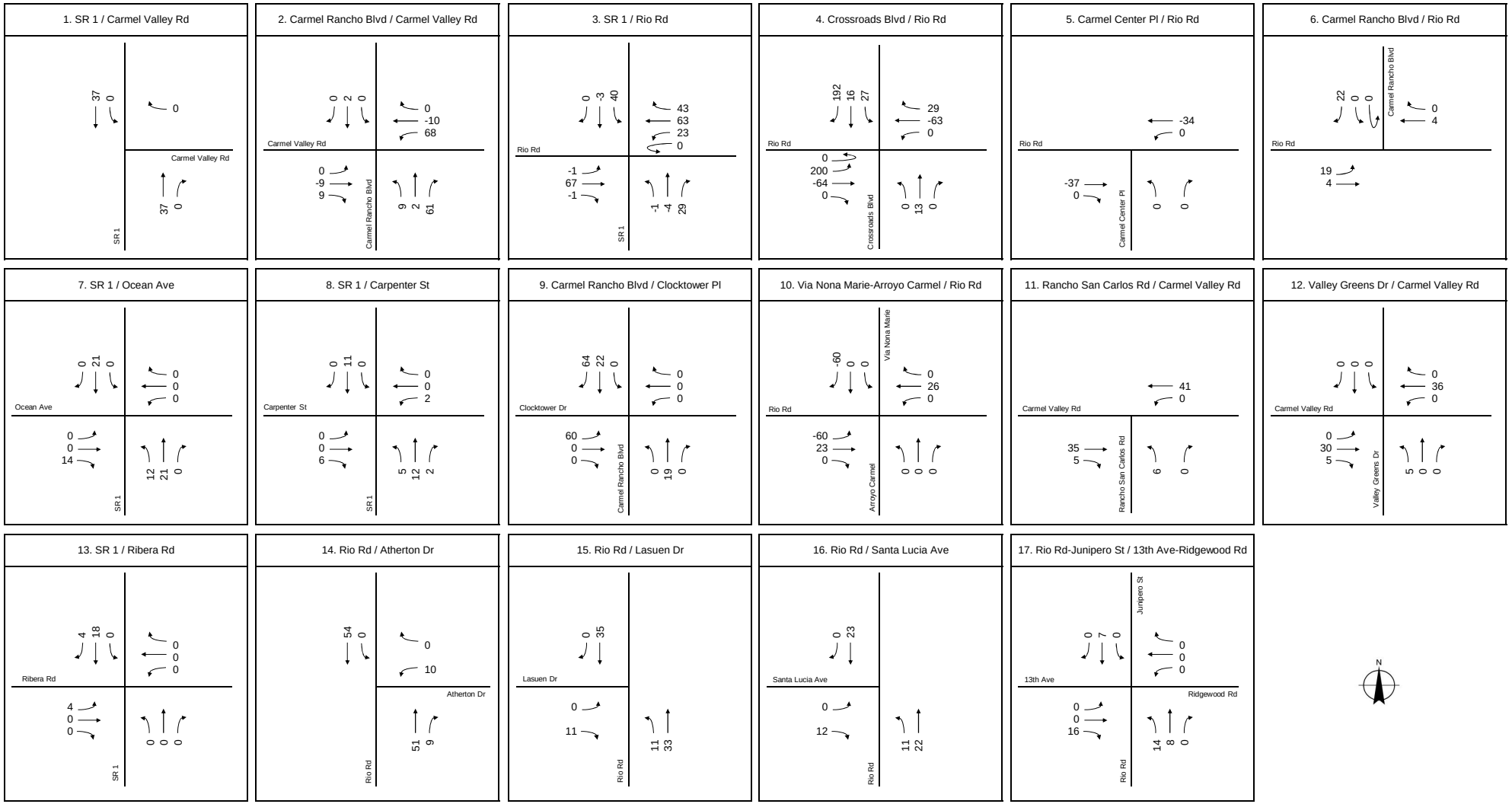


Exhibit 15

Total Net Project Trip Assignment

Weekday AM and PM Peak Hour

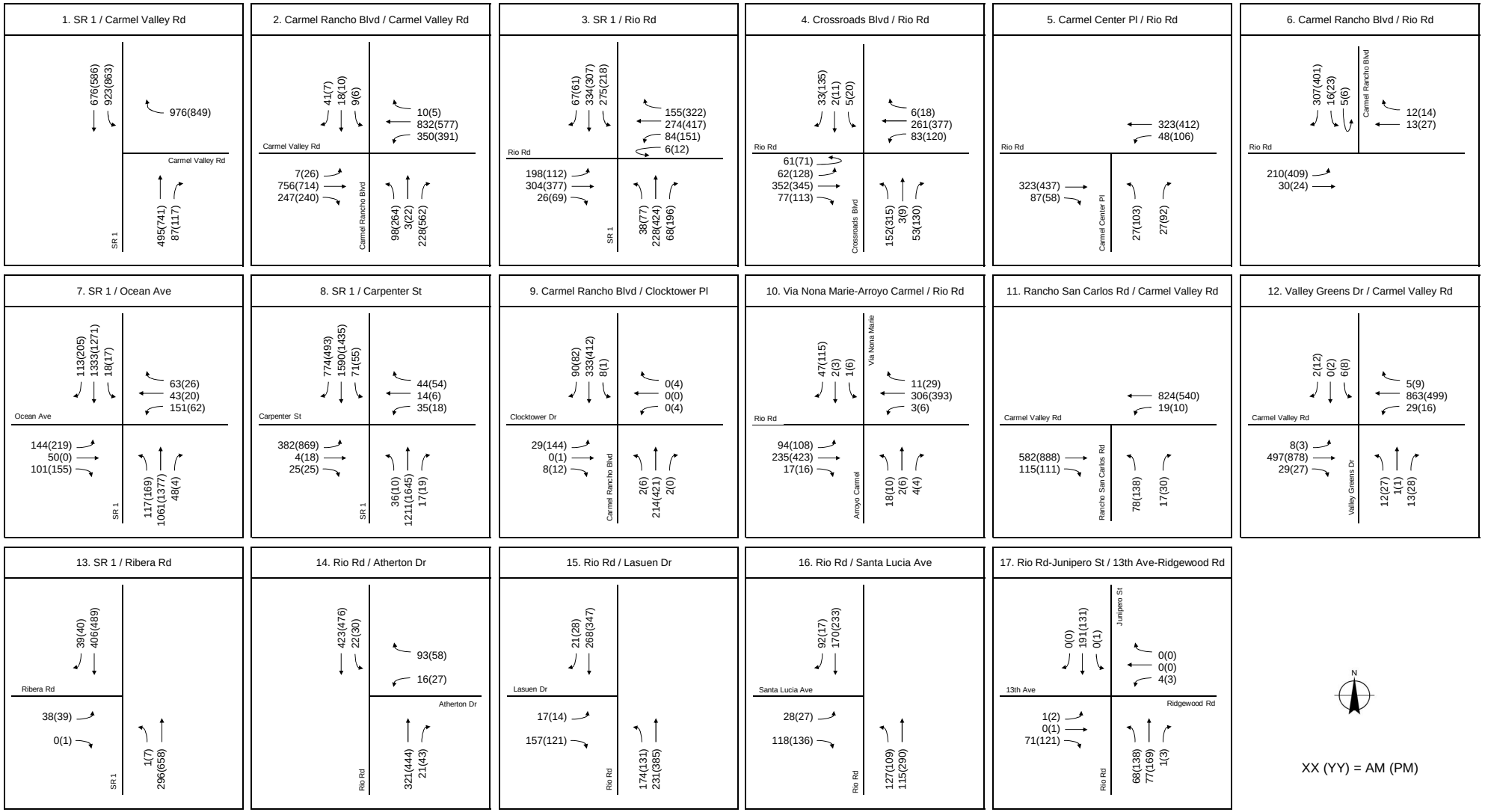


Exhibit 16

Existing Plus Project Traffic Volumes

Saturday Peak Hour

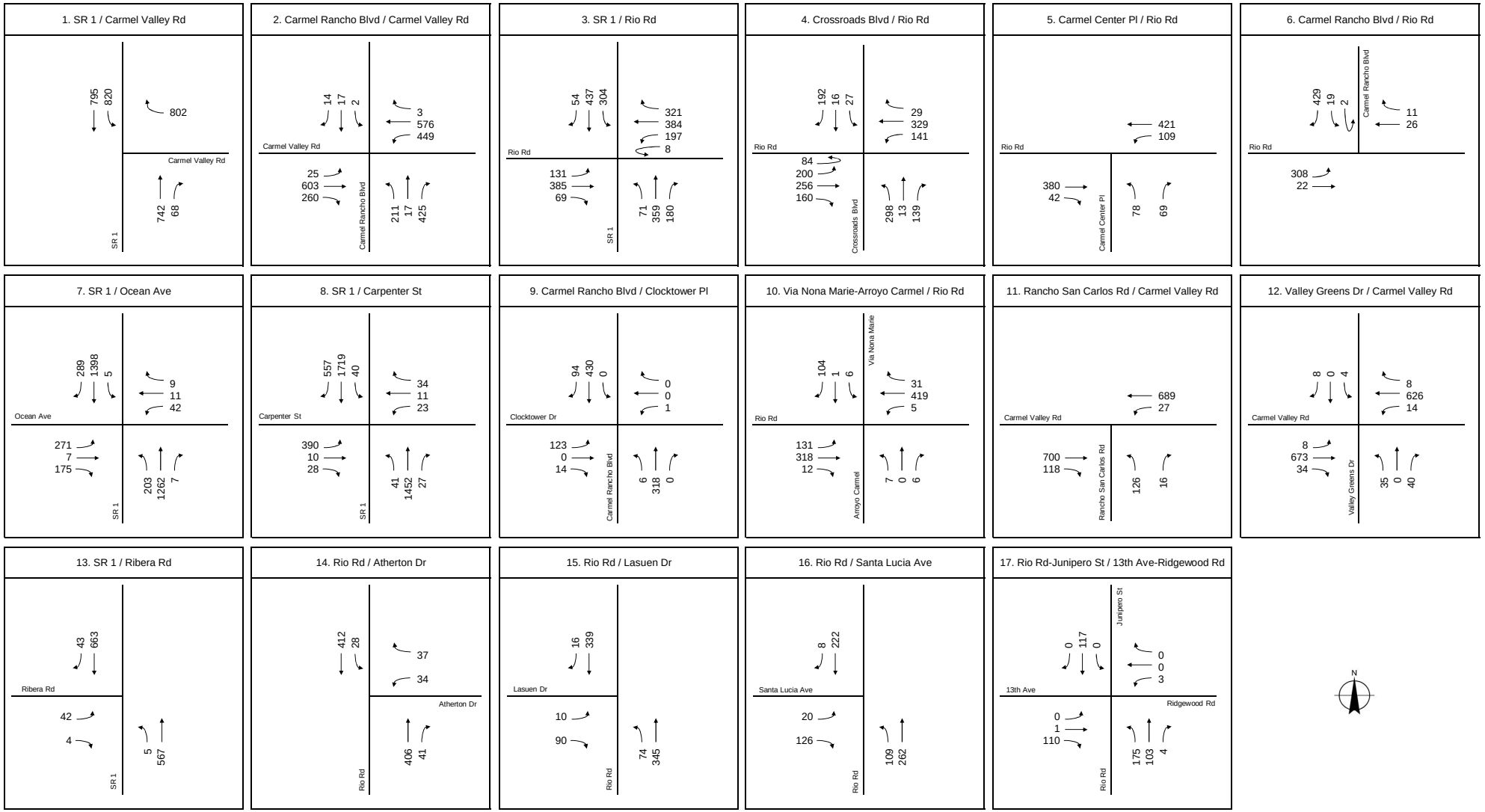


Exhibit 16

Existing Plus Project Traffic Volumes

Weekday AM Peak Hour

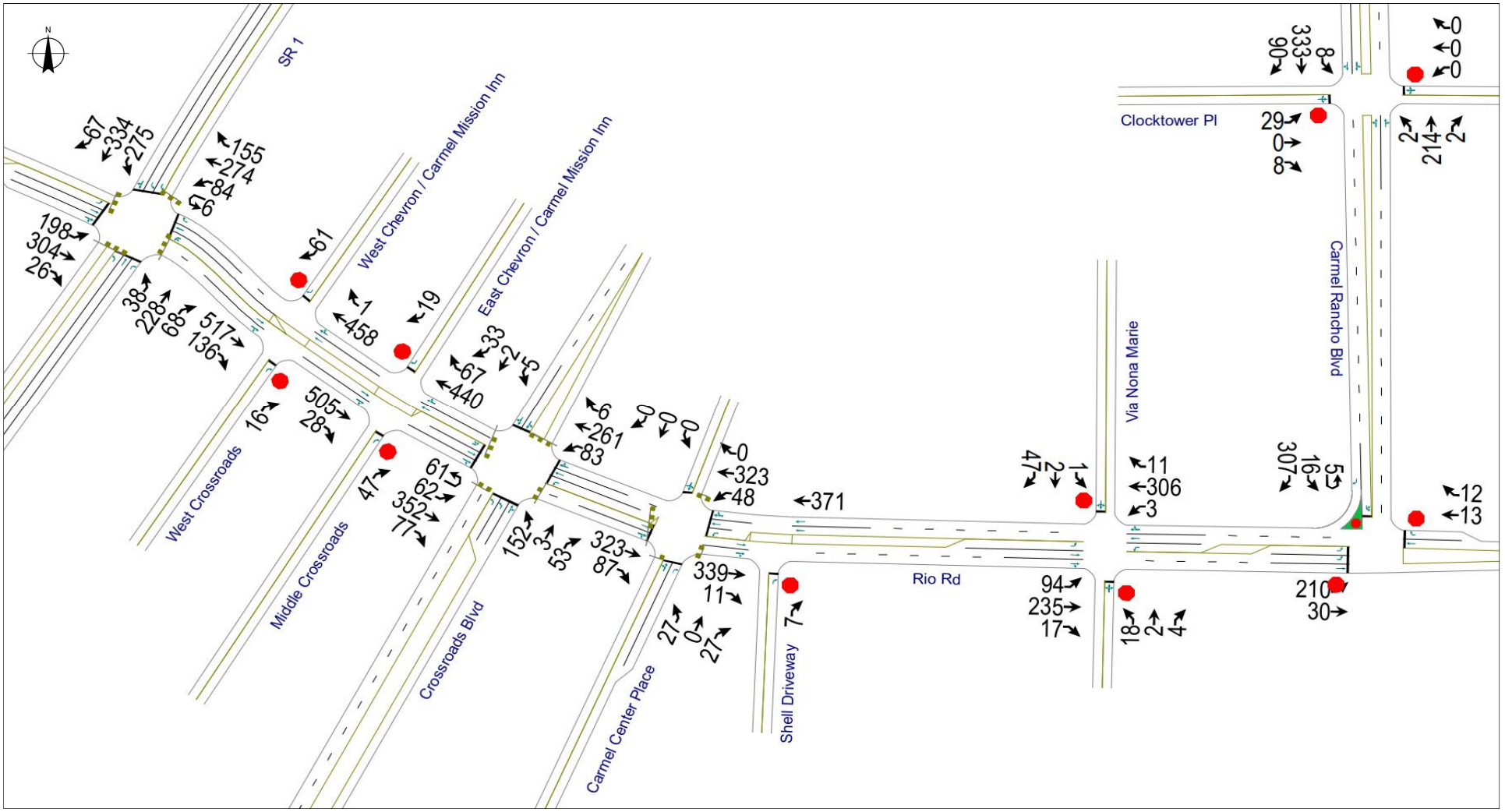


Exhibit 17

Existing Plus Project

Rio Road Corridor Traffic Volumes

Weekday PM Peak Hour

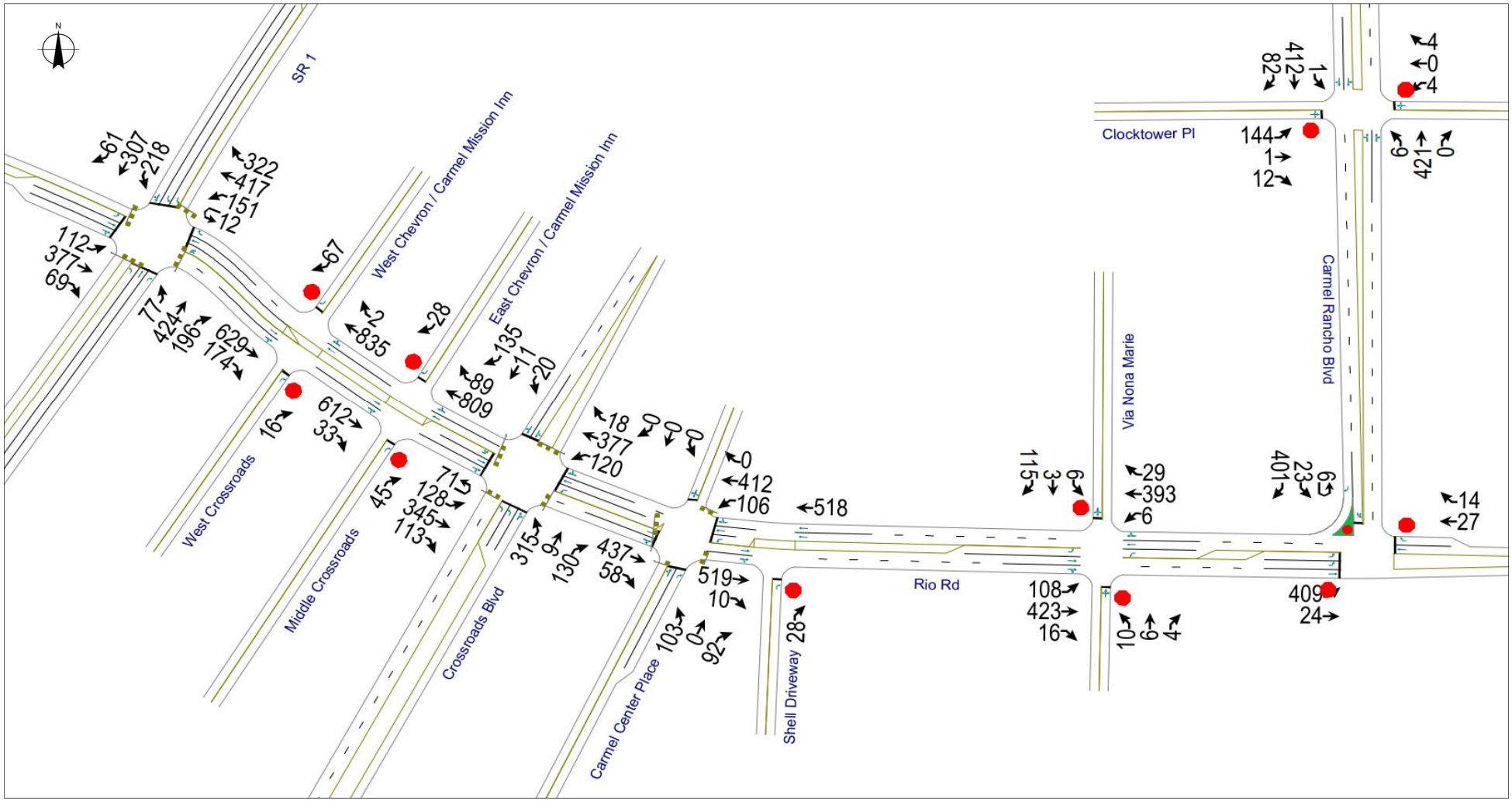


Exhibit 17

Existing Plus Project

Rio Road Corridor Traffic Volumes

Saturday Peak Hour

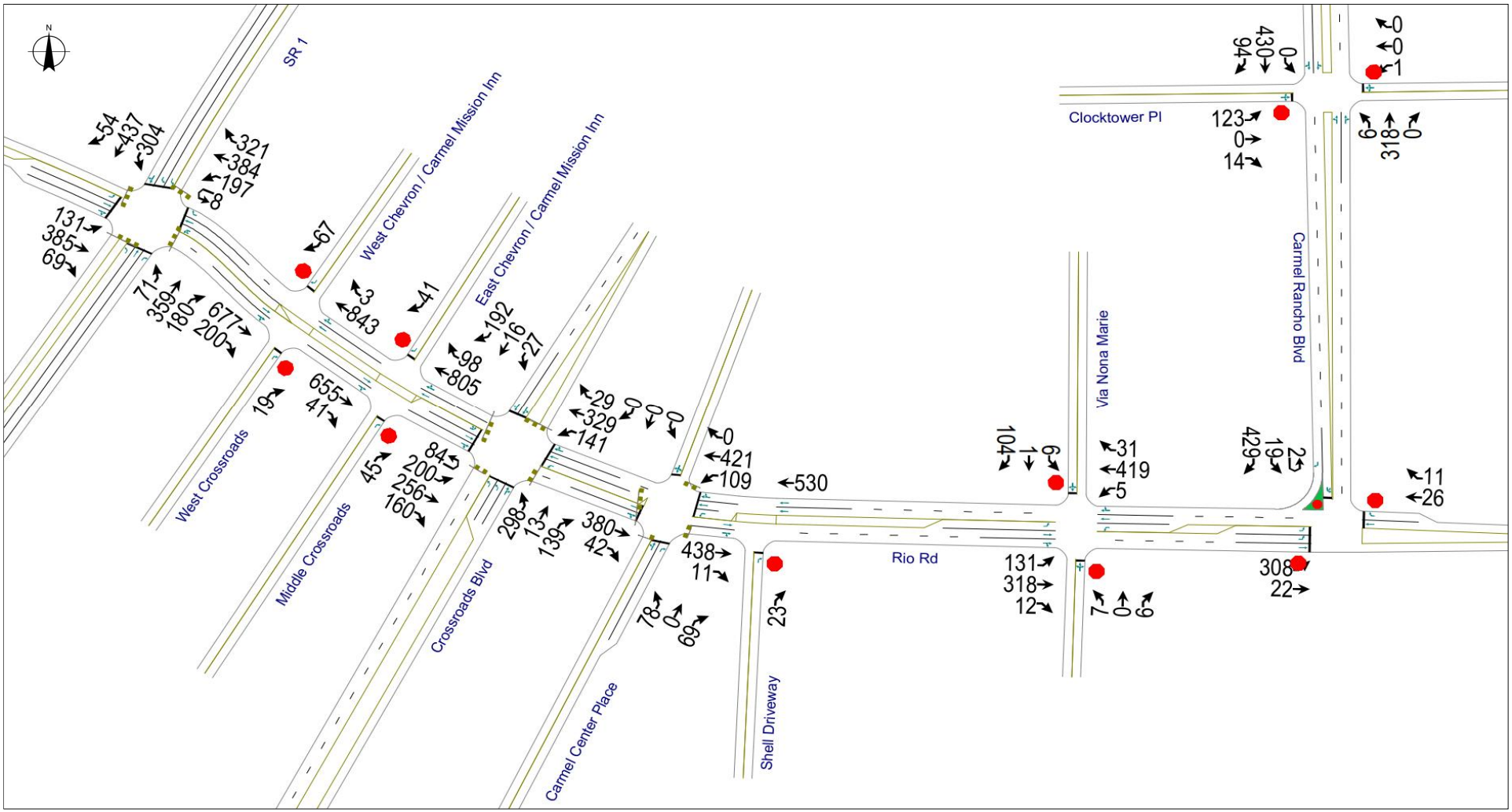


Exhibit 17

Existing Plus Project

Rio Road Corridor Traffic Volumes

Weekday AM and PM Peak Hour

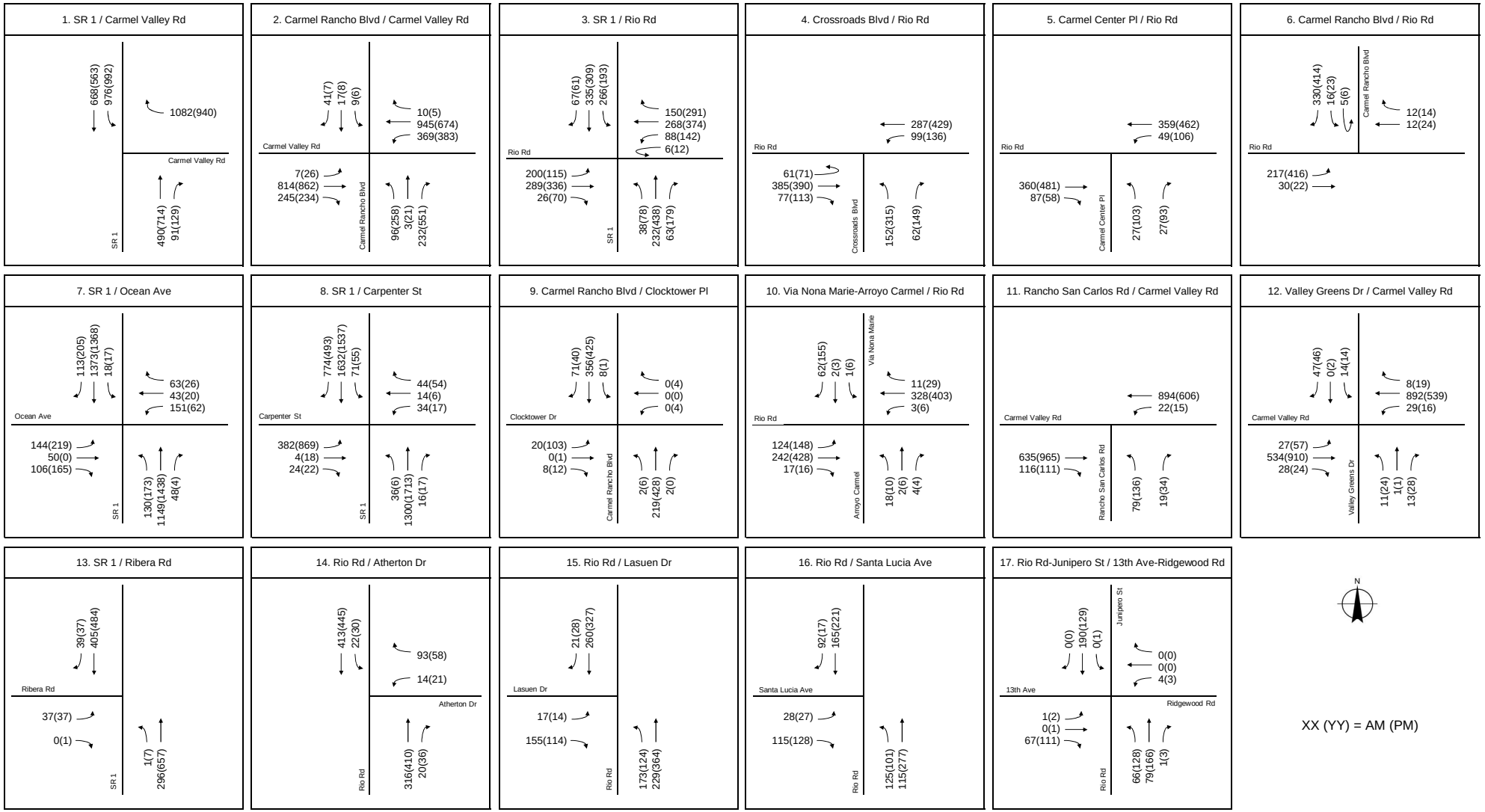


Exhibit 18

Background Conditions Traffic Volumes

Saturday Peak Hour

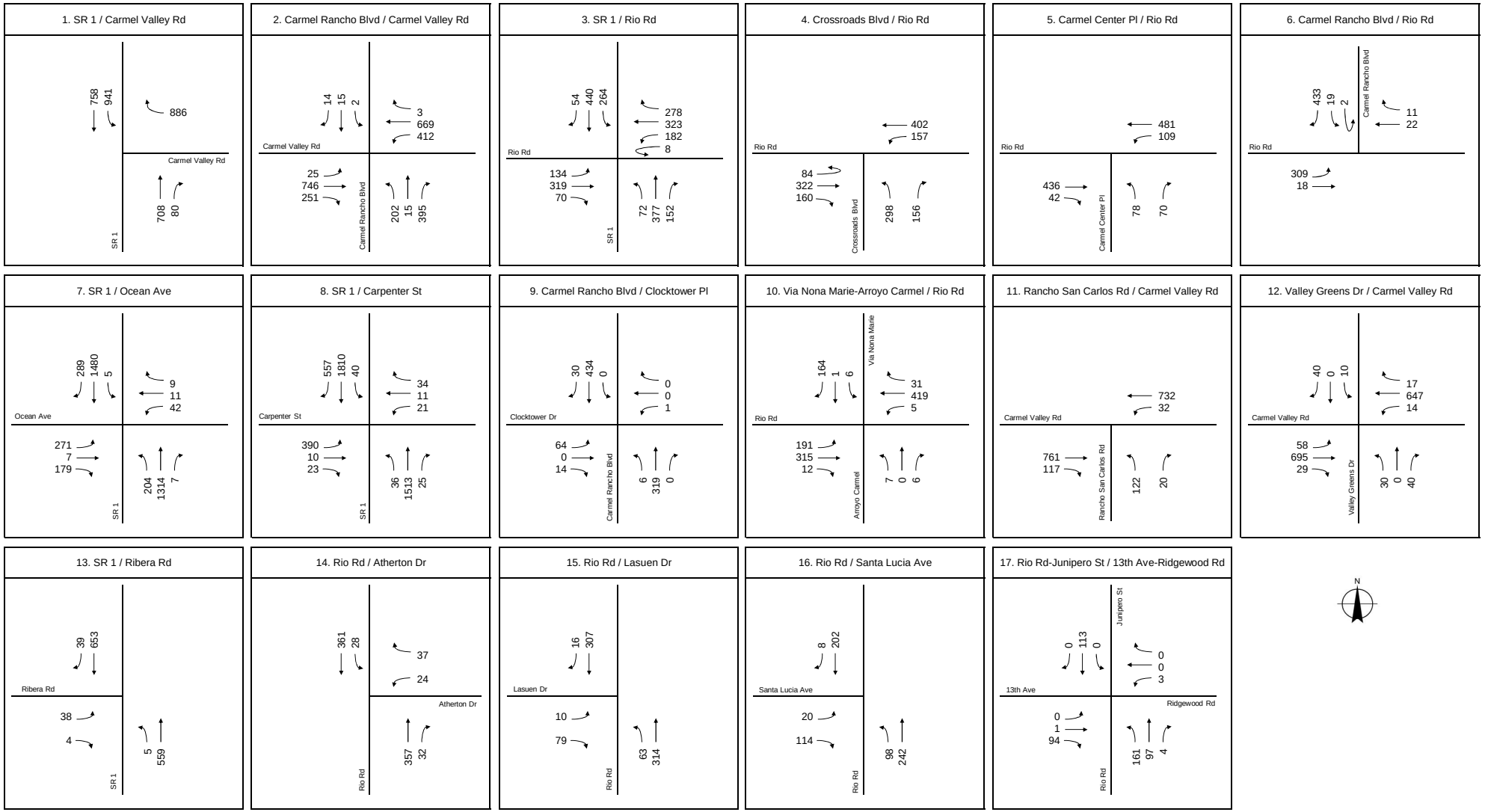


Exhibit 18

Background Conditions Traffic Volumes

Weekday AM Peak Hour

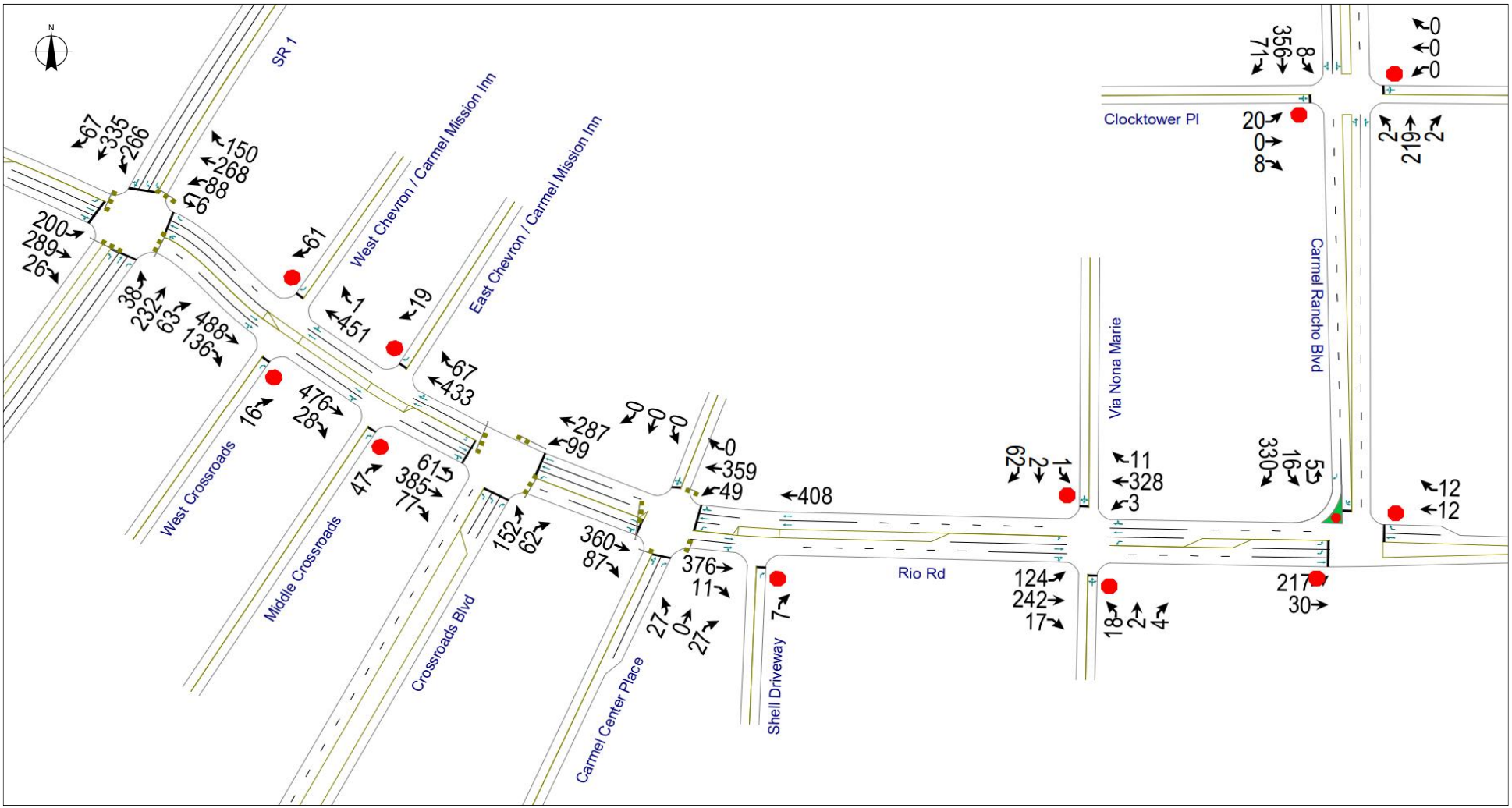


Exhibit 19

Background Conditions

Rio Road Corridor Traffic Volumes

Weekday PM Peak Hour

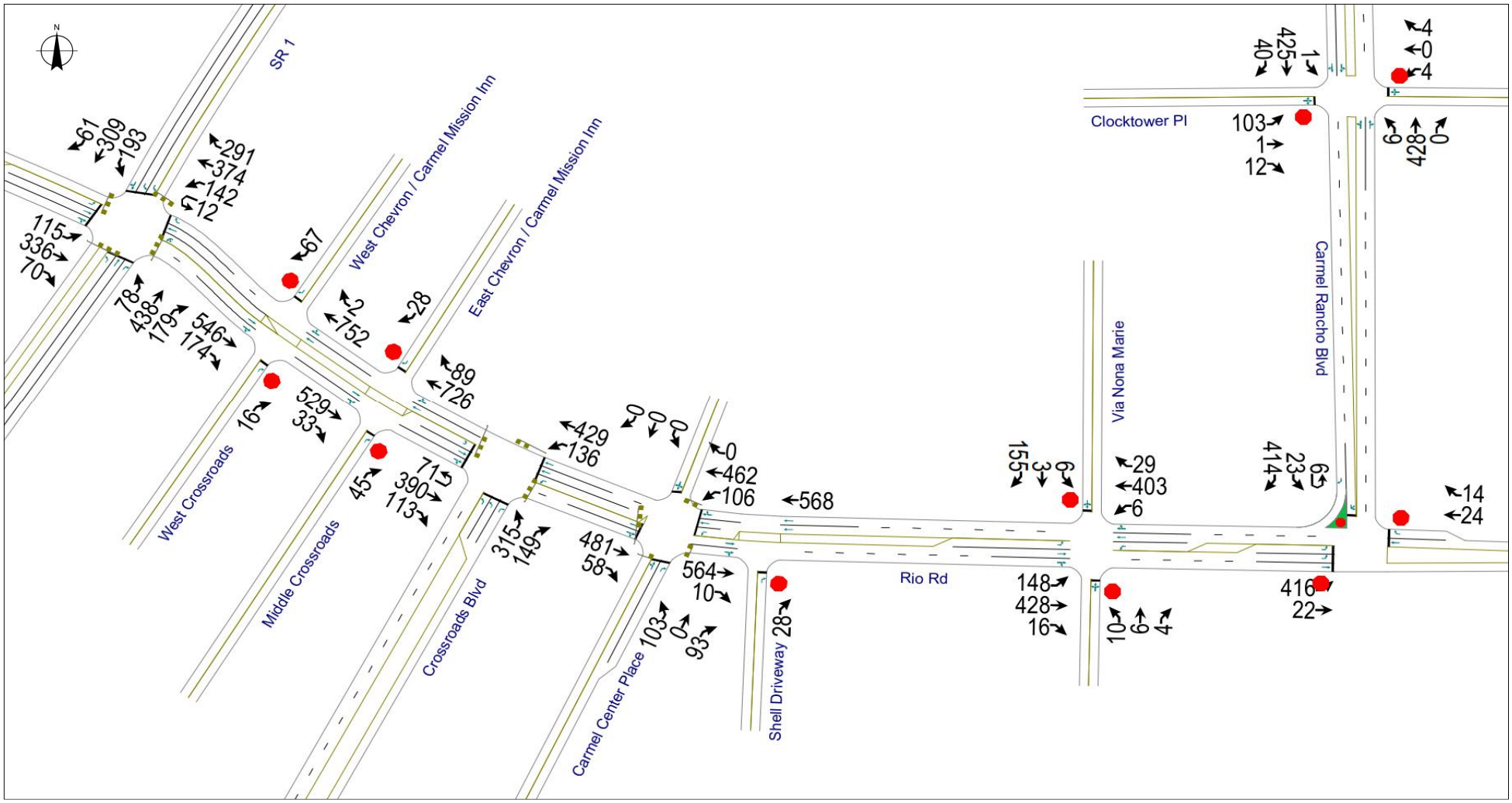


Exhibit 19
Background Conditions
Rio Road Corridor Traffic Volumes

Saturday Peak Hour

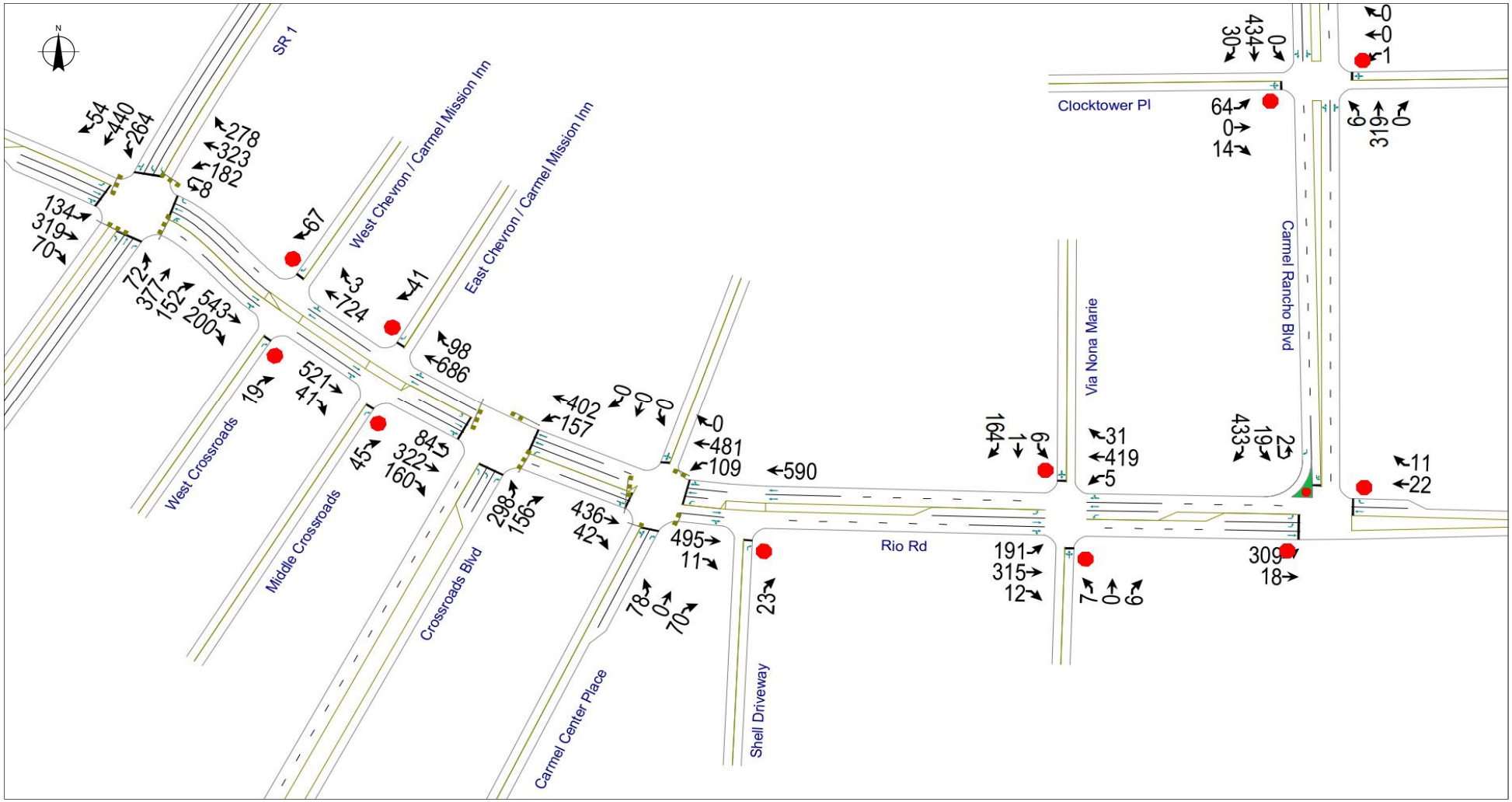


Exhibit 19
Background Conditions
Rio Road Corridor Traffic Volumes

	Segment	From	To	# of Lanes	CVMP ADT Threshold	ADT	Dir	Background Conditions														
								AM Peak Hour					PM Peak Hour					Saturday Peak Hour				
								Volume	PTSF	Density	% FFS	LOS	Volume	PTSF	Density	% FFS	LOS	Volume	PTSF	Density	% FFS	LOS
1	SR 1	Carpenter St	Ocean Ave	4	N/A	N/A	NB	1,356	-	17.9	-	B	1,736	-	21.9	-	C	1,594	-	20.2	-	C
							SB	1,690	-	20.9	-	C	1,590	-	18.5	-	C	1,854	-	21.3	-	C
2	SR 1	Ocean Ave	Carmel Valley Rd	3	N/A	N/A	NB	1,572	-	22.1	-	C	1,654	-	20.0	-	C	1,594	-	19.9	-	C
							SB	1,644	97.4%	-	-	F	1,595	96.3%	-	-	F	1,701	97.7%	-	-	F
3	SR 1	Carmel Valley Rd	Rio Rd	2	N/A	N/A	NB	582	81.3%	-	-	D	844	89.6%	-	-	E	789	83.5%	-	-	D
							SB	668	78.5%	-	-	D	563	72.8%	-	-	D	758	81.7%	-	-	D
4	SR 1	Rio Rd	Ribera Rd	2	N/A	N/A	NB	333	61.2%	-	-	C	695	82.6%	-	-	D	601	77.4%	-	-	D
							SB	449	72.7%	-	-	D	521	71.0%	-	-	D	692	79.4%	-	-	D
5	Rio Rd	13th Ave	SR 1	2	N/A	N/A	EB	515	-	-	75.2%	B	521	-	-	80.0%	B	523	-	-	80.0%	B
							WB	373	-	-	75.2%	B	513	-	-	80.0%	B	449	-	-	80.0%	B
6	Carmel Valley Rd	Robinson Canyon Rd	Schulte Rd	2	15,499	16,305	EB	429	62.4%	-	-	C	970	89.2%	-	-	E	729	82.0%	-	-	D
							WB	883	90.6%	-	-	E	509	72.7%	-	-	D	604	78.9%	-	-	D
7	Carmel Valley Rd	Schulte Rd	Rancho San Carlos Rd	2	16,340	18,121	EB	654	80.7%	-	-	D	999	91.0%	-	-	E	782	85.9%	-	-	E
							WB	950	93.3%	-	-	E	621	83.3%	-	-	D	764	84.7%	-	-	D
8	Carmel Valley Rd	Rancho San Carlos Rd	Rio Rd	4	48,487	21,818	EB	751	-	8.7	-	A	1,076	-	11.2	-	B	878	-	8.8	-	A
							WB	973	-	10.2	-	A	742	-	7.3	-	A	854	-	8.3	-	A
9	Carmel Valley Rd	Rio Rd	Carmel Rancho Blvd	4	51,401	27,558	EB	1,055	-	11.3	-	B	1,419	-	13.7	-	B	1,143	-	10.9	-	A
							WB	1,324	-	17.9	-	B	1,062	-	11.0	-	B	1,084	-	10.5	-	A
10	Carmel Valley Rd	Carmel Rancho Blvd	SR 1	4	27,839	24,984	EB	1,067	-	11.4	-	B	1,122	-	10.8	-	A	1,022	-	9.8	-	A
							WB	1,082	-	13.1	-	B	940	-	9.6	-	A	886	-	8.3	-	A
11	Carmel Rancho Blvd	Carmel Valley Rd	Rio Rd	4	33,495	10,815	NB	331	-	-	93.1%	A	830	-	-	91.4%	A	612	-	-	91.9%	A
							SB	639	-	-	86.2%	A	625	-	-	84.9%	B	678	-	-	84.6%	B
12	Rio Rd	Carmel Rancho Blvd	SR 1	4	33,928	12,219	EB	624	-	-	57.1%	C	720	-	-	52.0%	C	743	-	-	50.9%	C
							WB	512	-	-	46.8%	D	819	-	-	43.7%	D	791	-	-	42.3%	D
13	SR 1	Ribera Rd	Highlands Inn	2	N/A	N/A	NB	297	65.1%	-	-	C	664	81.6%	-	-	D	564	74.6%	-	-	D
							SB	405	70.6%	-	-	D	485	70.0%	-	-	C	657	80.0%	-	-	D
14	Crossroads Blvd	Rio Rd	Terminus	2	N/A	N/A	NB	214	-	-	60.0%	C	464	-	-	55.2%	C	454	-	-	52.8%	C
							SB	176	-	-	60.0%	C	249	-	-	55.2%	C	317	-	-	52.8%	C
15	Carmel Center Place	Rio Rd	Terminus	2	N/A	N/A	NB	54	-	-	87.2%	A	196	-	-	87.2%	A	148	-	-	94.0%	A
							SB	136	-	-	87.2%	A	164	-	-	87.2%	A	151	-	-	94.0%	A

	Segment	From	To	# of Lanes	CVMP ADT Threshold	ADT	Dir	Background + Project Conditions														
								Project Trips	AM Peak Hour					Project Trips	PM Peak Hour					Project Trips	Saturday Peak Hour				
									Volume	PTSF	Density	% FFS	LOS		Volume	PTSF	Density	% FFS	LOS		Volume	PTSF	Density	% FFS	LOS
1	SR 1	Carpenter St	Ocean Ave	4	N/A	N/A	NB	3	1,359	-	17.9	-	B	15	1,751	-	22.1	-	C	21	1,615	-	20.5	-	C
							SB	5	1,695	-	21.0	-	C	13	1,603	-	18.6	-	C	19	1,873	-	21.6	-	C
2	SR 1	Ocean Ave	Carmel Valley Rd	3	N/A	N/A	NB	5	1,577	-	22.2	-	C	27	1,681	-	20.3	-	C	37	1,631	-	20.4	-	C
							SB	8	1,652	97.5%	-	-	F	22	1,617	96.5%	-	-	F	35	1,736	97.9%	-	-	F
3	SR 1	Carmel Valley Rd	Rio Rd	2	N/A	N/A	NB	5	587	81.3%	-	-	D	27	871	89.7%	-	-	E	38	827	84.7%	-	-	D
							SB	8	676	78.4%	-	-	D	23	586	74.1%	-	-	D	37	795	83.0%	-	-	D
4	SR 1	Rio Rd	Ribera Rd	2	N/A	N/A	NB	5	338	61.6%	-	-	C	14	709	83.0%	-	-	D	24	625	78.2%	-	-	D
							SB	2	451	72.6%	-	-	D	14	535	71.7%	-	-	D	19	711	80.7%	-	-	D
5	Rio Rd	13th Ave	SR 1	2	N/A	N/A	EB	14	529	-	-	75.2%	B	40	561	-	-	80.0%	B	65	588	-	-	79.6%	B
							WB	9	382	-	-	75.2%	B	44	557	-	-	80.0%	B	62	511	-	-	79.6%	B
6	Carmel Valley Rd	Robinson Canyon Rd	Schulte Rd	2	15,499	16,766	EB	4	433	63.1%	-	-	C	21	991	90.5%	-	-	E	28	757	83.1%	-	-	D
							WB	7	890	92.4%	-	-	E	19	528	73.7%	-	-	D	31	635	79.8%	-	-	D
7	Carmel Valley Rd	Schulte Rd	Rancho San Carlos Rd	2	16,340	18,709	EB	5	659	80.8%	-	-	D	27	1,026	91.8%	-	-	E	36	818	87.4%	-	-	E
							WB	9	959	93.4%	-	-	E	24	645	84.4%	-	-	D	40	804	85.7%	-	-	E
8	Carmel Valley Rd	Rancho San Carlos Rd	Rio Rd	4	48,487	22,498	EB	6	757	-	8.7	-	A	31	1,107	-	11.5	-	B	40	918	-	9.2	-	A
							WB	10	983	-	10.3	-	A	28	770	-	7.6	-	A	47	901	-	8.7	-	A
9	Carmel Valley Rd	Rio Rd	Carmel Rancho Blvd	4	51,401	28,411	EB	8	1,063	-	11.3	-	B	39	1,458	-	14.1	-	B	52	1,195	-	11.4	-	B
							WB	11	1,335	-	18.0	-	C	35	1,097	-	11.4	-	B	58	1,142	-	11.1	-	B
10	Carmel Valley Rd	Carmel Rancho Blvd	SR 1	4	27,839	24,984	EB	0	1,067	-	11.4	-	B	0	1,122	-	10.8	-	A	0	1,022	-	9.8	-	A
							WB	0	1,082	-	13.4	-	B	0	940	-	9.6	-	A	0	886	-	8.3	-	A
11	Carmel Rancho Blvd	Carmel Valley Rd	Rio Rd	4	33,495	11,990	NB	12	343	-	-	93.1%	A	52	882	-	-	91.3%	A	72	684	-	-	91.8%	A
							SB	21	660	-	-	86.1%	A	50	675	-	-	84.8%	B	79	757	-	-	84.5%	B
12	Rio Rd	Carmel Rancho Blvd	SR 1	4	33,928	14,270	EB	29	653	-	-	55.1%	C	85	805	-	-	49.1%	D	136	879	-	-	51.6%	C
							WB	17	529	-	-	47.7%	D	93	912	-	-	42.7%	D	129	920	-	-	43.6%	D
13	SR 1	Ribera Rd	Highlands Inn	2	N/A	N/A	NB	4	301	65.1%	-	-	C	12	676	81.8%	-	-	D	19	583	75.1%	-	-	D
							SB	3	408	70.1%	-	-	D	13	498	70.9%	-	-	D	18	675	80.7%	-	-	D
14	Crossroads Blvd	Rio Rd	Terminus	2	N/A	N/A	NB	3	217	-	-	79.2%	B	9	473	-	-	76.8%	B	13	467	-	-	74.4%	B
							SB	2	178	-	-	79.2%	B	11	260	-	-	76.8%	B	16	333	-	-	74.4%	B
15	Carmel Center Place	Rio Rd	Terminus	2	N/A	N/A	NB	0	54	-	-	87.2%	A	0	196	-	-	87.2%	A	0	148	-	-	94.0%	A
							SB	0	136	-	-	87.2%	A	0	164	-	-	87.2%	A	0	151	-	-	94.0%	A

Notes:
1. LOS = Level of Service
2. Two-lane highway LOS based on percent time spent following (PTSF), Two-Lane Highways, HCM 2010, Exhibit 15-3.
3. Four-lane highway LOS based on density in passenger cars per mile per lane (pc/mi/ln), Multi-Lane Highways, HCM 2010, Exhibit 14-4.
4. Arterial LOS based on travel speed as a percentage of base free-flow speed (% FFS), Urban Street Segments, HCM 2010, Exhibit 17-2.
5. LOS highlighted in red exceeds LOS standard.
6. LOS in bold box indicates project or cumulative project impact.

Exhibit 20
Background and Background Plus Project
Road Segment Levels of Service

Weekday AM and PM Peak Hour

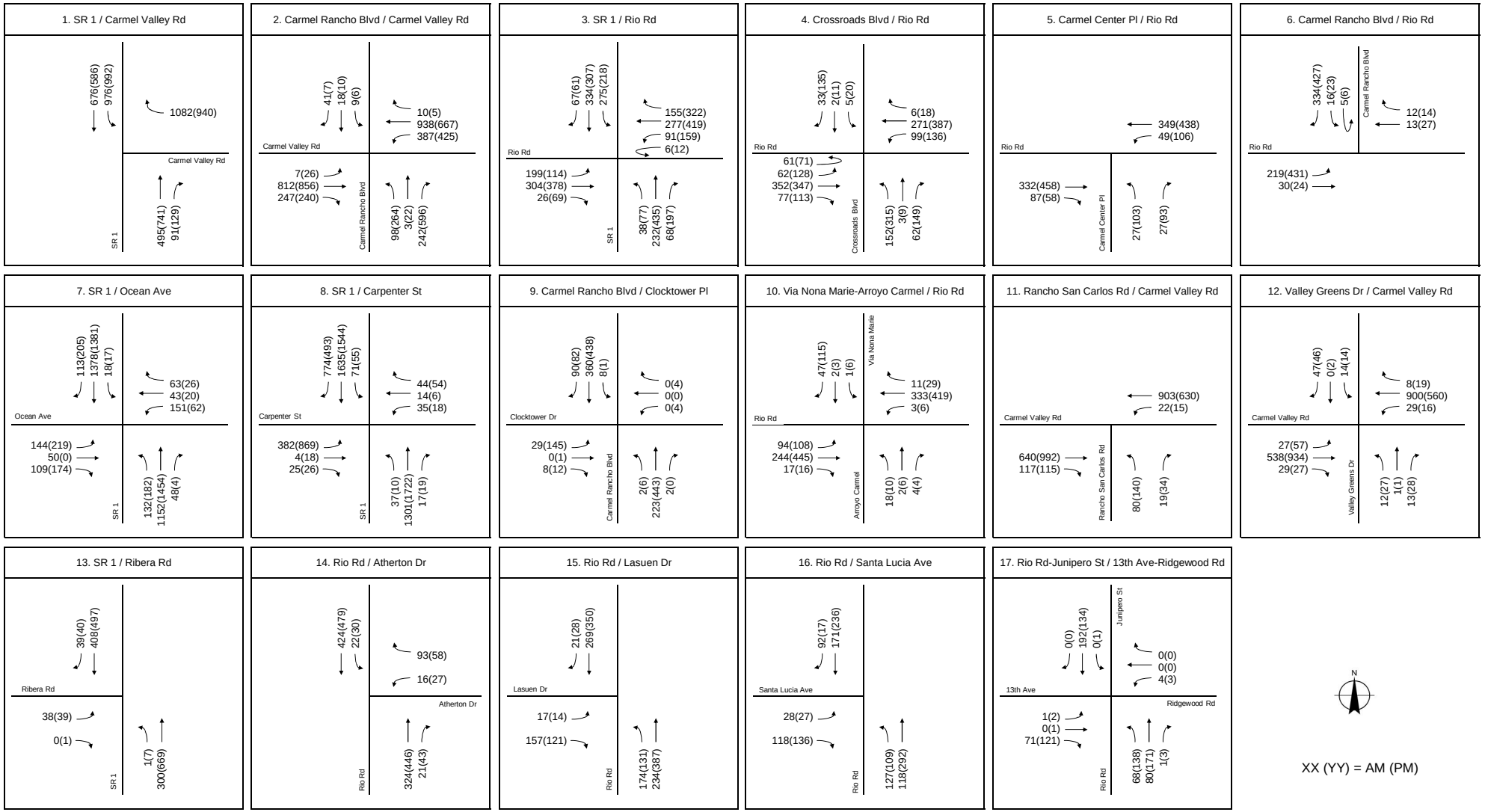


Exhibit 21

Background Plus Project Traffic Volumes

Saturday Peak Hour

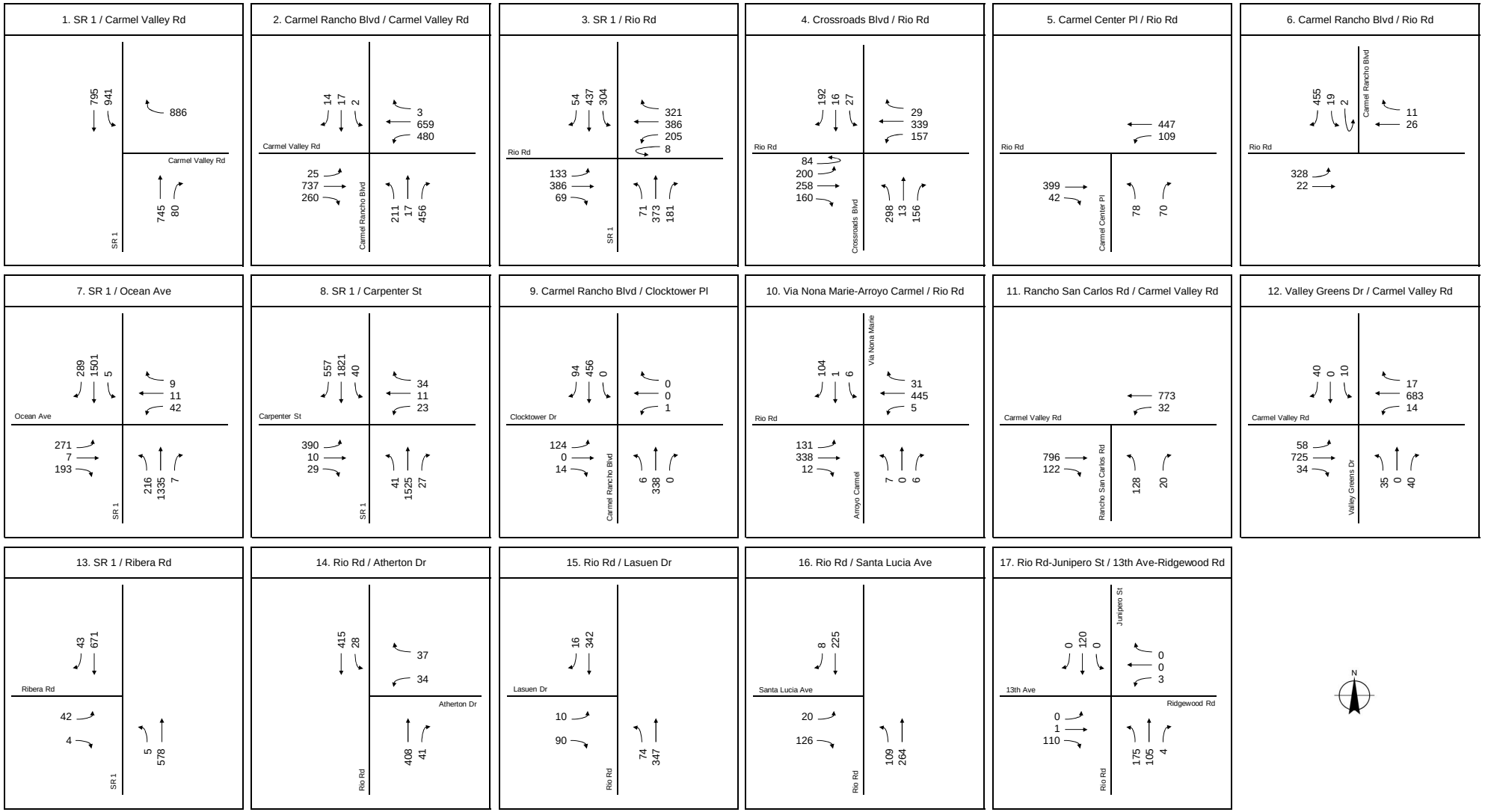


Exhibit 21

Background Plus Project Traffic Volumes

Weekday AM Peak Hour

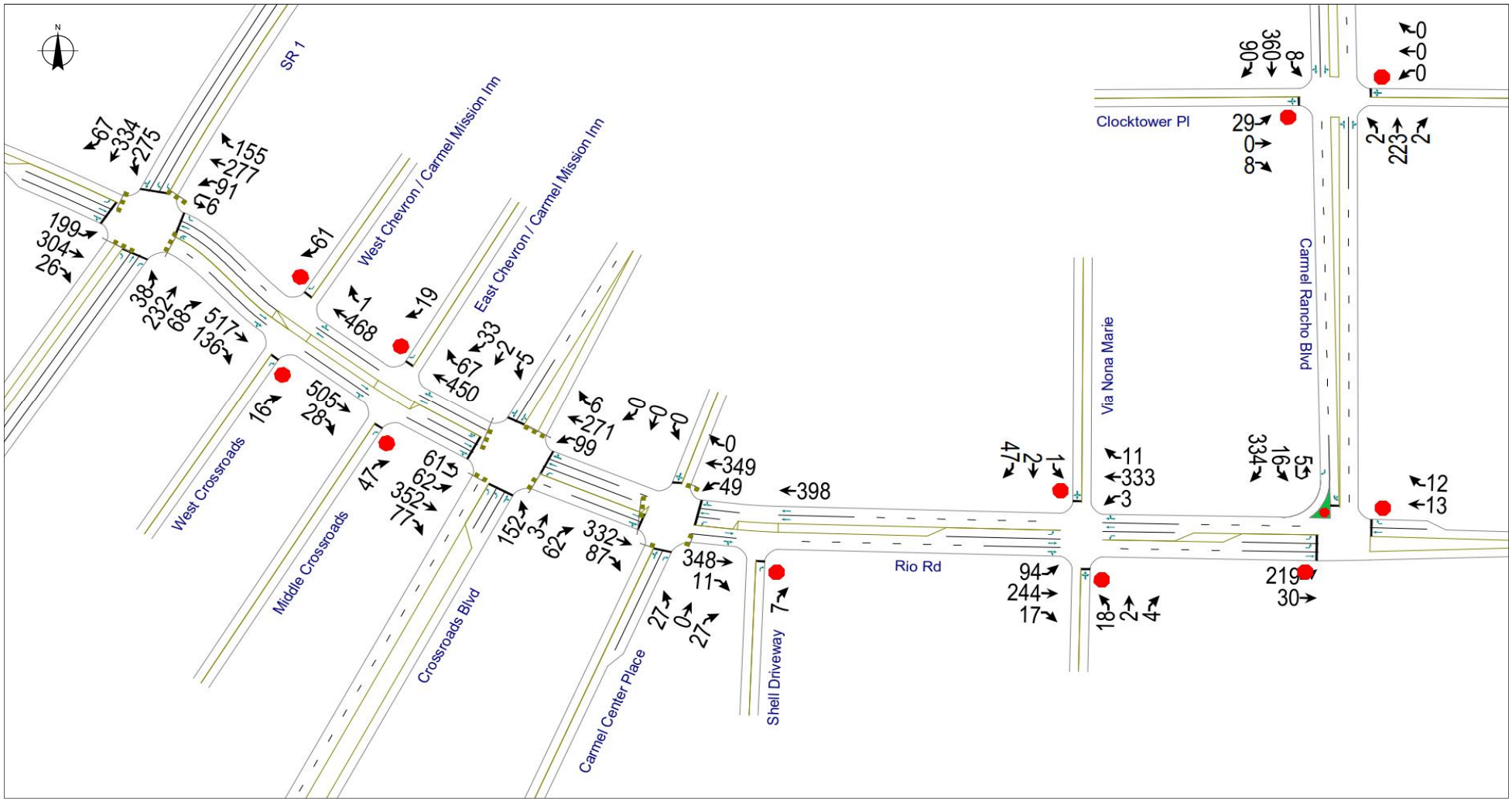


Exhibit 22
Background Plus Project
Rio Road Corridor Traffic Volumes

Weekday PM Peak Hour

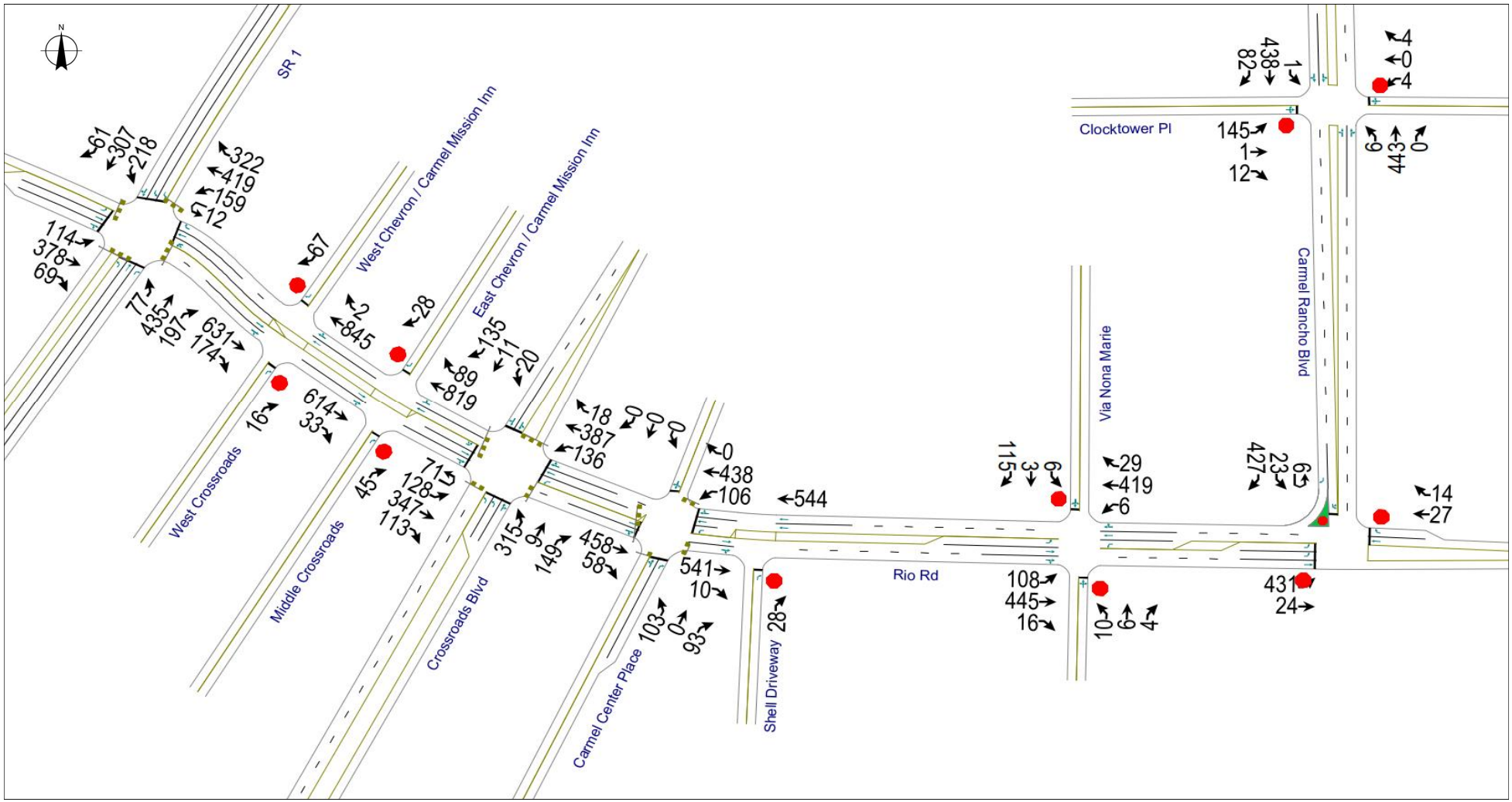


Exhibit 22
Background Plus Project
Rio Road Corridor Traffic Volumes

Saturday Peak Hour

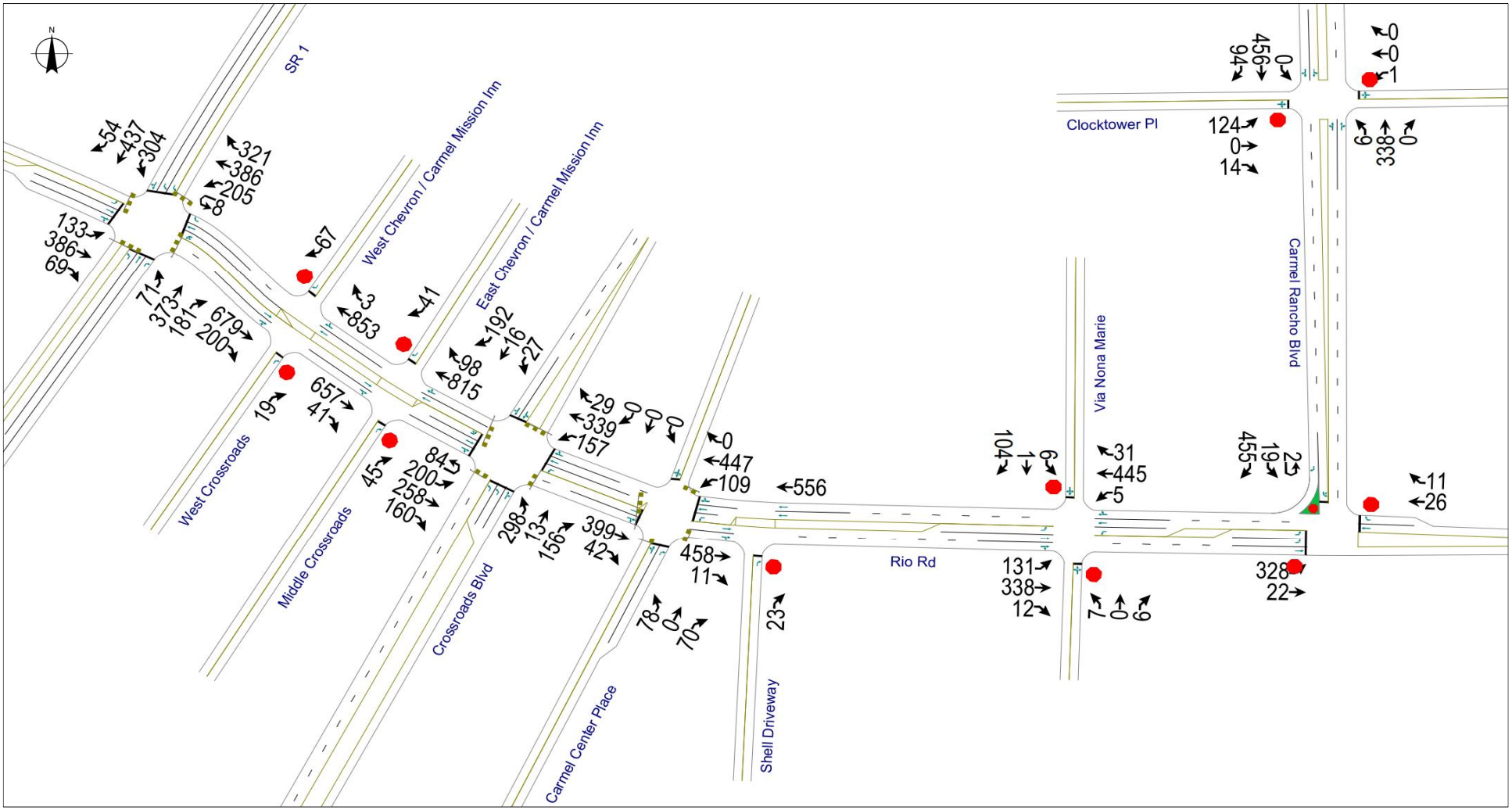


Exhibit 22
Background Plus Project
Rio Road Corridor Traffic Volumes

Weekday AM and PM Peak Hour

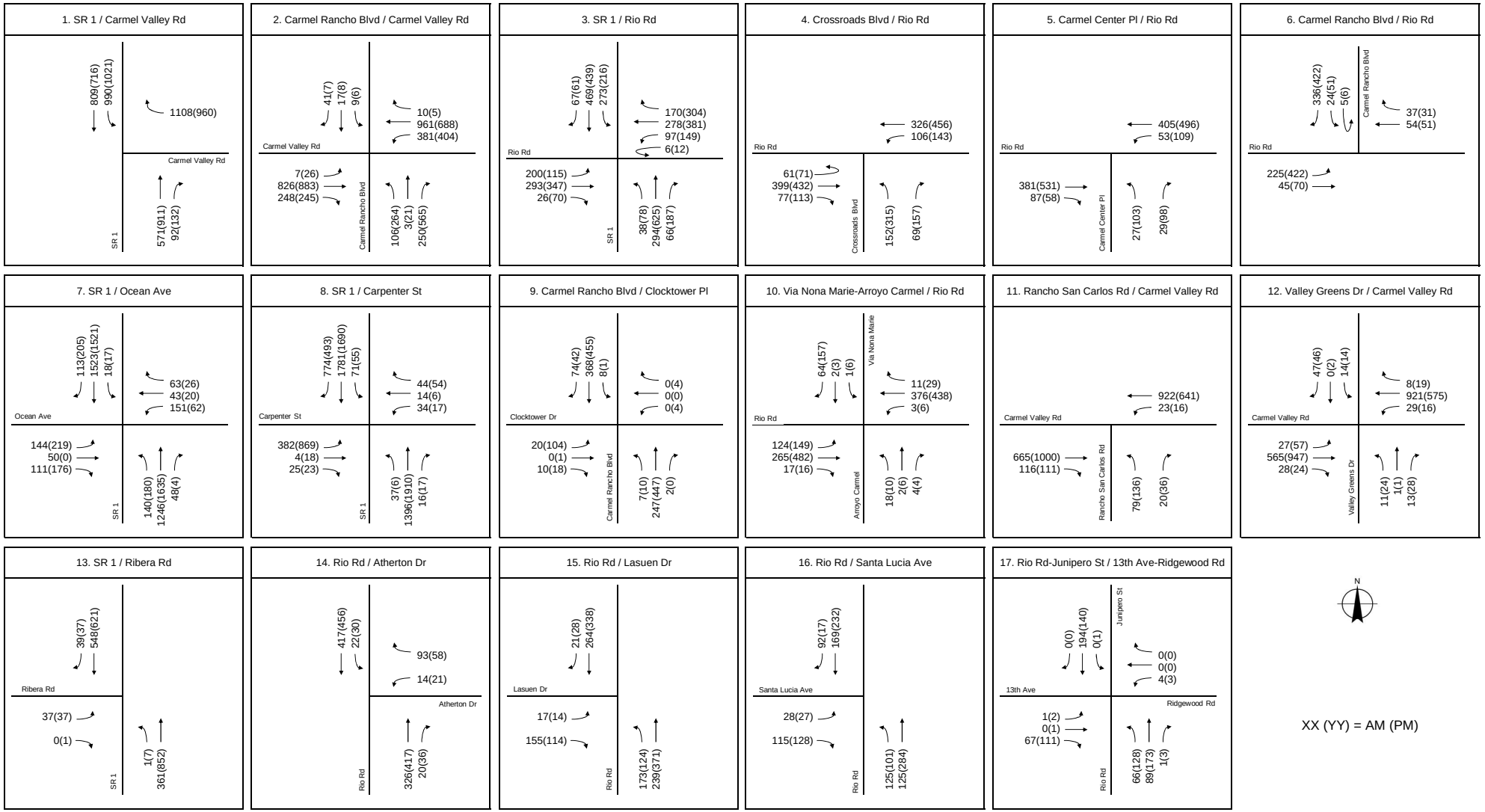


Exhibit 23

Cumulative Conditions Traffic Volumes

Saturday Peak Hour

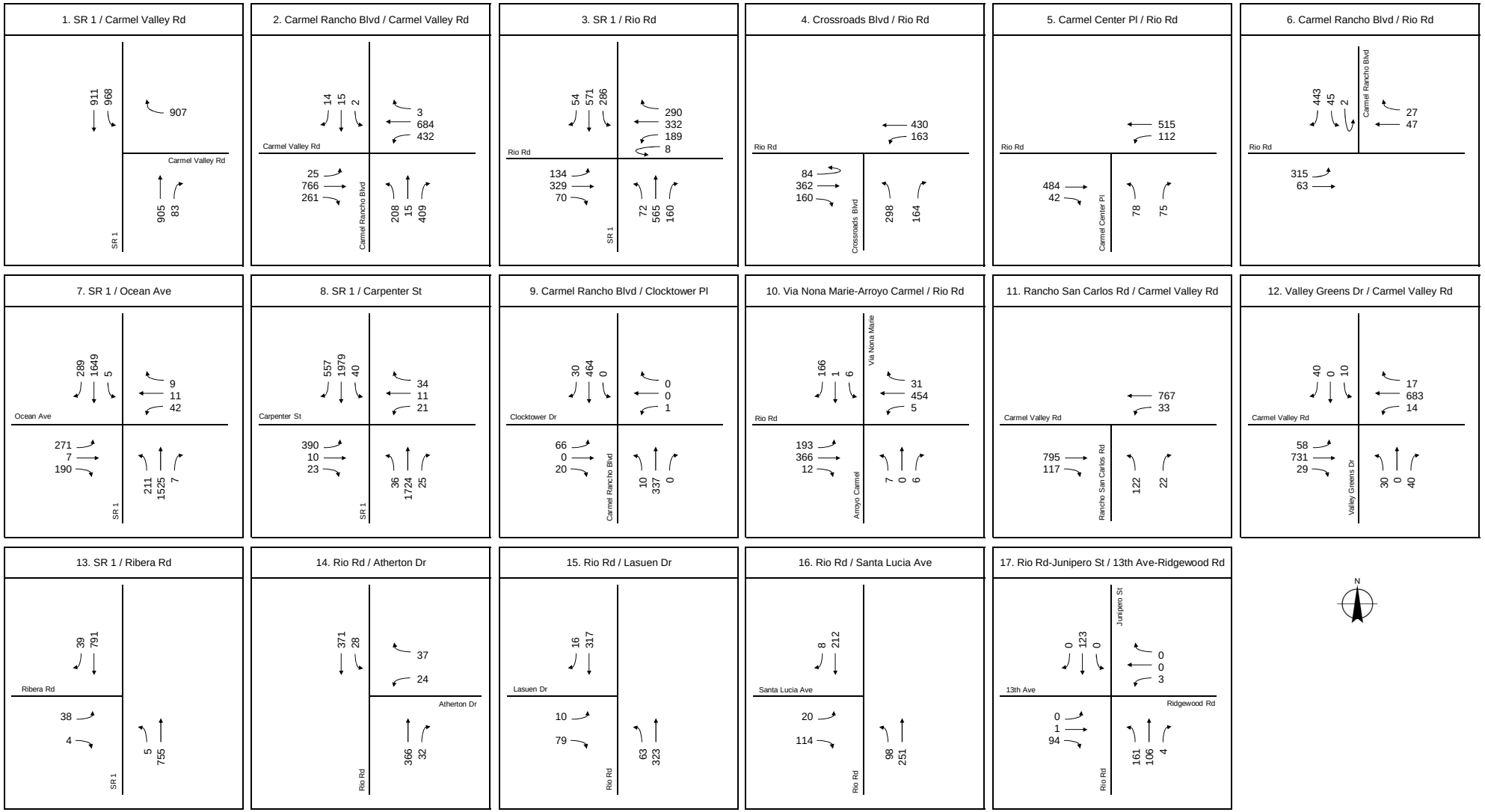


Exhibit 23

Cumulative Conditions Traffic Volumes

Weekday AM Peak Hour

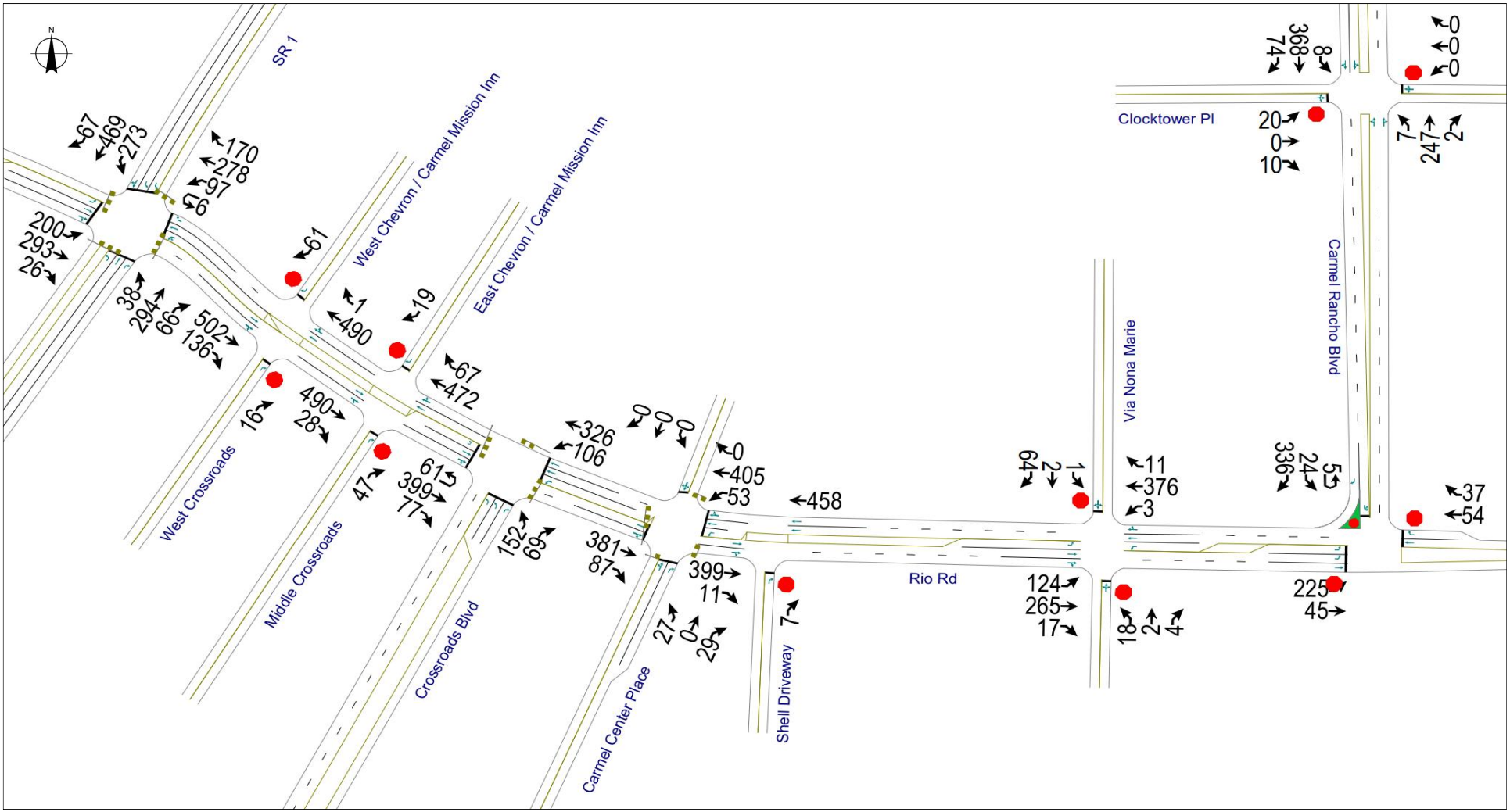


Exhibit 24

Cumulative Conditions

Rio Road Corridor Traffic Volumes

Weekday PM Peak Hour

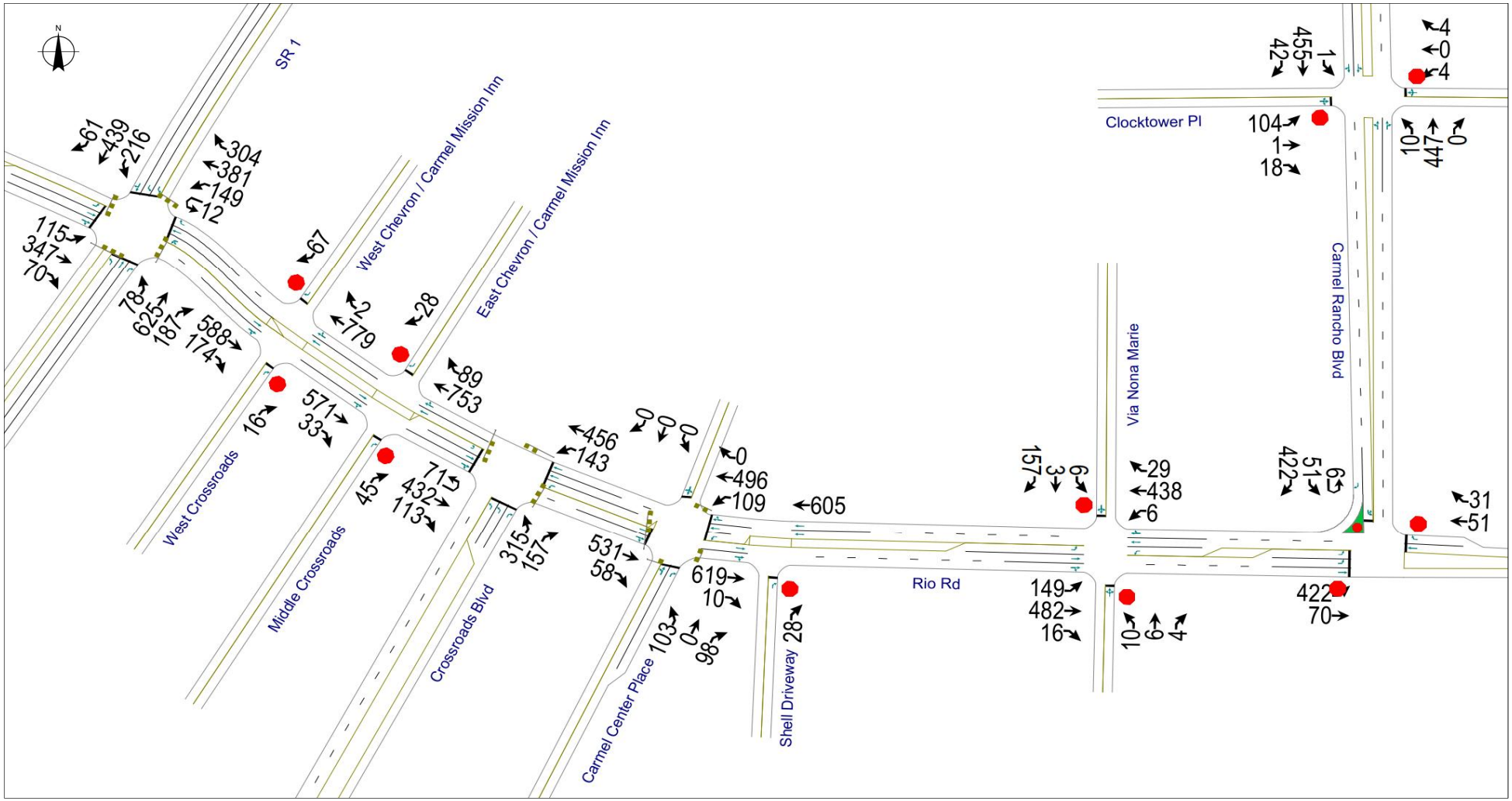


Exhibit 24

Cumulative Conditions

Rio Road Corridor Traffic Volumes

Saturday Peak Hour

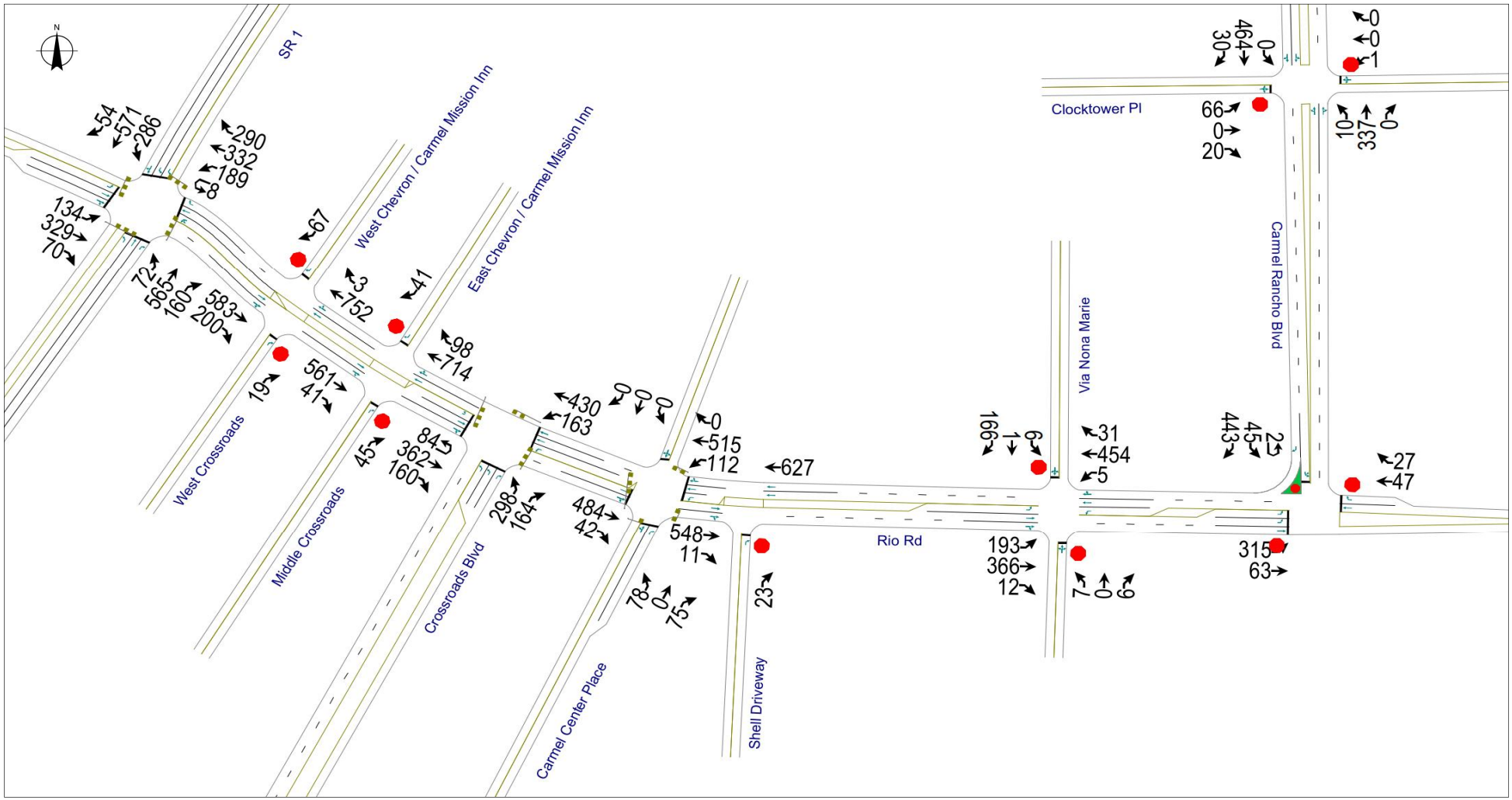


Exhibit 24

Cumulative Conditions

Rio Road Corridor Traffic Volumes

	Segment	From	To	# of Lanes	CVMP ADT Threshold	ADT	Dir	Cumulative Conditions														
								AM Peak Hour					PM Peak Hour					Saturday Peak Hour				
								Volume	PTSF	Density	% FFS	LOS	Volume	PTSF	Density	% FFS	LOS	Volume	PTSF	Density	% FFS	LOS
1	SR 1	Carpenter St	Ocean Ave	4	N/A	N/A	NB	1,453	-	19.2	-	C	1,933	-	24.4	-	C	1,805	-	22.9	-	C
							SB	1,840	-	22.8	-	C	1,743	-	20.3	-	C	2,023	-	23.3	-	C
2	SR 1	Ocean Ave	Carmel Valley Rd	3	N/A	N/A	NB	1,679	-	23.6	-	C	1,871	-	22.6	-	C	1,812	-	22.6	-	C
							SB	1,799	98.7%	-	-	F	1,759	97.8%	-	-	F	1,881	98.7%	-	-	F
3	SR 1	Carmel Valley Rd	Rio Rd	2	N/A	N/A	NB	664	84.0%	-	-	D	1,044	92.5%	-	-	E	989	89.1%	-	-	E
							SB	809	84.0%	-	-	D	716	80.6%	-	-	D	911	86.8%	-	-	E
4	SR 1	Rio Rd	Ribera Rd	2	N/A	N/A	NB	398	65.2%	-	-	C	889	88.2%	-	-	E	797	85.0%	-	-	D
							SB	592	79.6%	-	-	D	658	77.1%	-	-	D	830	83.5%	-	-	D
5	Rio Rd	13th Ave	SR 1	2	N/A	N/A	EB	519	-	-	79.2%	B	532	-	-	80.0%	B	533	-	-	79.2%	B
							WB	383	-	-	79.2%	B	520	-	-	80.0%	B	458	-	-	79.2%	B
6	Carmel Valley Rd	Robinson Canyon Rd	Schulte Rd	2	15,499	17,035	EB	457	64.7%	-	-	C	1,007	90.5%	-	-	E	763	86.5%	-	-	E
							WB	912	91.1%	-	-	E	545	74.9%	-	-	D	638	80.4%	-	-	D
7	Carmel Valley Rd	Schulte Rd	Rancho San Carlos Rd	2	16,340	18,851	EB	685	82.1%	-	-	D	1,036	91.8%	-	-	E	818	87.5%	-	-	E
							WB	979	93.8%	-	-	E	657	84.9%	-	-	D	800	85.5%	-	-	E
8	Carmel Valley Rd	Rancho San Carlos Rd	Rio Rd	4	48,487	22,518	EB	781	-	9.0	-	A	1,111	-	11.5	-	B	912	-	9.1	-	A
							WB	1,001	-	10.5	-	A	777	-	7.6	-	A	889	-	8.6	-	A
9	Carmel Valley Rd	Rio Rd	Carmel Rancho Blvd	4	51,401	28,258	EB	1,085	-	11.6	-	B	1,454	-	14.0	-	B	1,177	-	11.2	-	B
							WB	1,352	-	18.3	-	C	1,097	-	11.4	-	B	1,119	-	10.9	-	A
10	Carmel Valley Rd	Carmel Rancho Blvd	SR 1	4	27,839	25,504	EB	1,082	-	11.5	-	B	1,154	-	11.1	-	B	1,052	-	10.1	-	A
							WB	1,108	-	13.4	-	B	960	-	9.8	-	A	907	-	8.5	-	A
11	Carmel Rancho Blvd	Carmel Valley Rd	Rio Rd	4	33,495	11,335	NB	359	-	-	93.0%	A	850	-	-	91.3%	A	632	-	-	91.9%	A
							SB	653	-	-	86.1%	A	657	-	-	84.7%	B	708	-	-	84.6%	B
12	Rio Rd	Carmel Rancho Blvd	SR 1	4	33,928	12,909	EB	638	-	-	56.8%	C	762	-	-	51.7%	C	783	-	-	52.3%	C
							WB	551	-	-	46.3%	D	846	-	-	43.5%	D	819	-	-	42.3%	D
13	SR 1	Ribera Rd	Highlands Inn	2	N/A	N/A	NB	362	67.6%	-	-	C	859	88.0%	-	-	E	760	81.8%	-	-	D
							SB	548	77.0%	-	-	D	622	75.7%	-	-	D	795	84.2%	-	-	D
14	Crossroads Blvd	Rio Rd	Terminus	2	N/A	N/A	NB	221	-	-	60.0%	C	472	-	-	55.2%	C	462	-	-	52.8%	C
							SB	183	-	-	60.0%	C	256	-	-	55.2%	C	323	-	-	52.8%	C
15	Carmel Center Place	Rio Rd	Terminus	2	N/A	N/A	NB	56	-	-	87.2%	A	201	-	-	87.2%	A	153	-	-	94.0%	A
							SB	140	-	-	87.2%	A	167	-	-	87.2%	A	154	-	-	94.0%	A

	Segment	From	To	# of Lanes	CVMP ADT Threshold	ADT	Dir	Cumulative + Project Conditions														
								Project Trips	AM Peak Hour					Project Trips	PM Peak Hour					Project Trips	Saturday Peak Hour				
									Volume	PTSF	Density	% FFS	LOS		Volume	PTSF	Density	% FFS	LOS		Volume	PTSF	Density	% FFS	LOS
1	SR 1	Carpenter St	Ocean Ave	4	N/A	N/A	NB	3	1,456	-	19.2	-	C	15	1,948	-	24.6	-	C	21	1,826	-	45.0	-	C
							SB	5	1,845	-	22.8	-	C	13	1,756	-	20.4	-	C	19	2,042	-	42.7	-	C
2	SR 1	Ocean Ave	Carmel Valley Rd	3	N/A	N/A	NB	5	1,684	-	45.0	-	C	27	1,898	-	23.0	-	C	37	1,849	-	23.1	-	C
							SB	8	1,807	98.7%	-	-	F	22	1,781	98.0%	-	-	F	35	1,916	98.9%	-	-	F
3	SR 1	Carmel Valley Rd	Rio Rd	2	N/A	N/A	NB	5	669	84.7%	-	-	D	27	1,071	93.1%	-	-	E	38	1,027	89.8%	-	-	E
							SB	8	817	83.8%	-	-	D	23	739	81.7%	-	-	D	37	948	87.7%	-	-	E
4	SR 1	Rio Rd	Ribera Rd	2	N/A	N/A	NB	5	403	65.6%	-	-	C	14	903	88.4%	-	-	E	24	821	86.0%	-	-	E
							SB	2	594	79.4%	-	-	D	14	672	77.5%	-	-	D	19	849	84.3%	-	-	D
5	Rio Rd	13th Ave	SR 1	2	N/A	N/A	EB	14	533	-	-	79.2%	B	40	572	-	-	79.2%	B	65	598	-	-	79.2%	B
							WB	9	392	-	-	79.2%	B	44	564	-	-	79.2%	B	62	520	-	-	79.2%	B
6	Carmel Valley Rd	Robinson Canyon Rd	Schulte Rd	2	15,499	17,496	EB	4	461	65.0%	-	-	C	21	1,028	90.8%	-	-	E	28	791	87.3%	-	-	E
							WB	7	919	90.9%	-	-	E	19	564	75.8%	-	-	D	31	669	81.4%	-	-	D
7	Carmel Valley Rd	Schulte Rd	Rancho San Carlos Rd	2	16,340	19,439	EB	5	690	82.2%	-	-	D	27	1,063	92.5%	-	-	E	36	854	88.4%	-	-	E
							WB	9	988	94.0%	-	-	E	24	681	85.9%	-	-	E	40	840	86.7%	-	-	E
8	Carmel Valley Rd	Rancho San Carlos Rd	Rio Rd	4	48,487	23,198	EB	6	787	-	9.1	-	A	31	1,142	-	11.9	-	B	40	952	-	9.5	-	A
							WB	10	1,011	-	10.6	-	A	28	805	-	7.9	-	A	47	936	-	9.1	-	A
9	Carmel Valley Rd	Rio Rd	Carmel Rancho Blvd	4	51,401	29,111	EB	8	1,093	-	11.7	-	B	39	1,493	-	14.4	-	B	52	1,229	-	11.7	-	B
							WB	11	1,363	-	18.4	-	C	35	1,132	-	11.7	-	B	58	1,177	-	11.4	-	B
10	Carmel Valley Rd	Carmel Rancho Blvd	SR 1	4	27,839	25,504	EB	0	1,082	-	11.5	-	B	0	1,154	-	11.1	-	B	0	1,052	-	10.1	-	A
							WB	0	1,108	-	13.4	-	B	0	960	-	9.8	-	A	0	907	-	8.5	-	A
11	Carmel Rancho Blvd	Carmel Valley Rd	Rio Rd	4	33,495	12,510	NB	12	371	-	-	93.0%	A	52	902	-	-	91.3%	A	72	704	-	-	91.8%	A
							SB	21	674	-	-	86.0%	A	50	707	-	-	84.7%	B	79	787	-	-	84.5%	B
12	Rio Rd	Carmel Rancho Blvd	SR 1	4	33,928	14,960	EB	29	667	-	-	54.7%	C	85	847	-	-	48.5%	D	136	919	-	-	50.4%	C
							WB	17	568	-	-	47.6%	D	93	939	-	-	42.3%	D	129	948	-	-	43.2%	D
13	SR 1	Ribera Rd	Highlands Inn	2	N/A	N/A	NB	4	366	68.0%	-	-	C	12	871	88.2%	-	-	E	19	779	82.2%	-	-	D
							SB	3	551	78.3%	-	-	D	13	635	76.5%	-	-	D	18	813	84.5%	-	-	D
14	Crossroads Blvd	Rio Rd	Terminus	2	N/A	N/A	NB	3	224	-	-	79.2%	B	9	481	-	-	76.0%	B	13	475	-	-	74.4%	B
							SB	2	185	-	-	79.2%	B	11	267	-	-	76.0%	B	16	339	-	-	74.4%	B
15	Carmel Center Place	Rio Rd	Terminus	2	N/A	N/A	NB	0	56	-	-	87.2%	A	0	201	-	-	87.2%	A	0	153	-	-	94.0%	A
							SB	0	140	-	-	87.2%	A	0	167	-	-	87.2%	A	0	154	-	-	94.0%	A

Notes:
1. LOS = Level of Service
2. Two-lane highway LOS based on percent time spent following (PTSF), Two-Lane Highways, HCM 2010, Exhibit 15-3.
3. Four-lane highway LOS based on density in passenger cars per mile per lane (pc/mi/ln), Multi-Lane Highways, HCM 2010, Exhibit 14-4.
4. Arterial LOS based on travel speed as a percentage of base free-flow speed (% FFS), Urban Street Segments, HCM 2010, Exhibit 17-2.
5. LOS highlighted in red exceeds LOS standard.
6. LOS in bold box indicates project or cumulative project impact.

Exhibit 25
Cumulative and Cumulative Plus Project
Road Segment Levels of Service

Weekday AM and PM Peak Hour

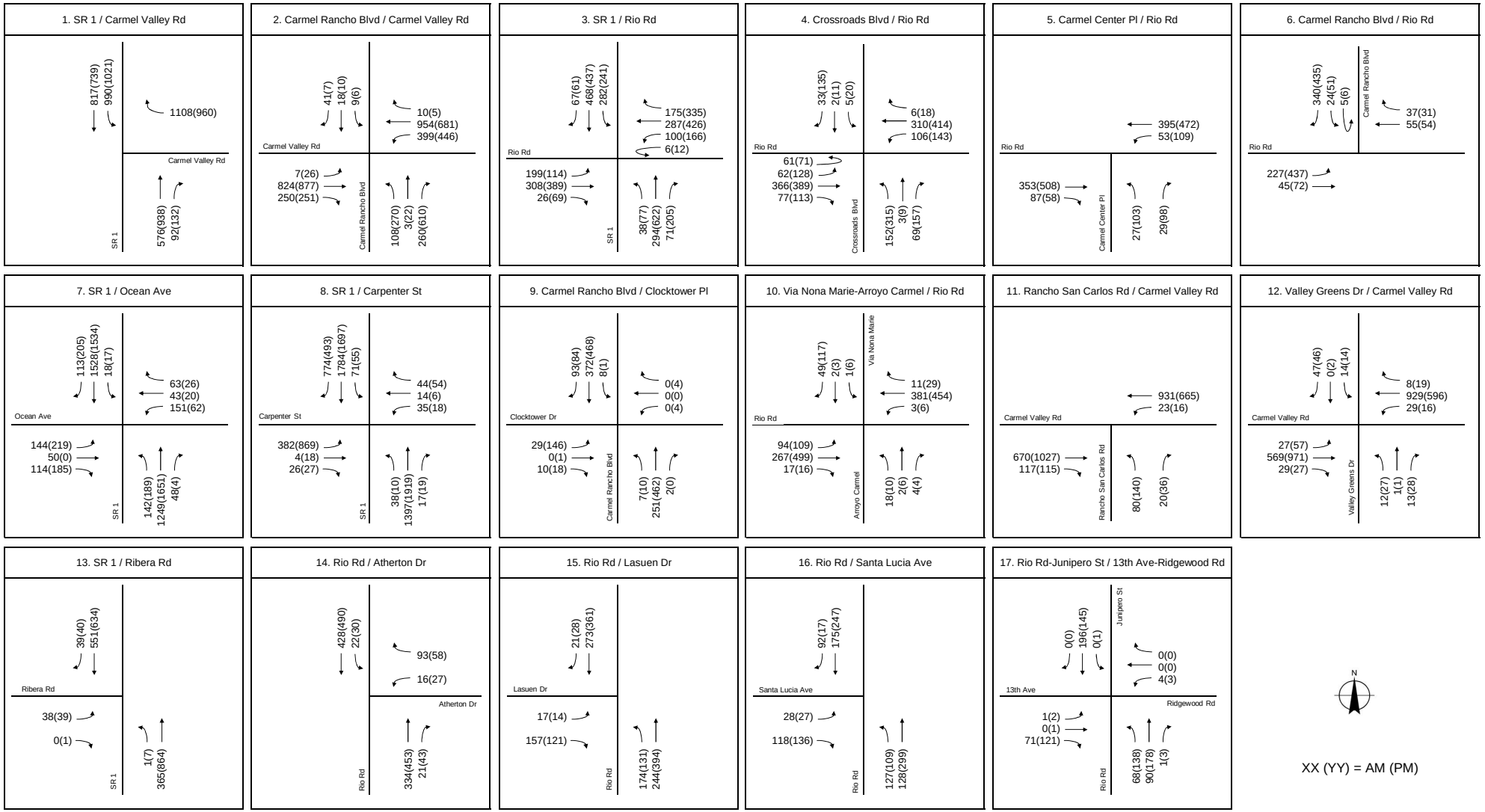


Exhibit 26

Cumulative Plus Project Traffic Volumes

Saturday Peak Hour

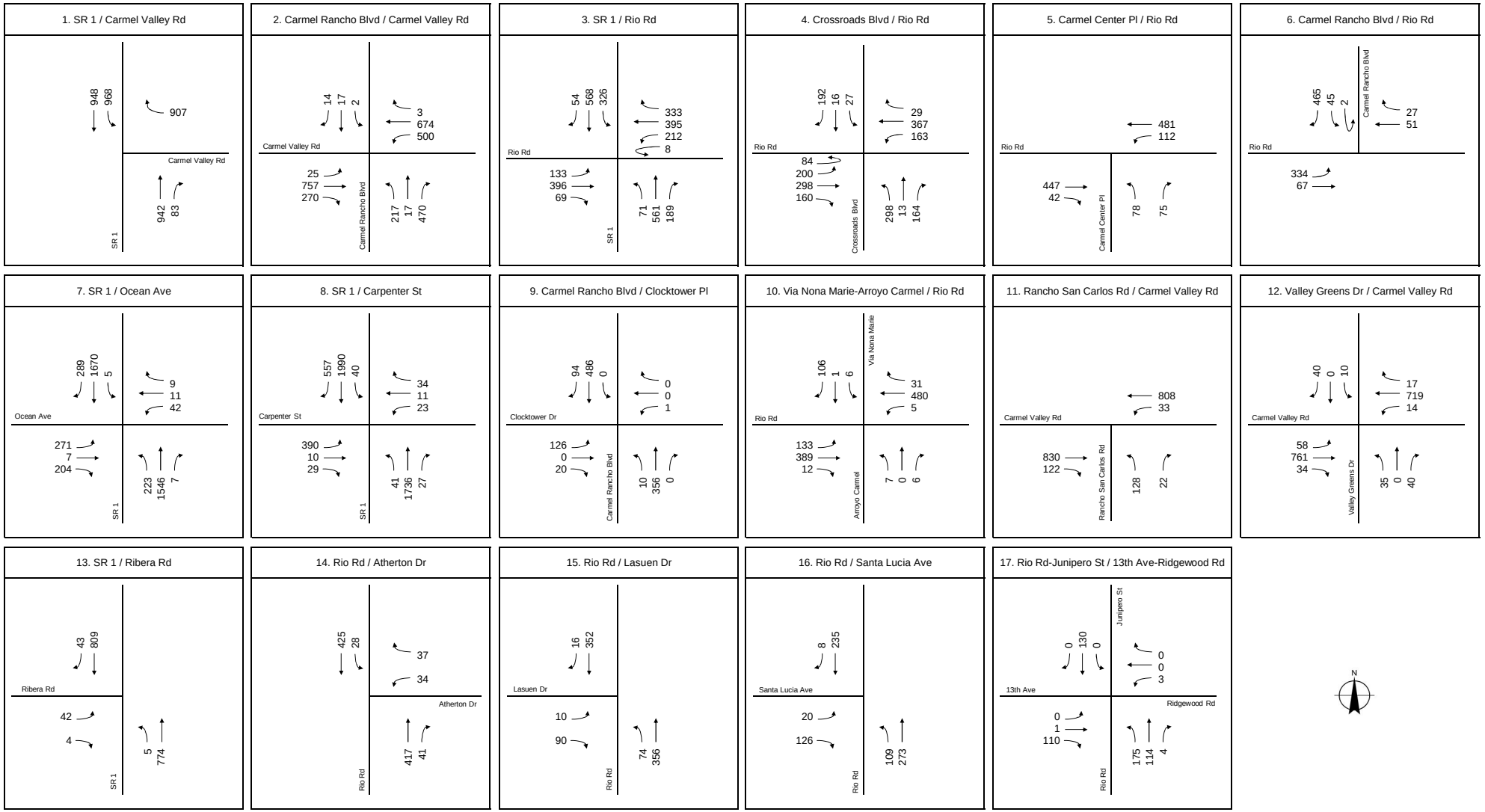


Exhibit 26

Cumulative Plus Project Traffic Volumes

Weekday AM Peak Hour

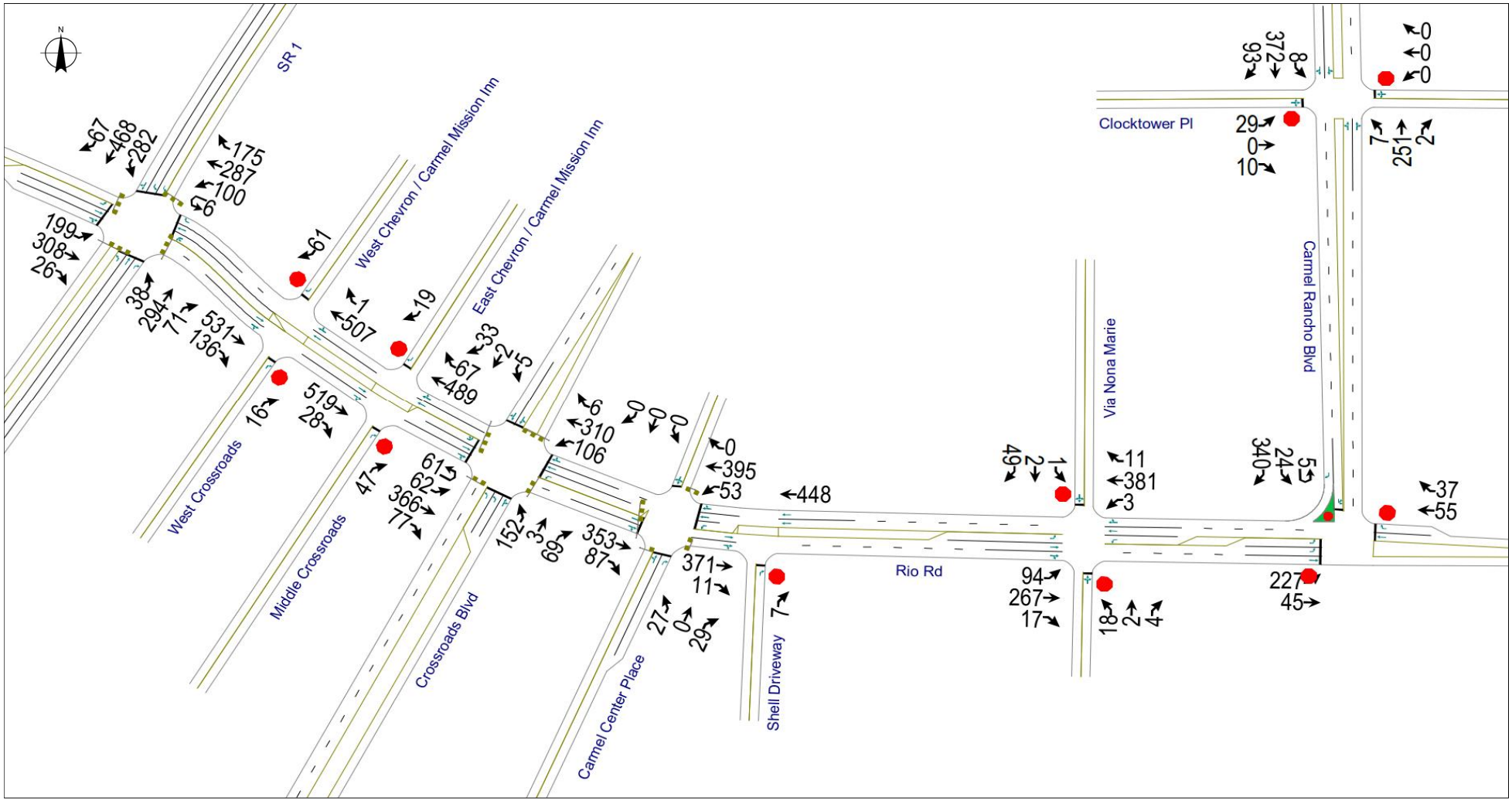


Exhibit 27

Cumulative Plus Project

Rio Road Corridor Traffic Volumes

Weekday PM Peak Hour

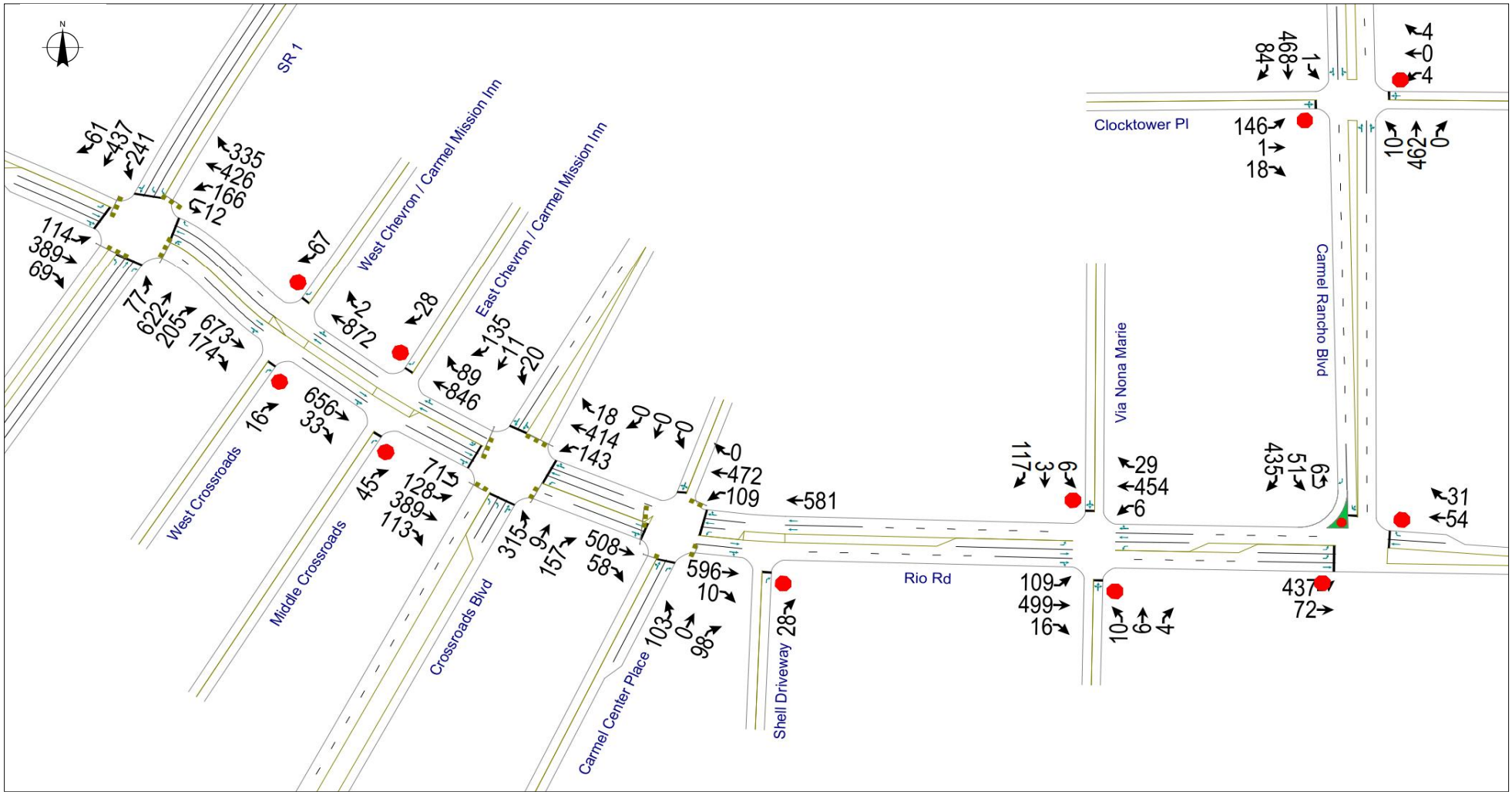


Exhibit 27
Cumulative Plus Project
Rio Road Corridor Traffic Volumes

Saturday Peak Hour

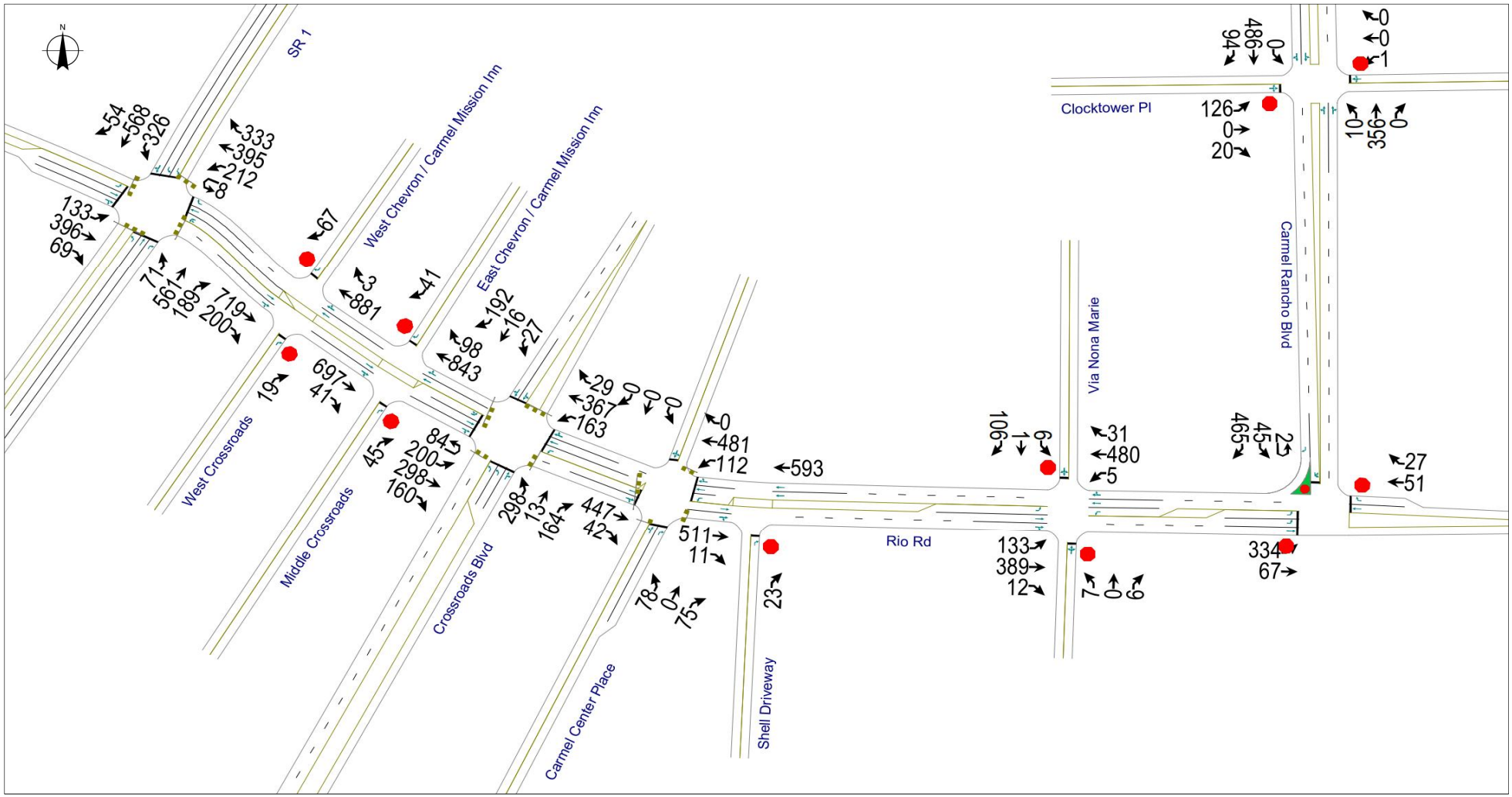


Exhibit 27

Cumulative Plus Project

Rio Road Corridor Traffic Volumes