

Irvine Unified School District
High School No. 5 Project
Traffic Impact Analysis Report

DRAFT

Prepared by:



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Revised

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Executive Summary

The Irvine Unified School District plans to build a new high school facility on a 40.3-acre site on the southeast corner of Irvine Boulevard and the future "B" Street, east of Sand Canyon Avenue and Highway 133 and west of Alton Parkway. The project site is on a portion of the former Marine Corps Air Station El Toro (MCAS El Toro), in Planning Area 51, Orange County Great Park, of the City of Irvine General Plan.

The school is scheduled to open in the year 2016 with a capacity of 2,600 students. It will also include a performing arts center, a gymnasium, and a stadium with 2,940 seats. The stadium would serve as a venue for special events such as graduation ceremonies and sports activities, and is not expected to generate a significant number of trips on a daily basis throughout the year. The proposed stadium would likely host one varsity football game per week for about ten to twelve weeks per year.

High School No. 5 is expected to generate up to 4,446 vehicle trips on a typical weekday, with 1,092 trips (743 inbound and 349 outbound) during the AM peak hour and 338 trips (159 inbound and 179 outbound) during the PM peak hour. Varsity football games with attendance at stadium capacity are forecast to generate a total of 494 trips (351 inbound and 143 outbound) during the evening peak hour. The stadium is not expected to generate a significant number of trips during the AM peak hour.

As part of the Great Park Neighborhoods Project, the MCAS El Toro site will be developed into master-planned neighborhoods or "Districts" that include a variety of housing, shops, restaurants, workplaces, educational institutions, parks, trails and outdoor activities. In 2011, the Heritage Fields/Great Park Neighborhoods Project was approved (the "2011 Approved Project") to develop 4,712 residential housing units and over six million square feet of non-residential uses in the buildout condition. The 2011 Approved Project did not include a high school facility as part of its land use plan.

In 2012, a General Plan Amendment and Zone Change (the "2012 Modified Project") was prepared that included two development options with an increase in residential development units and a decrease in non-residential acreage compared to the 2011 Approved Project. The 2012 Modified Project Options 1 and 2 each include 9,318 residential dwelling units but propose a slightly different allocation of those units between neighborhood Districts 1N and 1S. In both the 2012 Modified Project Options 1 and 2, a 2,600-student high school is included in the buildout scenario.

For the purpose of this analysis, all future conditions are based on the roadway and traffic assumptions used in the environmental documents prepared for the Heritage Fields/Great Park Neighborhoods 2011 Approved Project and 2012 Modified Project Options 1 and 2.

A total of 52 intersections have been included in this analysis, including 23 existing intersections. Twenty additional intersections will be constructed as part of the Heritage Fields/Great Parks Neighborhood project, including five intersections that are planned to be constructed by the year 2035 but are not included in the 2017 analysis. Two intersections are part of a planned future Highway 133 interchange project at Trabuco Road, and seven intersections are site access driveways that will be constructed as part of the High School No. 5 project.

The following traffic conditions were analyzed:

Existing Conditions

- Year 2013 peak hour intersection and 24-hour segment counts

Existing Plus Project Conditions

- Year 2013, 2011 Approved Project
- Year 2013, 2012 Modified Project Option 1
- Year 2013, 2012 Modified Project Option 2

Interim Year 2017 Analysis

- Year 2017, 2011 Approved Project
- Year 2017, 2012 Modified Project Option 1
- Year 2017, 2012 Modified Project Option 2

Interim Year 2035 Analysis

- Year 2035, 2011 Approved Project
- Year 2035, 2012 Modified Project Option 1
- Year 2035, 2012 Modified Project Option 2

Post-2035 Analysis

- Post-2035, 2011 Approved Project
- Post-2035, 2012 Modified Project Option 1
- Post-2035, 2012 Modified Project Option 2

The analysis of future conditions began with use of the Irvine Traffic Analysis Model, Version 8.4-10 in order to maintain consistency with the analyses performed for the Heritage Fields Project 2012 GPA/ZC, of which this project was a part. In addition, in order to have an Interim Year analysis that corresponded with or occurred following the opening year of the High School project (consistent with City of Irvine guidelines) an annual growth factor was applied to the 2015, 2030, and Post-2030 traffic volumes to estimate traffic conditions for the 2017, 2035, and Post-2035 conditions. This annual growth value is equal to the calculated annual growth in baseline traffic volumes between the horizon years in ITAM 8.4-10. This approach allows the analysis to assume the same background and pending projects as the Heritage Fields Project 2012 GPA/ZC and also provide for a more conservative analysis in an interim year that occurs after project opening.

TRAFFIC IMPACT ANALYSIS SUMMARY

The traffic impacts of the 2011 Approved Project and 2012 Modified Project with Options 1 and 2 have been identified by analyzing the study area network based on existing traffic conditions, 2017, 2035 and Post-2035 future traffic conditions. For each scenario, traffic conditions without the project are compared to the with project conditions for the 2011 Approved Project and 2012 Modified Project with Options 1 and 2 to identify the potential traffic impacts of the proposed project.

Existing traffic conditions are based on 2013 traffic counts. Future traffic conditions based on the turning movement volumes were provided by the City of Irvine staff from the Irvine Traffic Analysis Model (ITAM). These volumes include ambient traffic growth and reflect changes in land use and development density.

Existing Conditions

The level of service operations under existing conditions within the study area is generally acceptable with the exception of one intersection. The intersection of Bake Parkway and I-5 NB Ramps (#367) operates at an unacceptable level of service in the existing 2013 condition. All study area segments currently operate at acceptable levels of service.

Existing Plus Project Conditions

The results of the existing plus project analysis are summarized in detail in Section 6.0 of this report. Under the existing plus project conditions, all study area segments and intersections are calculated to operate at LOS D or better with the exception of one intersection. Bake Parkway and I-5 NB Ramps would operate at LOS F during the PM peak hour. There are no project impacts under the year 2013 scenarios.

Interim Year 2017 Analysis

The results of the Year 2017 plus project analysis are summarized in detail in Section 7.1.1 of this report. The school is proposed for an opening year of 2016, however, per City requirements, the year 2017 is analyzed. All of the roadway segments are forecast to operate at acceptable levels of service. Although several intersections operate at acceptable levels of service, there are a few that operate at unacceptable levels of service which are shown below for each scenario.

Intersections that are forecast to operate at an unacceptable level of service in the year 2017 with the project (2011 Approved Project) include:

- Sand Canyon Avenue and Oak Canyon Road (#306) - LOS E, PM

Intersections that are forecast to operate at an unacceptable level of service in the year 2017 with the project (2012 Modified Project, Option 1) include:

- Sand Canyon Avenue and Oak Canyon Road (#306) - LOS F PM

Intersections that are forecast to operate at an unacceptable level of service in the year 2017 with the project (2012 Modified Project, Option 2) include:

- Sand Canyon Avenue and Oak Canyon Road (#306) - LOS F PM

Interim Year 2035 Analysis

The results of the Year 2035 plus project analysis are summarized in detail in Section 7.1.2 of this report. The interim year 2035 with project scenarios include two deficient intersections for all three scenarios:

- Irvine Boulevard: "Z" St to "B" St - LOS F
- Irvine Boulevard: "LQ" St to Alton Parkway - LOS F

Intersections that are forecast to operate at an unacceptable level of service in the interim year 2035 with the project (2011 Approved Project) include:

- Sand Canyon Avenue and I-5 NB Ramps (#303) - LOS E, AM and LOS F PM
- Sand Canyon Avenue and I-5 SB Ramps (#305) - LOS F, AM
- Sand Canyon Avenue and Oak Canyon Road (#306) - LOS E, AM
- "A-02" Street/"LQ" Street and Irvine Boulevard (#800) - LOS E, AM

This scenario has one project impact at the intersection of "LQ" Street and Irvine Boulevard (#800).

Intersections that are forecast to operate at an unacceptable level of service in the interim year 2035 with the project (2012 Modified Project, Option 1) include:

- Sand Canyon Avenue and I-5 NB Ramps (#303) - LOS E, PM
- Sand Canyon Avenue and I-5 SB Ramps (#305) - LOS F, AM

Intersections that are forecast to operate at an unacceptable level of service in the interim year 2035 with the project (2012 Modified Project, Option 2) include:

- Sand Canyon Avenue and I-5 NB Ramps (#303) - LOS E, PM
- Sand Canyon Avenue and I-5 SB Ramps (#305) - LOS F, AM

Post-2035 Analysis

The results of the Post-2035 plus project analysis are summarized in detail in Section 7.1.3 of this report.

The deficient roadway segments in the Post-2035 with the project (2011 Approved Project) include:

- Sand Canyon Ave: Portola Pkwy to Irvine Blvd - LOS E
- Sand Canyon Ave: Trabuco Rd to Marine Way - LOS E
- Portola Pkwy: Jeffrey Rd to Sand Canyon Ave - LOS E
- Irvine Boulevard: "Z" St to "B" St - LOS E
- Irvine Boulevard: "LQ" St to Alton Parkway - LOS F

The deficient intersections in the Post-2035 with the project (2011 Approved Project) include:

- Sand Canyon Avenue and I-5 NB Ramps (#303) - LOS E, AM and LOS F PM
- Sand Canyon Avenue and I-5 SB Ramps (#305) - LOS F, AM
- Sand Canyon Avenue and Burt Road (#444) - LOS E, AM and PM

- Sand Canyon Avenue and Oak Canyon Road (#306) - LOS E, AM and LOS F, PM
- "A-02" Street/"LQ" Street and Irvine Boulevard (#800) - LOS E, AM

This scenario has one project impact at the intersection of "LQ" Street and Irvine Boulevard (#800).

The deficient roadway segments in the Post-2035 with the project (2012 Modified Project, Options 1 and 2) include:

- Sand Canyon Ave: Trabuco Rd to Marine Way - LOS E
- Portola Pkwy: Jeffrey Rd to Sand Canyon Ave - LOS E
- Irvine Boulevard: "Z" St to "B" St - LOS E
- Irvine Boulevard: "LQ" St to Alton Parkway - LOS F

The deficient intersections in the Post-2035 with the project (2012 Modified Project, Options 1 and 2) include:

- Sand Canyon Avenue and I-5 NB Ramps (#303) - LOS E, AM and PM
- Sand Canyon Avenue and I-5 SB Ramps (#305) - LOS F, AM
- Sand Canyon Avenue and Burt Road (#444) - LOS E, AM and PM
- Sand Canyon Avenue and Oak Canyon Road (#306) - LOS E, AM
-

SPECIAL ANALYSES

Site Access - The Irvine High School #5 site has seven unsignalized access driveways located along "B" Street and "LQ" Street. Three additional signalized intersections are proposed along Irvine Boulevard at "B" Street and "LQ" Street, and at the intersection of "B" Street and "LQ" Street. All access intersections are forecast to operate at an acceptable level of service during all analysis scenarios and both peak hour periods, with the exception of Driveway 6 on "LQ" Street (Intersection #6). This intersection is forecast to have an LOS E in the Year 2035 2011 Approved Project Scenario during the AM peak hour. The delay is caused by traffic coming out of the school parking lot, and can be mitigated by signalizing the intersection.

Signal Warrant Analysis - A signal warrant analysis was conducted at all unsignalized study intersections per the Manual on Uniform Traffic Control Devices (MUTCD). Based on the forecast volumes, traffic signals are not warranted at all unsignalized study intersections and site access driveways for all analysis scenarios. However, Driveway 6 should be reevaluated when the Great Park Neighborhoods development proceeds to the south and this intersection is converted to have four approaches. Vehicle and pedestrian volumes for a four-legged intersection may warrant a traffic signal in a future year beyond 2017.

Sight Distance Analysis – Sight distance for access roadways leading up to the High School should be maintained. It is recommended that a clear line of sight be maintained at Intersections "B" Street/Irvine Boulevard (#563), "A-02" Street/"LQ" Street and Irvine Boulevard (#800), and "B" Street and "LQ" Street (#798).

Parking Analysis - Irvine High School #5 is proposing to provide 784 surface parking spaces per the most current site plan. Forecast peak period parking generation per the Institute of Transportation Engineers (ITE) Parking Generation Manual is 598 parking spaces. Based on the

forecast parking generation and proposed parking supply, the proposed parking supply exceeds forecast peak period parking demand.

Pedestrian and Bicycle Circulation - The preliminary site plan for Irvine High School #5 shows landscaped pedestrian pathways throughout the school with connections to the various surface parking facilities. There are currently Class II bike lanes along Irvine Boulevard, Alton Parkway, and Sand Canyon Avenue. It is recommended that the school provide bicycle lockers or racks on site, as well as signage to increase awareness and safety of bicyclists and pedestrians.

Stadium Traffic - The Irvine Unified School District is proposing to build a 2,940-seat athletic stadium as part of the High School #5 campus. The stadium would serve as a venue for special events such as graduation ceremonies and sports activities, and is not expected to generate a significant number of trips on a daily basis throughout the year. The proposed stadium is not expected to generate a significant number of trips during the AM peak hour, so the PM peak hour is the only time period selected for analysis.

Since the ITE *Trip Generation* Manual does not have a stadium category listed, driveway counts at the Irvine Stadium were conducted to identify typical vehicle trips that enter and exit the stadium during a typical event. Varsity football games with attendance at stadium capacity are forecast to generate a total of 605 evening peak hour trips (430 inbound and 175 outbound). This value is based on driveway volumes observed at Irvine Stadium and ITE *Trip Generation* Manual rates for Heritage Park.

The daily traffic volume for a stadium spectator event at High School No. 5 is forecast to be 2,176 trips, which includes 1,088 inbound trips and 1,088 outbound trips throughout the day. Daily trip generation for a special event land use like a high school stadium is highly variable, and depends on a number of local factors including demographics, weather patterns, team performance, and other site-specific criteria. Two other sources were used to estimate the daily trip rate for the High School No. 5: 1) The San Diego Municipal Code Land Development Code Trip Generation Manual, and 2) the Estancia High School Stadium Traffic and Parking Impact Analysis.

Based on the PM peak hour analysis for the stadium, no project related impacts are forecast.

CONGESTION MANAGEMENT PLAN (CMP) REQUIREMENTS

Irvine Boulevard is designated as a CMP roadway within the traffic study area for Irvine High School #5. The intersections of Irvine Boulevard and the NB SR-133 Ramps and Irvine Boulevard and the SB SR-133 ramps are designated CMP intersections. No significant traffic impacts are anticipated to CMP intersections as a result of the proposed High School No. 5.

PROJECT IMPACTS AND RECOMMENDATIONS

Irvine High School #5 Project

Based on the analysis results and the proposed Irvine High School #5 impacts, the following mitigation measures are recommended to bring the impacted locations back to acceptable level of service or pre-project conditions. Table ES-1 shows the mitigation measures.

Table ES-1 Recommended Mitigation Measures

#	Location	Improvement
Year 2035 - 2011 Approved Project		
800	"LQ" Street and Irvine Boulevard	Add northbound left-turn lane, resulting in dual-northbound left-turn lanes.
Post Year 2035 - 2011 Approved Project		
800	"LQ" Street and Irvine Boulevard	Add northbound left-turn lane, resulting in dual-northbound left-turn lanes.

1. Introduction

The Irvine Unified School District plans to build a new high school facility on a 40.3-acre site on the southeast corner of Irvine Boulevard and the future “B” Street, east of Sand Canyon and Highway 133 and west of Alton Parkway. The project site is on a portion of the former Marine Corps Air Station El Toro (MCAS El Toro), in Planning Area 51, Orange County Great Park, of the City of Irvine General Plan. The school is scheduled to open in the year 2016 with a capacity of 2,600 students. It will also include a performing arts center, a gymnasium, and a stadium with 2,940 seats.

1.1 BACKGROUND

1.1.1 Great Park Neighborhoods Development

As part of the Great Park Neighborhoods Project, the MCAS El Toro site will be developed into master-planned neighborhoods or “Districts” that include a variety of housing, shops, restaurants, workplaces, educational institutions, parks, trails and outdoor activities. In 2011, the Heritage Fields/Great Park Neighborhoods Project was approved (the “2011 Approved Project”) to develop 4,712 residential dwelling units (2,741 single family detached and 1,971 multi-family units) and over six million square feet of non-residential uses in the buildout condition. The 2011 Approved Project did not include a high school facility as part of its land use plan.

In 2012, a General Plan Amendment and Zone Change (the “2012 Modified Project”) was prepared that included two development options with an increase in residential development units and a decrease in non-residential acreage compared to the 2011 Approved Project. The Project Area Districts as illustrated in Exhibit 2-2 of the Heritage Fields Project 2012 General Plan Amendment/Zone Change Traffic Study are provided in Figure 1. The 2012 Modified Project Options 1 and 2 each include 9,318 residential dwelling units (3,358 single family detached and 5,960 multi-family units) but propose a slightly different allocation of those units between neighborhood Districts 1N and 1S. In both the 2012 Modified Project Options 1 and 2, a 2,600-student high school is included in the buildout scenario.

The 2012 Modified Project Option 1 proposes the same level of single family detached and multi-family residential development as the 2011 Approved Project, with the following exceptions:

- In District 5, the community recreational and retail land uses proposed in the 2011 Approved Project are replaced with 1,194 single family detached residential units and 1,690 multi-family residential units.
- In District 6, the mortuary, golf, agriculture, educational institution and research and development land uses proposed in the 2011 Approved Project are replaced with 1,722 multi-family residential units along with multi-use land use.
- In District 7, the 840 single family detached residential units proposed in the 2011 Approved Project are replaced with 692 single family detached residential units and 148 multi-family residential units.

The 2012 Modified Project Option 2 proposes the same level of single family detached and multi-family residential development as the 2012 Modified Project Option 1, with the following exceptions:

- In District 1N, 258 additional multi-family residential units are proposed in place of retail land use in Option 2.
- In District 1S, the 429 multi-family residential units proposed in Option 1 are replaced with 171 multi-family residential units plus retail and multi-use land uses.

The levels of residential development proposed in the 2011 Approved Project and 2012 Modified Project Options 1 and 2 in the Year 2015 and Post-2035 conditions are summarized in Table 1.

Table 2 - Residential Development Summary (DUs)

District	2015 Conditions			Post-2035 Conditions		
	2011 AP	2012 MP Option 1	2012 MP Option 2	2011 AP	2012 MP Option 1	2012 MP Option 2
1N	494 SFD	494 SFD	494 SFD	494 SFD 1,121 MF	494 SFD 1,121 MF	494 SFD 1,379 MF
1S	--	429 MF	171 MF	429 MF	429 MF	171 MF
2	--	--	--	--	--	--
3	--	--	--	--	--	--
4	494 SFD 608 MF	494 SFD 608 MF	494 SFD 608 MF	494 SFD 608 MF	494 SFD 608 MF	494 SFD 608 MF
5	--	--	--	--	1,194 SFD 1,690 MF	1,194 SFD 1,690 MF
6	--	--	--	--	1,722 SFD	1,722 SFD
7	840 SFD	692 SFD 148 MF	692 SFD 148 MF	840 SFD	692 SFD 148 MF	692 SFD 148 MF
8	484 SFD 242 MF	484 SFD 242 MF	484 SFD 242 MF	484 SFD 242 MF	484 SFD 242 MF	484 SFD 242 MF
Total SFD	2,312	2,164	2,164	2,312	3,358	3,358
Total MF	850	1,427	1,169	2,400	5,960	5,960
Total Units	3,162	3,591	3,333	4,712	9,318	9,318

Source: Heritage Fields Project 2012 GPA/ZC Traffic Study Tables 2-1 and 2-2

AP – Approved Project; DU – dwelling units; MF – multi-family; MP – Modified Project; SFD – single family detached

1.1.2 IUSD Boundaries

The potential attendance area for High School No. 5 is assumed to be bounded by Jeffrey Road to the west, the Interstate 5 (I-5) freeway to the south, City limits/Bake Parkway to the east and City limits/State Route 241 (SR-241) to the north. This area is currently part of the Northwood High School and Irvine High School attendance areas.

Figure 2.1 Project Study Area

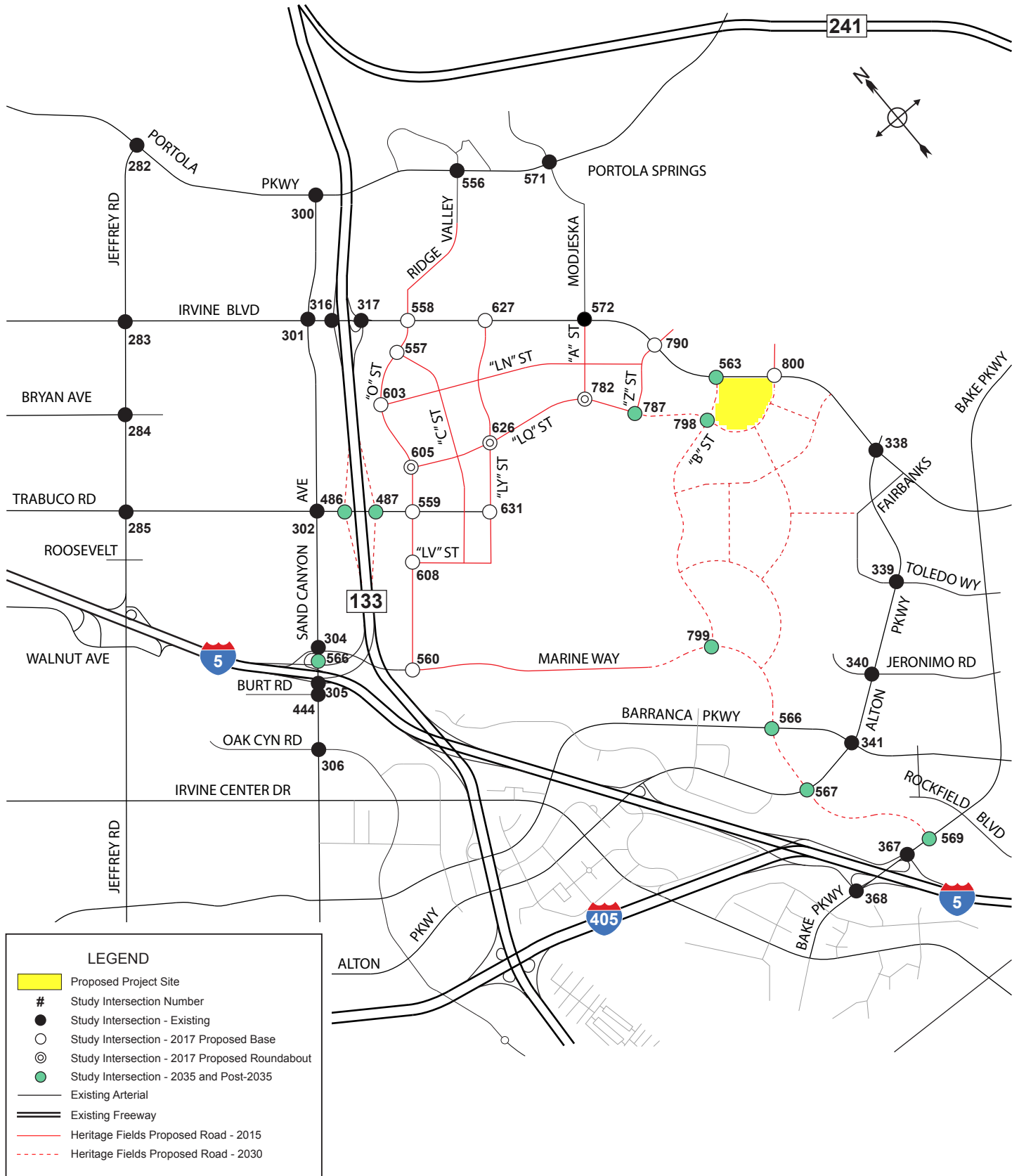
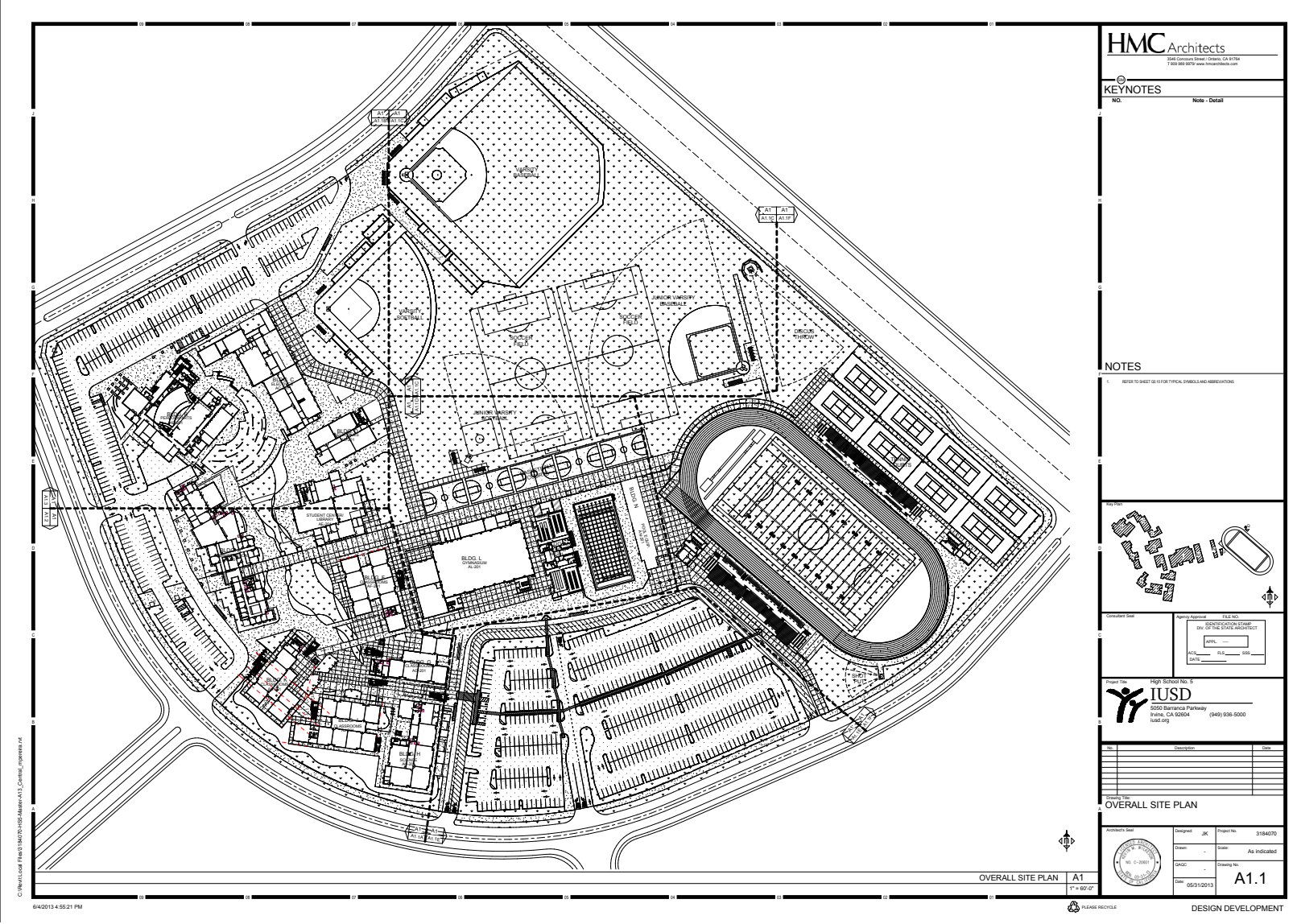


Figure 2.2 Proposed Site Plan



2. Analysis Methodology

The traffic analysis conducted for the High School No. 5 project includes an assessment of traffic conditions at 52 study intersections for the following analysis timeframes:

- Existing: Year 2013
- Project Opening: Year 2017
- Interim: Year 2035
- Buildout: Post-2035

The project is scheduled for an opening year of 2016, however, per City requirements, the year 2017 is analyzed. The intersection analysis methodology and performance criteria used in this analysis conform to the City of Irvine Traffic Impact Analysis Guidelines adopted August 24, 2004.

2.1.1 Analysis Scenarios

The traffic analysis for the High School No. 5 project will include the following scenarios:

- No Project - 2011 Approved Project
- No Project - 2012 Modified Project Option 1
- No Project - 2012 Modified Project Option 2
- With Project - 2011 Approved Project
- With Project - 2012 Modified Project Option 1
- With Project - 2012 Modified Project Option 2

An AM and PM peak hour analysis of each scenario will be made for the following timeframes:

- Existing Condition (Year 2013)
- Interim (Year 2017)
- Interim (Year 2035)
- Buildout (Post-2035)

2.1.2 Analysis Study Area Intersections

Study intersections include:

1. "B" St & Driveway 1
2. "B" St & Driveway 2
3. Driveway 3 & "LQ" St
4. Driveway 4 & "LQ" St
5. "LQ" St & Driveway 5
6. "LQ" St & Driveway 6
7. "LQ" St & Driveway 7
8. Jeffrey Rd & Portola Pkwy
9. Jeffrey Rd & Irvine Blvd
10. Jeffrey Rd & Bryan Ave
11. Jeffrey Rd & Trabuco Rd
12. Sand Canyon Ave & Portola Pkwy
13. Sand Canyon Ave & Irvine Blvd

14. Sand Canyon Ave & Trabuco Rd
15. Sand Canyon Ave & I-5 NB Ramps
16. Sand Canyon Ave & Marine Way
17. Sand Canyon Ave & I-5 SB Ramps
18. Sand Canyon Ave & Burt Rd
19. Sand Canyon Ave & Oak Cyn Rd
20. SR-133 SB Ramps & Irvine Blvd
21. SR-133 NB Ramps & Irvine Blvd
22. Alton Pkwy & Irvine Blvd
23. Alton Pkwy & Toledo Way
24. Alton Pkwy & Jeronimo Rd
25. Alton Pkwy & Barranca Pkwy
26. Bake Pkwy & I-5 NB Ramps
27. Bake Pkwy & I-5/I-405 SB Ramps
28. SR-133 SB Ramps & Trabuco Rd
29. SR-133 NB Ramps & Trabuco Rd
30. Ridge Valley & Portola Pkwy
31. "O" St & "C" St
32. Ridge Valley/"O" St & Irvine Blvd
33. "O" St & Trabuco Rd
34. "O" St & Marine Way
35. "B" St & Irvine Blvd
36. Marine Way & Barranca Pkwy
37. Marine Way & Alton Pkwy
38. Bake Pkwy & Marine Way
39. Portola Springs & Portola Pkwy
40. Modjeska/"A" St & Irvine Blvd
41. "O" St & "LN" St
42. "O" St & "LQ" St
43. "O" St & "LV" St
44. "LY" St & "LQ" St
45. "LY" St & Irvine Blvd
46. "LY" St & Trabuco Rd
47. "A" St & "LQ" St
48. "Z" St & "LQ" St
49. "Z" St & Irvine Blvd
50. "B" St & "LQ" St
51. "B" St & Marine Way
52. "A-02" St/"LQ" St & Irvine Blvd

2.2 INTERSECTION ANALYSIS

Study intersection future forecast traffic conditions are analyzed using the Intersection Capacity Utilization (ICU) methodology adopted in the Orange County Congestion Management Program¹ (CMP). The ICU methodology is based on intersection volume-to-capacity (V/C) ratios. The ICU value for each movement is the observed or forecast volume divided by the saturation flow volume. The intersection ICU value is the sum of the ICU values for the critical movement on each leg, where the critical movement is the one (left, through, or right) that has the highest ICU

¹ 1999 Orange County Congestion Management Plan (CMP), OCTA

value. ICU values are usually expressed as a decimal percent (e.g. 0.74), where 1.00 represents the saturated condition where the volume of traffic flow is equal to the capacity.

The methodology also incorporates a check for right-turn capacity utilization. Right-turn-on-green and right-turn-on-red capacity availability is calculated and checked against the total right-turn capacity need. If insufficient capacity is available, then an adjustment is made to the total capacity utilization value. This calculation utilizes a right-turn-on-red (RTOR) factor², which reflects a lower saturation flow rate for these turning movements. The RTOR factor is not used for dedicated right turns, due to the absence of conflicting movements that would reduce capacity.

The efficiency of traffic operations is measured in terms of Level of Service (LOS). The LOS refers to the quality of traffic flow along roadways and at intersections. Evaluation of roadways and intersections involves the assignment of grades from “A” to “F,” with LOS “A” representing the highest level operating conditions and LOS “F” representing extremely congested and restricted operations. Each letter grade corresponds to a range of V/C values, which are described in Table 3-1.

Intersection Level of Service analysis is performed using TRAFFIX software. TRAFFIX is a network-based interactive computer program that enables calculation of levels of service at signalized and unsignalized intersections for multiple locations and scenarios. TRAFFIX also calculates signal timing (green times and cycle lengths) and maximum queue lengths to assist in evaluating signalized intersections.

Table 2-1 Level of Service Description

Level of Service	ICU Value	Definition
A	0.00 – 0.60	At level of service A there are no cycles that are fully loaded, and few are even close to loaded. No approach phase is utilized by traffic and no vehicle waits longer than one red indication. Typically, the approach appears quite open, turning movements are easily made, and nearly all drivers find freedom of operation.
B	0.61 – 0.70	Level of service B represents stable operation. An occasional approach phase is fully utilized and a substantial number are approaching full use. Many drivers begin to feel somewhat restricted within platoons of vehicles.
C	0.71 – 0.80	In level of service C stable operation continues. Full signal cycle loading is still intermittent, but more frequent. Occasionally drivers may have to wait through more than one red signal indication, and back-ups may develop behind turning vehicles.
D	0.81 – 0.90	Level of service D encompasses a zone of increasing restriction, approaching instability. Delay to approaching vehicles may be substantial during short peaks within the peak period, but enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excessive back-ups.
E	0.91 – 1.00	Level of service E represents the most vehicles that any particular intersection approach can accommodate. At capacity (V/C = 1.00)

² City of Irvine, Planning Area 27 Tentative Tract Map Traffic Study, Appendix B – Intersection Capacity Utilization Worksheets

Level of Service	ICU Value	Definition
		there may be long queues of vehicles waiting upstream of the intersection and delays may be great (up to several signal cycles).
F	> 1.000	Level of service F represents jammed conditions. Back-ups from locations downstream or on the cross street may restrict or prevent movement of vehicles out of the approach under consideration; hence, volumes carried are not predictable. V/C values are highly variable, because full utilization of the approach may be prevented by outside conditions.
ICU – Intersection Capacity Utilization Source: City of Irvine Traffic Study Guidelines		

2.2.1 Intersection Analysis Time Period

Three conditions with the proposed high school project are evaluated for the weekday AM and PM peak hours. The weekday PM peak hour time period was included in the analysis of traffic conditions with the stadium.

2.2.2 Performance Standards

The traffic analysis incorporates the performance standards adopted by the City of Irvine. A capacity of 1,700 vehicles per hour per lane (vphpl) is assumed for both through lanes and dedicated turn lanes at the study intersections. Traffic signal phasing in the future condition is assumed to match the existing signal phasing (i.e. existing protected left turn = future protected left turn). The assumptions used in the analysis are summarized in Table 3-2.

Table 2-2 Peak Hour ICU Assumptions and Performance Standards

Saturation Flow Rate	1,700 vehicles per hour per lane
Clearance Interval	0.05 seconds
Right-Turn-On-Red (RTOR)	Allowed
RTOR Saturation Flow Factor	0.75
Minimum Volume/Capacity (V/C)	None

2.3 TRAFFIC COUNT DATA

Intersection turning movement counts were obtained from the *Heritage Fields Project 2012 General Plan Amendment and Zone Change Traffic Impact Analysis, 2012*. The counts were taken in 2012 and the City approved annual growth rate of 1.5% per year was applied to the year 2012 counts to estimate year 2013 volumes.

Average Daily Traffic (ADT) volumes on roadway segments in the vicinity of the project location were also obtained from the *Heritage Fields Project 2012 General Plan Amendment and Zone Change Traffic Impact Analysis*, and were collected in 2012.

2.4 FORECAST TRAFFIC VOLUMES

The future forecast intersection traffic volumes for year 2017, 2035, and post-2035 were obtained from the *Heritage Fields Project 2012 General Plan Amendment and Zone Change Traffic Impact Analysis, 2012*. The volumes in the Heritage Fields Project 2012 General Plan Amendment and Zone Change Traffic Impact Analysis were provided by ITAM for the year 2015, 2035, and post 2035. An annual growth rate of 1.5% per year was applied to these volumes to estimate year 2017, 2035, and post 2035 forecast volumes.

2.5 TRAFFIC ANALYSIS PERFORMANCE CRITERIA

The minimum acceptable level of service for intersections in the City of Irvine located outside of the Irvine Business Complex (IBC) is LOS "D." All of the project study intersections are located outside of the Irvine Business Complex (IBC).

For facilities that are forecast to operate at LOS "E" or LOS "F" in the baseline condition, project traffic is considered to result in a significant impact if it would cause the total ICU to increase by 0.02 or greater. Mitigation measures to return the ICU value back to the "without project" condition are required.

For intersections that are projected to be deficient in the most recent Circulation Phasing Analysis Report, a project-related increase in ICU of 0.01 or greater in the interim year (short term) would require mitigation measures to return the facility to baseline or contribution of fair share towards mitigation back to an acceptable level of service.

3. Existing Conditions

The project study area includes major arterials and intersections located within a 1.5-mile radius of Irvine High School #5. Descriptions of geometrical features and intersection level of service analysis results are included in this section.

3.1 ROADWAY CONDITIONS

3.1.1 Existing Roadway Network

Selected master plan arterials that provide access to Irvine High School #5 site are described in this section. Items of note include existing geometry, pedestrian and bicycle facilities, adjacent land uses, and the City of Irvine General Plan Master Plan of Arterial Highways (MPAH) designation.

Jeffrey Road is a six-lane major highway divided by a striped and raised median. On the City of Irvine Master Plan of Arterial Highways, Jeffrey Road is designated as a Major Highway between I-405 and Portola Parkway. Class II bicycle lanes are striped along both sides of the street throughout the study area, and on-street parking is not permitted. It provides access to the Interstate 5 freeway and the Interstate 405 freeway.

Sand Canyon Avenue runs east and west through the project area. It is generally a six lane roadway divided by a landscaped median. On the City of Irvine Master Plan of Arterial Highways, Sand Canyon Avenue is designated as a Major Highway (generally 6-lanes) between Portola Parkway and I-405. Class II bicycle lanes are striped along both sides of the street throughout the study area, and on-street parking is not permitted.

Alton Parkway is a six-lane divided major highway with Class II bike lanes and classified as a Major Highway between the city limits southeast of Irvine Boulevard and the Laguna Freeway. It is classified as a Primary Highway on the City of Irvine Master Plan of Arterial Highways from the Laguna Freeway north to Culver Drive where it transitions into a four-lane divided primary highway. Class II bicycle lanes are striped along both sides of the street throughout the study area, and on-street parking is not permitted.

Bake Parkway is a six to eight lane roadway divided by a landscaped or painted median. On the City of Irvine Master Plan of Arterial Highways, Bake Parkway is designated as a Major Highway (generally 6-lanes) between Irvine Boulevard and Laguna Canyon. Class II bicycle lanes are striped along both sides of the street throughout the study area, and on-street parking is not permitted. Class II bicycle lanes are striped along both sides of the street throughout the study area, and on-street parking is not permitted.

Portola Parkway is a six lane roadway north of Jeffrey divided by a landscaped median, and it transitions to a four lane roadway south of Jeffrey Road divided by a striped median then a landscaped median south of SR-133. On the City of Irvine Master Plan of Arterial Highways, Portola Parkway is designated as a Major Highway (generally 6-lanes) between the northern city limits south of Tustin Ranch Road and Jeffrey Road and a Primary Highway south of Jeffrey Road. Class II bicycle lanes are striped along both sides of the street throughout the study area, and on-street parking is not permitted.

Irvine Boulevard is a six lane roadway divided by a landscaped median. On the City of Irvine Master Plan of Arterial Highways, Irvine Boulevard is designated as a Major Highway (generally

6-lanes) between Newport Avenue and the southern city limits south of Alton Parkway. Class II bicycle lanes are striped along both sides of the street throughout the study area, and on-street parking is not permitted.

Trabuco Road runs north and south through the study area. On the City of Irvine Master Plan of Arterial Highways, Trabuco Road is designated as a Major Highway between Sand Canyon and the future SR-133 interchange. It is two lanes in each direction divided by a landscaped median. Class II bicycle lanes are striped along both sides of the street throughout the study area, and on-street parking is not permitted.

Barranca Parkway runs north and south through the study area. It is currently a four-lane divided roadway. On the City of Irvine Master Plan of Arterial Highways, Barranca Parkway/Muirlands Boulevard is designated as a Primary Highway. Class II bicycle lanes are striped along both sides of the street throughout the study area, and on-street parking is not permitted.

Marine Way is currently a two-lane undivided roadway between Sand Canyon Avenue and El Toro Boulevard. In the City of Irvine Master Plan of Arterial Highways, Marine Way is designated as a Primary.

3.1.2 Average Daily Traffic (ADT) and Arterial Level of Service (LOS)

Average Daily Traffic (ADT) volumes for the study area network are summarized in Table 3-1. All study area segments currently operate at LOS C or better.

Table 3-1 Year 2013 ADT Volumes – No Project

#	Street Name	Limits	# Lanes	Capacity	2013 NP ADT		
					ADT	V/C	LOS
1	Jeffrey Rd	Irvine Blvd to Bryan Ave	6D	54,000	15,856	0.290	A
2	Sand Canyon Ave	Portola Pkwy to Irvine Blvd	4D	32,000	12,428	0.390	A
3	Sand Canyon Ave	Irvine Blvd to Trabuco Rd	6D	54,000	23,063	0.430	A
4	Sand Canyon Ave	Trabuco Rd to Marine Way	8D	72,000	28,245	0.390	A
5	Sand Canyon Ave	Marine Way to Oak Canyon Rd	4D	32,000	25,000	0.780	C
6	Alton Pkwy	Irvine Blvd to Toledo Wy	6D	54,000	9,105	0.170	A
7	Alton Pkwy	Toledo Wy to Jeronimo Rd	6D	54,000	16,281	0.300	A
8	Alton Pkwy	Jeronimo Rd to Barranca Pkwy	6D	54,000	24,196	0.450	A
9	Portola Pkwy	Jeffrey Rd to Sand Canyon Ave	4D	32,000	9,988	0.310	A
10	Portola Pkwy	Sand Canyon Ave to Ridge Valley	4D	32,000	10,000	0.310	A
11	Portola Pkwy	Ridge Valley to Modjeska	4D	32,000	4,882	0.150	A
12	Irvine Blvd	Jeffrey Rd to Sand Canyon Ave	6D	54,000	22,364	0.410	A
13	Irvine Blvd	Sand Canyon Ave to SR-133 Fwy	6D	54,000	18,961	0.350	A
14	Irvine Blvd	SR-133 Fwy to Ridge Valley	4D	32,000	18,961	0.590	A
15	Irvine Blvd	Ridge Valley to "LY" St	4D	32,000	18,961	0.590	A
16	Irvine Blvd	"Z" St to "B" St	6D	54,000	18,961	0.350	A
17	Irvine Blvd	"LQ" St to Alton Pkwy	6D	54,000	18,961	0.350	A
18	Trabuco Rd	Jeffrey Rd to Sand Canyon Ave	4D	32,000	6,988	0.220	A
19	"O" St	Portola Pkwy to Irvine Blvd	4D	32,000	-	-	A
20	"O" St	Irvine Blvd to "C" St	4D	32,000	-	-	A
21	"O" St	"C" St to "LN" St	4D	32,000	-	-	A

#	Street Name	Limits	# Lanes	Capacity	2013 NP ADT		
					ADT	V/C	LOS
22	"O" St	"LN" St to "LQ" St	4D	32,000	-	-	A
23	"O" St	"LQ" St to Trabuco Rd	4D	32,000	-	-	A
24	"O" St	Trabuco Rd to "LV" St	4D	32,000	-	-	A
25	"B" St	Irvine Blvd to "LQ" St	2D	13,000	-	-	A
26	"B" St	"LQ" St to Marine Wy	2D	13,000	-	-	A
27	"LQ" St	"O" St to "C" St	2D	13,000	-	-	A
28	"LQ" St	"C" St to "LY" St	2D	13,000	-	-	A
29	"LQ" St	"LY" St to "A" St	2D	13,000	-	-	A
30	"LQ" St	"A" St to "Z" St	2D	13,000	-	-	A

#D – total number of lanes in both directions divided by a raised median.

3.2 INTERSECTIONS

Fifty-two study intersections have been selected for analysis based on traffic patterns and forecast project trip distribution through the study area. The list of study intersections include was previously shown under Section 2.1.2.

The existing lane geometry and traffic control for each intersection are illustrated in Figure 3.1. and Year 2013 intersection volumes are shown in Figure 3.2. A summary of the level of service analysis results for the year 2013 without project condition is included in Table 3-2. One study intersections currently operates at a deficient level of service during the evening peak hour. The intersection of Bake Parkway and I-5 NB Ramps (#367) operates at LOS "F".

Table 3-2 Year 2013 Peak Hour Intersection LOS

Intersection		Control	AM Peak		PM Peak	
			V/C Delay	LOS	V/C Delay	LOS
282	Jeffrey Rd & Portola Pkwy	S	0.38	A	0.35	A
283	Jeffrey Rd & Irvine Blvd	S	0.47	A	0.55	A
284	Jeffrey Rd & Bryan Ave	S	0.46	A	0.38	A
285	Jeffrey Rd & Trabuco Rd	S	0.45	A	0.43	A
300	Sand Canyon Ave & Portola Pkwy	S	0.26	A	0.29	A
301	Sand Canyon Ave & Irvine Blvd	S	0.51	A	0.50	A
302	Sand Canyon Ave & Trabuco Rd	S	0.39	A	0.38	A
303	Sand Canyon Ave & I-5 NB Ramps	S	0.66	B	0.43	A
304	Sand Canyon Ave & Marine Way	S	0.59	A	0.61	B
305	Sand Canyon Ave & I-5 SB Ramps	S	0.70	B	0.73	C
444	Sand Canyon Ave & Burt Rd	S	0.67	B	0.57	A
306	Sand Canyon Ave & Oak Cyn Rd	S	0.29	A	0.29	A
316	SR-133 SB Ramps & Irvine Blvd	S	0.39	A	0.41	A
317	SR-133 NB Ramps & Irvine Blvd	S	0.40	A	0.44	A
338	Alton Pkwy & Irvine Blvd	S	0.46	A	0.49	A
339	Alton Pkwy & Toledo Way	S	0.38	A	0.36	A
340	Alton Pkwy & Jeronimo Rd	S	0.37	A	0.35	A
341	Alton Pkwy & Barranca Pkwy	S	0.45	A	0.57	A

Intersection		Control	AM Peak		PM Peak	
			V/C Delay	LOS	V/C Delay	LOS
367	Bake Pkwy & I-5 NB Ramps	S	0.86	D	1.01	F
368	Bake Pkwy & I-5/I-405 SB Ramps	S	0.61	B	0.67	B
556	Ridge Valley & Portola Pkwy	S	0.35	A	0.25	A
571	Portola Springs & Portola Pkwy	S	0.18	A	0.15	A
572	Modjeska/"A" St & Irvine Blvd	S	0.32	A	0.44	A

Note: V/C = volume-to-capacity ratio.

Figure 3.1 Existing Study Intersection Geometry and Control

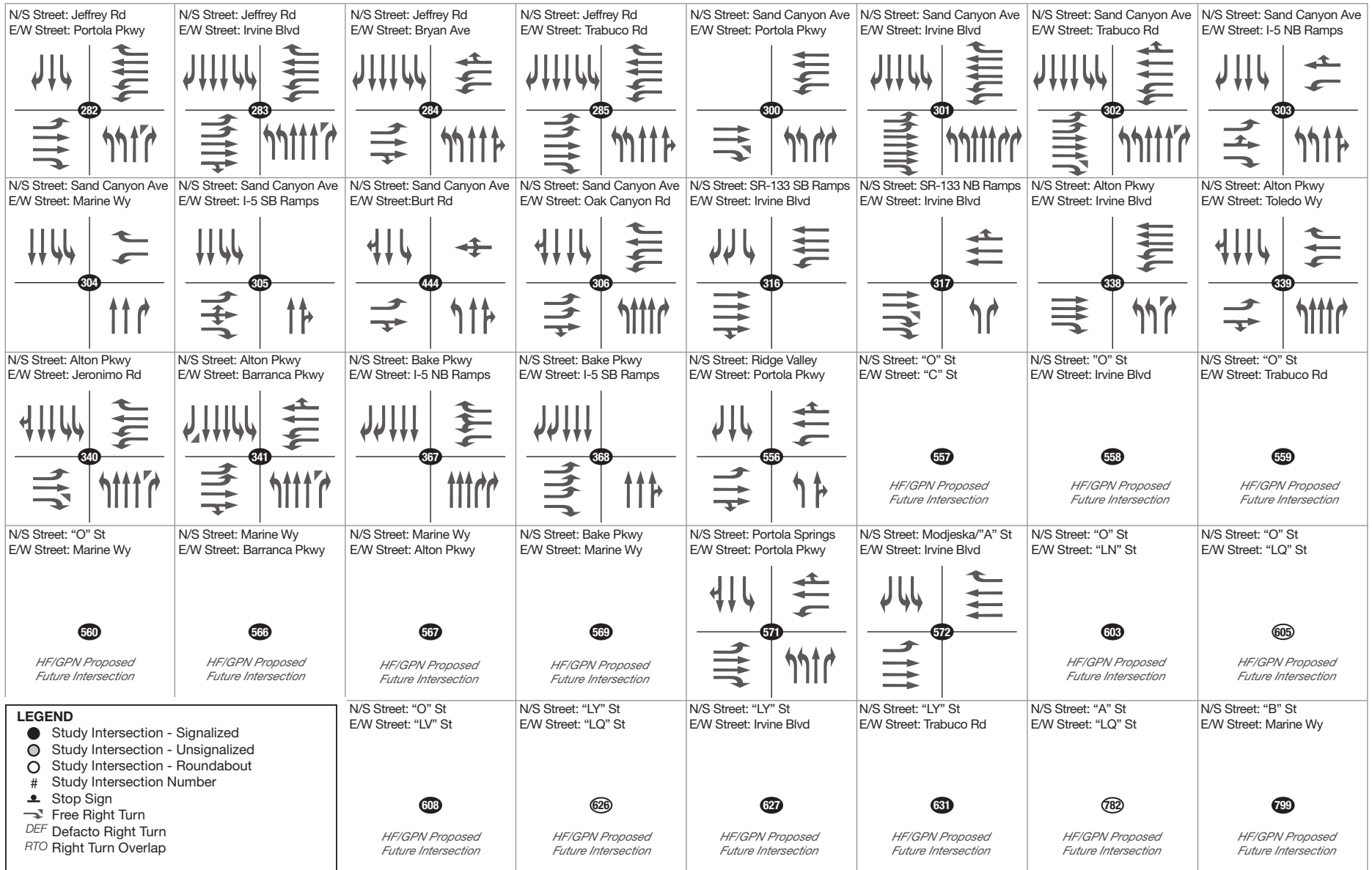
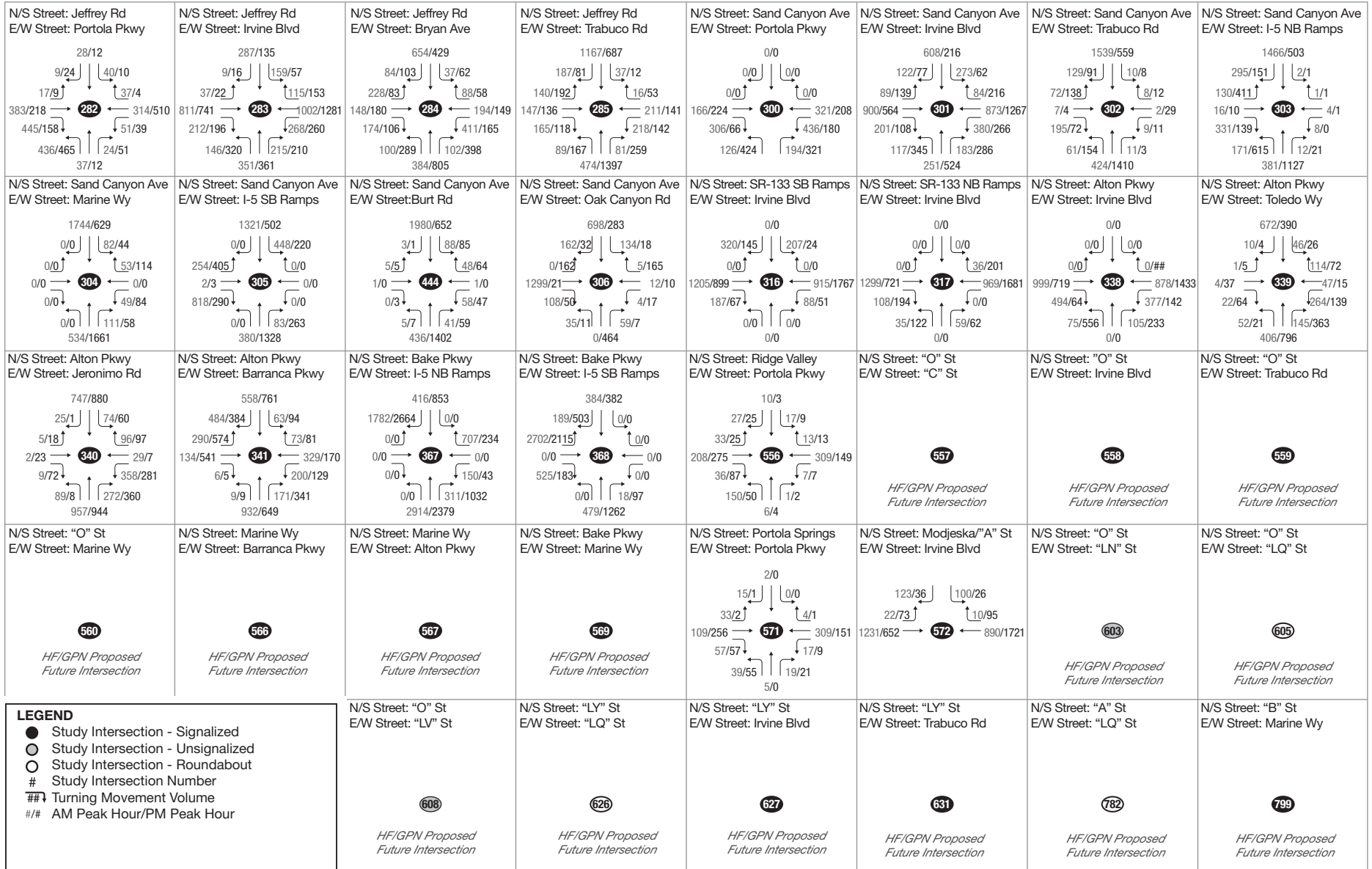


Figure 3.2 Year 2013 Peak Hour Volumes - No Project



4. Future Traffic Without the Proposed Project

This section develops the future No Build conditions in the study area with ambient traffic growth. Ambient traffic growth is the increase in traffic that is expected to occur in the study area due to general employment growth, housing growth and growth in regional through trips. Even if there was no change in housing or employment in the study area, there will be some background (ambient) traffic growth in the region. In addition to the existing condition analysis, the City of Irvine Traffic Impact Analysis Guidelines requires future analysis for two interim years (2017 and 2035) and the buildout condition (post-2035).

City of Irvine staff provided future intersection turning movement volumes from the Irvine Traffic Analysis Model (ITAM). These volumes include ambient traffic growth and reflect changes in land use and development density. It is assumed that the existing lane geometry and control remain unchanged in the No Build analysis.

4.1 PROJECTED TRAFFIC AND LEVEL OF SERVICE (LOS)

4.1.1 Year 2017

The intersection geometry control for 2017 (Approved 2011 Project) are shown in Figure 4.1. The intersection geometry controls for 2017 (2012 Modified Project Options 1 and 2) are shown in Figure 4.2. Year 2017 forecast intersection volumes are shown in Figure 4.3. A summary of the level of service analysis results for the year 2017 without project condition is included in Table 4-1. Two study intersections are expected to operate at a deficient level of service during the AM and/or PM peak hours. The intersection of Sand Canyon Avenue and Oak Canyon Road (#306) operates at LOS "E" for the PM peak hour, and the intersection of "LQ" Street and Irvine Boulevard (#800) is expected to operate at LOS "E" during the AM peak hour.

Table 4-1 Year 2017 Peak Hour Intersection LOS – No Project – 2011 Approved Project

Intersection	Control	AM Peak		PM Peak		
		V/C Delay	LOS	V/C Delay	LOS	
282	Jeffrey Rd & Portola Pkwy	S	0.58	A	0.64	B
283	Jeffrey Rd & Irvine Blvd	S	0.67	B	0.68	B
284	Jeffrey Rd & Bryan Ave	S	0.65	B	0.50	A
285	Jeffrey Rd & Trabuco Rd	S	0.63	B	0.64	B
300	Sand Canyon Ave & Portola Pkwy	S	0.36	A	0.36	A
301	Sand Canyon Ave & Irvine Blvd	S	0.67	B	0.62	B
302	Sand Canyon Ave & Trabuco Rd	S	0.70	B	0.67	B
303	Sand Canyon Ave & I-5 NB Ramps	S	0.70	C	0.72	C
304	Sand Canyon Ave & Marine Way	S	0.78	C	0.76	C
305	Sand Canyon Ave & I-5 SB Ramps	S	0.86	D	0.76	C
444	Sand Canyon Ave & Burt Rd	S	0.79	C	0.62	B
306	Sand Canyon Ave & Oak Cyn Rd	S	0.67	B	0.99	E
316	SR-133 SB Ramps & Irvine Blvd	S	0.55	A	0.49	A
317	SR-133 NB Ramps & Irvine Blvd	S	0.63	B	0.77	C
338	Alton Pkwy & Irvine Blvd	S	0.88	D	0.81	D

Intersection		Control	AM Peak		PM Peak	
			V/C Delay	LOS	V/C Delay	LOS
339	Alton Pkwy & Toledo Way	S	0.67	B	0.60	A
340	Alton Pkwy & Jeronimo Rd	S	0.69	B	0.55	A
341	Alton Pkwy & Barranca Pkwy	S	0.60	A	0.70	B
367	Bake Pkwy & I-5 NB Ramps	S	0.84	D	0.89	D
368	Bake Pkwy & I-5/I-405 SB Ramps	S	0.72	C	0.84	D
556	Ridge Valley & Portola Pkwy	S	0.52	A	0.63	B
557	"O" St & "C" St	R	0.31	A	0.23	A
558	Ridge Valley/"O" St & Irvine Blvd	S	0.63	B	0.84	D
559	"O" St & Trabuco Rd	S	0.54	A	0.45	A
560	"O" St & Marine Way	S	0.29	A	0.34	A
571	Portola Springs & Portola Pkwy	S	0.19	A	0.15	A
572	Modjeska/"A" St & Irvine Blvd	S	0.55	A	0.60	B
603	"O" St & "LN" St	U	0.18	A	0.07	A
605	"O" St & "LQ" St	R	0.20	A	0.22	A
608	"O" St & "LV" St	U	0.02	A	0.01	A
626	"LY" St & "LQ" St	R	0.27	A	0.25	A
627	"LY" St & Irvine Blvd	S	0.47	A	0.70	C
631	"LY" St & Trabuco Rd	U	0.02	A	0.01	A
782	"A" St & "LQ" St	R	0.17	A	0.20	A
790	"Z" St & Irvine Blvd	S	0.68	B	0.59	A
800	"A-02" St/"LQ" St & Irvine Blvd	S	0.91	E	0.85	D

Year 2017 (2012 Modified Project, Option 1) forecast intersection volumes are shown in Figure 4.4. A summary of the level of service analysis results for the year 2017 (2012 Modified Project, Option 1) without project condition is included in Table 4-2. One study intersection is expected to operate at a deficient level of service during the AM and/or PM peak hours. The intersection of Sand Canyon Avenue and Oak Canyon Road (#306) is expected to operate at LOS "F" in the PM peak hour.

Table 4-2 Year 2017 Peak Hour Intersection LOS – No Project – 2012 Modified Project Option 1

Intersection		Control	AM Peak		PM Peak	
			V/C Delay	LOS	V/C Delay	LOS
282	Jeffrey Rd & Portola Pkwy	S	0.58	A	0.63	B
283	Jeffrey Rd & Irvine Blvd	S	0.66	B	0.67	B
284	Jeffrey Rd & Bryan Ave	S	0.63	B	0.58	A
285	Jeffrey Rd & Trabuco Rd	S	0.63	B	0.64	B
300	Sand Canyon Ave & Portola Pkwy	S	0.36	A	0.48	A
301	Sand Canyon Ave & Irvine Blvd	S	0.58	A	0.53	A
302	Sand Canyon Ave & Trabuco Rd	S	0.71	C	0.72	C
303	Sand Canyon Ave & I-5 NB Ramps	S	0.71	C	0.71	C

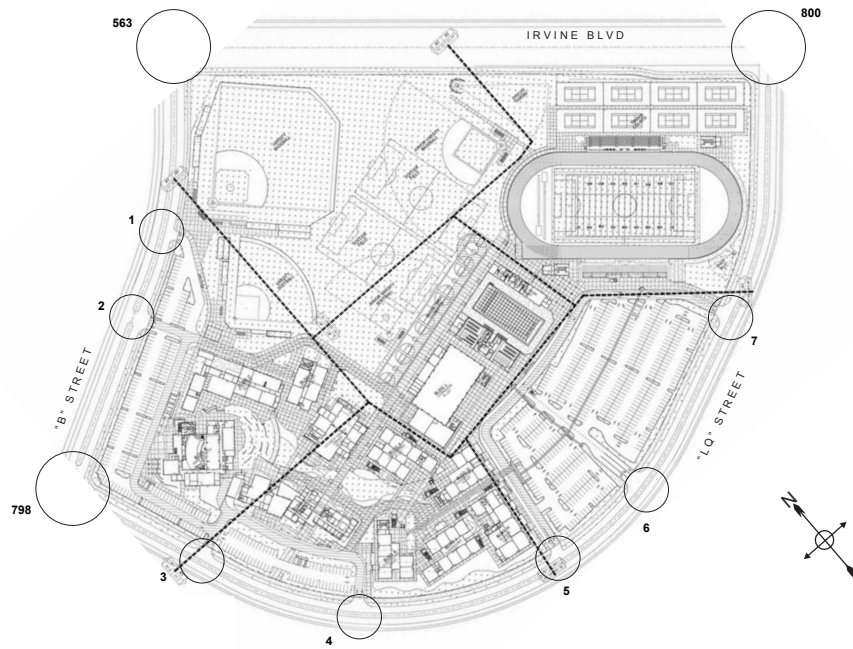
Intersection		Control	AM Peak		PM Peak	
			V/C Delay	LOS	V/C Delay	LOS
304	Sand Canyon Ave & Marine Way	S	0.83	D	0.89	D
305	Sand Canyon Ave & I-5 SB Ramps	S	0.86	D	0.78	C
444	Sand Canyon Ave & Burt Rd	S	0.79	C	0.80	C
306	Sand Canyon Ave & Oak Cyn Rd	S	0.67	B	1.00	F
316	SR-133 SB Ramps & Irvine Blvd	S	0.43	A	0.45	A
317	SR-133 NB Ramps & Irvine Blvd	S	0.44	A	0.68	B
338	Alton Pkwy & Irvine Blvd	S	0.85	D	0.81	D
339	Alton Pkwy & Toledo Way	S	0.66	B	0.59	A
340	Alton Pkwy & Jeronimo Rd	S	0.69	B	0.54	A
341	Alton Pkwy & Barranca Pkwy	S	0.60	A	0.70	C
367	Bake Pkwy & I-5 NB Ramps	S	0.83	D	0.66	B
368	Bake Pkwy & I-5/I-405 SB Ramps	S	0.70	B	0.83	D
556	Ridge Valley & Portola Pkwy	S	0.52	A	0.65	B
557	"O" St & "C" St	R	0.53	A	0.38	A
558	Ridge Valley/"O" St & Irvine Blvd	S	0.54	A	0.67	B
559	"O" St & Trabuco Rd	S	0.75	C	0.64	B
560	"O" St & Marine Way	S	0.27	A	0.49	A
571	Portola Springs & Portola Pkwy	S	0.56	A	0.48	A
572	Modjeska/"A" St & Irvine Blvd	S	0.40	A	0.55	A
603	"O" St & "LN" St	S	0.27	A	0.20	A
605	"O" St & "LQ" St	R	0.31	A	0.24	A
608	"O" St & "LV" St	S	0.19	A	0.35	A
626	"LY" St & "LQ" St	R	0.29	A	0.29	A
627	"LY" St & Irvine Blvd	S	0.37	A	0.64	B
631	"LY" St & Trabuco Rd	U	0.01	A	0.02	A
782	"A" St & "LQ" St	R	0.17	A	0.24	A
790	"Z" St & Irvine Blvd	S	0.53	A	0.53	A
800	"A-02" St/"LQ" St & Irvine Blvd	S	0.89	D	0.56	A

Year 2017 (2012 Modified Project, Option 2) forecast intersection volumes are shown in Figure 4.5. The level of service analysis results for the year 2017 (2012 Modified Project, Option 2) without project condition is included in Table 4-3. One study intersection is expected to operate at a deficient level of service during the AM and/or PM peak hours. The intersection of Sand Canyon Avenue and Oak Canyon Road (#306) would operate at LOS "F" during the PM peak hour.

**Table 4-3 Year 2017 Peak Hour Intersection LOS – No Project – 2012 Modified Project
Option 2**

Intersection		Control	AM Peak		PM Peak	
			V/C Delay	LOS	V/C Delay	LOS
282	Jeffrey Rd & Portola Pkwy	S	0.58	A	0.64	B
283	Jeffrey Rd & Irvine Blvd	S	0.66	B	0.67	B
284	Jeffrey Rd & Bryan Ave	S	0.63	B	0.58	A
285	Jeffrey Rd & Trabuco Rd	S	0.63	B	0.64	B
300	Sand Canyon Ave & Portola Pkwy	S	0.36	A	0.48	A
301	Sand Canyon Ave & Irvine Blvd	S	0.58	A	0.60	A
302	Sand Canyon Ave & Trabuco Rd	S	0.71	C	0.72	C
303	Sand Canyon Ave & I-5 NB Ramps	S	0.71	C	0.70	C
304	Sand Canyon Ave & Marine Way	S	0.82	D	0.89	D
305	Sand Canyon Ave & I-5 SB Ramps	S	0.86	D	0.79	C
444	Sand Canyon Ave & Burt Rd	S	0.79	C	0.80	C
306	Sand Canyon Ave & Oak Cyn Rd	S	0.67	B	1.00	F
316	SR-133 SB Ramps & Irvine Blvd	S	0.43	A	0.45	A
317	SR-133 NB Ramps & Irvine Blvd	S	0.43	A	0.68	B
338	Alton Pkwy & Irvine Blvd	S	0.85	D	0.81	D
339	Alton Pkwy & Toledo Way	S	0.67	B	0.59	A
340	Alton Pkwy & Jeronimo Rd	S	0.68	B	0.54	A
341	Alton Pkwy & Barranca Pkwy	S	0.60	A	0.70	C
367	Bake Pkwy & I-5 NB Ramps	S	0.83	D	0.66	B
368	Bake Pkwy & I-5/I-405 SB Ramps	S	0.70	B	0.83	D
556	Ridge Valley & Portola Pkwy	S	0.52	A	0.65	B
557	"O" St & "C" St	R	0.52	A	0.38	A
558	Ridge Valley/"O" St & Irvine Blvd	S	0.54	A	0.76	C
559	"O" St & Trabuco Rd	S	0.74	C	0.63	B
560	"O" St & Marine Way	S	0.27	A	0.50	A
571	Portola Springs & Portola Pkwy	S	0.56	A	0.48	A
572	Modjeska/"A" St & Irvine Blvd	S	0.40	A	0.55	A
603	"O" St & "LN" St	S	0.32	A	0.24	A
605	"O" St & "LQ" St	R	0.30	A	0.24	A
608	"O" St & "LV" St	S	0.19	A	0.36	A
626	"LY" St & "LQ" St	R	0.29	A	0.28	A
627	"LY" St & Irvine Blvd	S	0.37	A	0.64	B
631	"LY" St & Trabuco Rd	U	0.01	A	0.02	A
782	"A" St & "LQ" St	R	0.15	A	0.23	A
790	"Z" St & Irvine Blvd	S	0.52	A	0.56	A
800	"A-02" St/"LQ" St & Irvine Blvd	S	0.88	D	0.86	D

Figure 4.1 Year 2017 Intersection Geometry & Control - 2011 Approved Project



<p>N/S Street: "B" St E/W Street: Driveway 1</p> <p>With Project Geometry</p>	<p>N/S Street: Sand Canyon Ave E/W Street: Driveway 2</p> <p>With Project Geometry</p>	<p>N/S Street: Driveway 3 E/W Street: "LQ" St</p> <p>With Project Geometry</p>	<p>N/S Street: Driveway 4 E/W Street: "LQ" St</p> <p>With Project Geometry</p>
<p>N/S Street: "LQ" St E/W Street: Driveway 5</p> <p>With Project Geometry</p>	<p>N/S Street: "LQ" St E/W Street: Driveway 6</p> <p>With Project Geometry</p>	<p>N/S Street: "LQ" St E/W Street: Driveway 7</p> <p>With Project Geometry</p>	<p>N/S Street: "B" St E/W Street: Irvine Blvd</p> <p>With Project Geometry</p>
<p>N/S Street: "Z" St E/W Street: "LQ" St</p> <p>787</p> <p>HF/GPN Proposed Future Intersection</p>	<p>N/S Street: "Z" St E/W Street: Irvine Blvd</p> <p>790</p> <p>790</p>	<p>N/S Street: "B" St E/W Street: "LQ" St</p> <p>798</p> <p>HF/GPN Proposed Future Intersection</p>	<p>N/S Street: "A-02" St/"LQ" St E/W Street: Irvine Blvd</p> <p>800</p> <p>800</p>
<p>N/S Street: SR-133 SB Ramps E/W Street: Trabuco Rd</p> <p>486</p> <p>HF/GPN Proposed Future Intersection</p>	<p>N/S Street: SR-133 NB Ramps E/W Street: Trabuco Rd</p> <p>487</p> <p>HF/GPN Proposed Future Intersection</p>		

LEGEND	
●	Study Intersection - Signalized
○	Study Intersection - Unsignalized
○	Study Intersection - Roundabout
#	Study Intersection Number
⊥	Stop Sign
↘	Free Right Turn
DEF	Defacto Right Turn
RTO	Right Turn Overlap

Figure 4.1 Year 2017 Intersection Geometry & Control - 2011 Approved Project

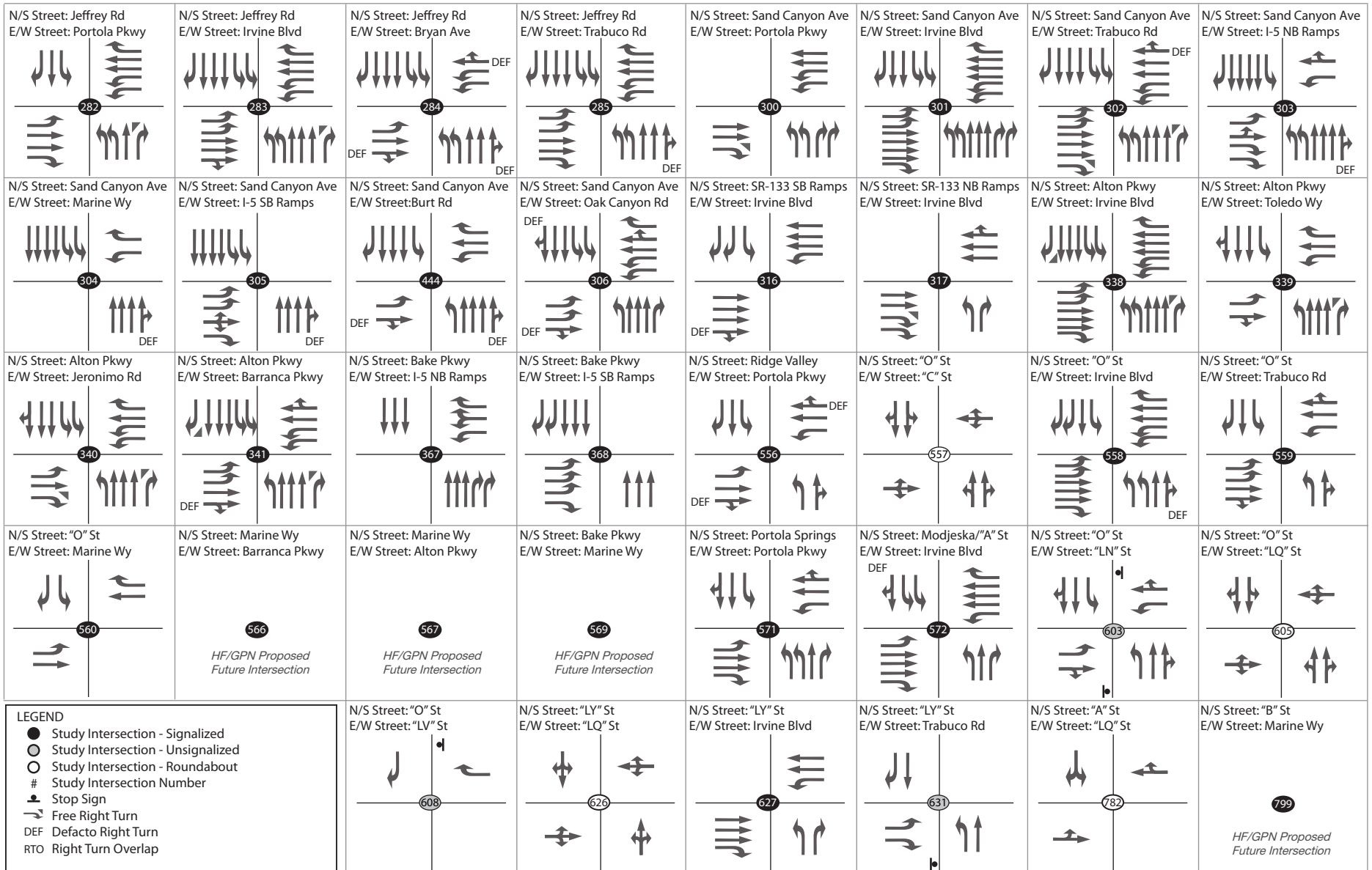
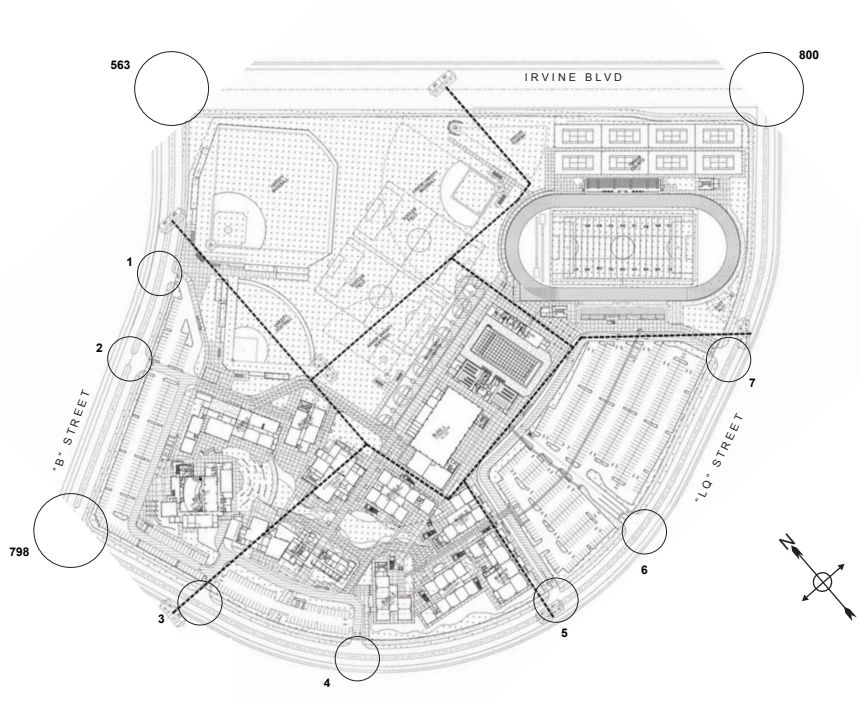


Figure 4.2 Year 2017 Intersection Geometry & Control - 2012 Modified Project Options 1 & 2



<p>N/S Street: "B" St E/W Street: Driveway 1</p> <p>With Project Geometry</p>	<p>N/S Street: Sand Canyon Ave E/W Street: Driveway 2</p> <p>With Project Geometry</p>	<p>N/S Street: Driveway 3 E/W Street: "LQ" St</p> <p>With Project Geometry</p>	<p>N/S Street: Driveway 4 E/W Street: "LQ" St</p> <p>With Project Geometry</p>
<p>N/S Street: "LQ" St E/W Street: Driveway 5</p> <p>With Project Geometry</p>	<p>N/S Street: "LQ" St E/W Street: Driveway 6</p> <p>With Project Geometry</p>	<p>N/S Street: "LQ" St E/W Street: Driveway 7</p> <p>With Project Geometry</p>	<p>N/S Street: "B" St E/W Street: Irvine Blvd</p> <p>With Project Geometry</p>
<p>N/S Street: "Z" St E/W Street: "LQ" St</p> <p>787</p> <p>HF/GPN Proposed Future Intersection</p>	<p>N/S Street: "Z" St E/W Street: Irvine Blvd</p> <p>790</p> <p>790</p>	<p>N/S Street: "B" St E/W Street: "LQ" St</p> <p>798</p> <p>HF/GPN Proposed Future Intersection</p>	<p>N/S Street: "A-02" St/"LQ" St E/W Street: Irvine Blvd</p> <p>800</p> <p>800</p>
<p>N/S Street: SR-133 SB Ramps E/W Street: Trabuco Rd</p> <p>486</p> <p>HF/GPN Proposed Future Intersection</p>	<p>N/S Street: SR-133 NB Ramps E/W Street: Trabuco Rd</p> <p>487</p> <p>HF/GPN Proposed Future Intersection</p>		

LEGEND

- Study Intersection - Signalized
- Study Intersection - Unsignalized
- Study Intersection - Roundabout
- # Study Intersection Number
- ⊥ Stop Sign
- ↪ Free Right Turn
- DEF Defacto Right Turn
- RTO Right Turn Overlap

Figure 4.2 Year 2017 Intersection Geometry & Control - 2012 Modified Project Options 1 & 2

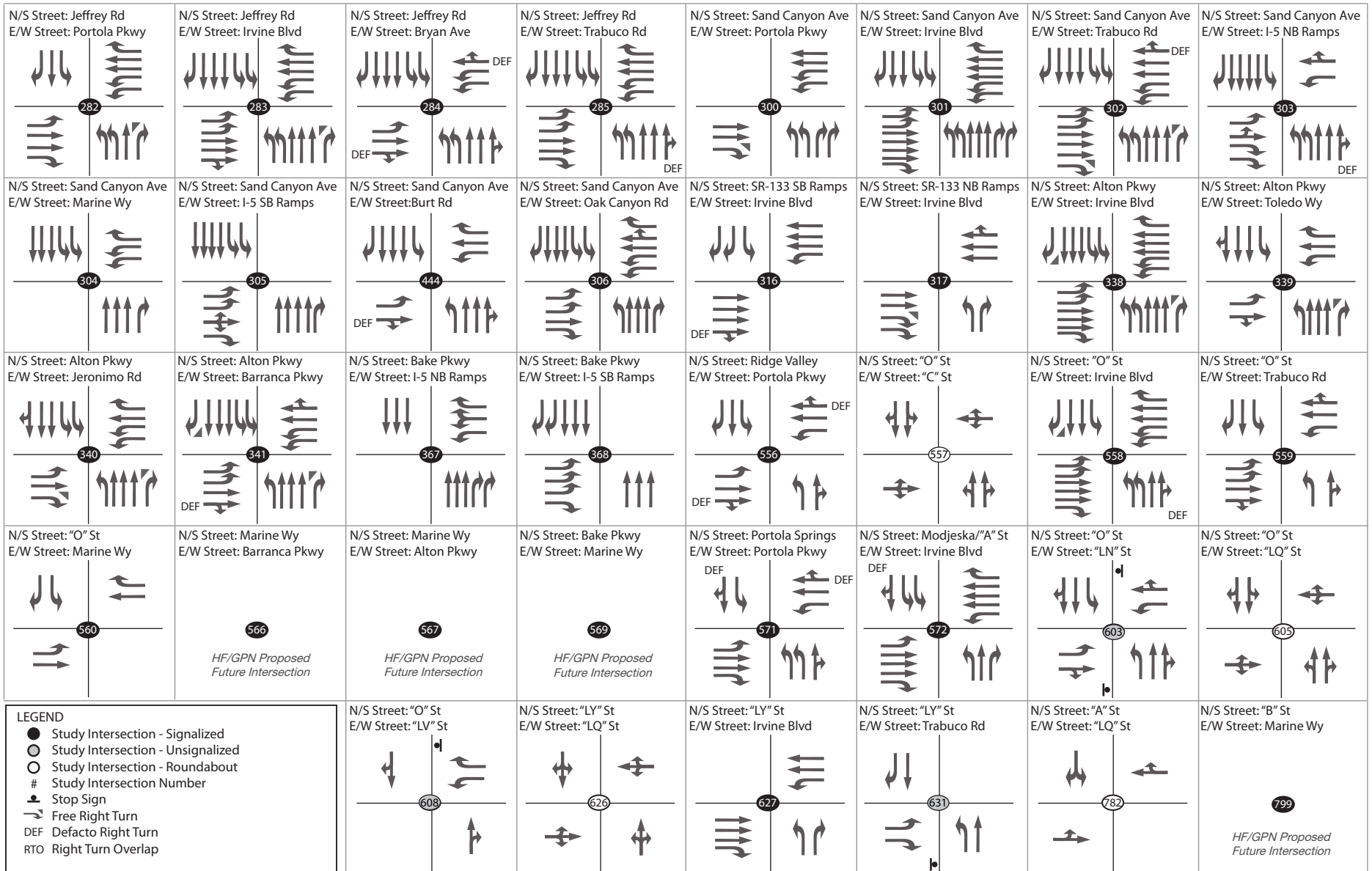
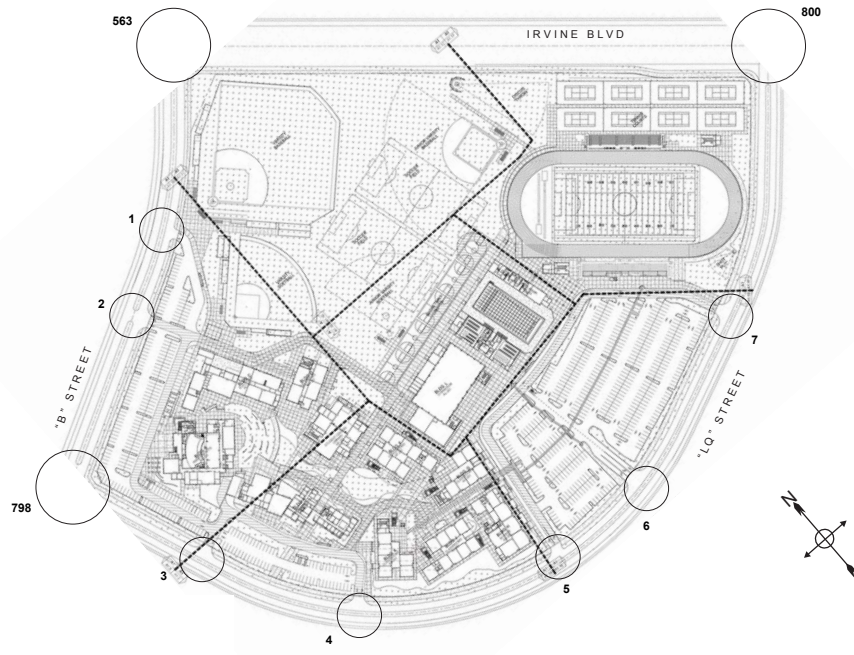


Figure 4.3 Year 2017 Peak Hour Volumes - 2011 Approved Project - No Project



N/S Street: "B" St E/W Street: Driveway 1 ① Proposed Project Intersection	N/S Street: Sand Canyon Ave E/W Street: Driveway 2 ② Proposed Project Intersection	N/S Street: Driveway 3 E/W Street: "LQ" St ③ Proposed Project Intersection	N/S Street: Driveway 4 E/W Street: "LQ" St ④ Proposed Project Intersection
N/S Street: "LQ" St E/W Street: Driveway 5 ⑤ Proposed Project Intersection	N/S Street: "LQ" St E/W Street: Driveway 6 ⑥ Proposed Project Intersection	N/S Street: "LQ" St E/W Street: Driveway 7 ⑦ Proposed Project Intersection	N/S Street: "B" St E/W Street: Irvine Blvd ⑤63 HF/GPN Proposed Future Intersection
N/S Street: "Z" St E/W Street: "LQ" St ⑦87 HF/GPN Proposed Future Intersection	N/S Street: "Z" St E/W Street: Irvine Blvd ⑦90 78/35 86/54 198/66 25/52 1948/1373 83/74 78/104 20/44 28/110 1352/2186 137/169 182/130	N/S Street: "B" St E/W Street: "LQ" St ⑦98 HF/GPN Proposed Future Intersection	N/S Street: "A-02" St/"LQ" St E/W Street: Irvine Blvd ⑧00 0/0 58/39 162/67 24/81 59/189 2290/1597 1539/2436 0/0 0/0 0/0 0/0
N/S Street: SR-133 SB Ramps E/W Street: Trabuco Rd ④86 HF/GPN Proposed Future Intersection	N/S Street: SR-133 NB Ramps E/W Street: Trabuco Rd ④87 HF/GPN Proposed Future Intersection		

LEGEND

- Study Intersection - Signalized
- Study Intersection - Unsignalized
- Study Intersection - Roundabout
- # Study Intersection Number
- ## Turning Movement Volume
- ##/## AM Peak Hour/PM Peak Hour

Figure 4.3 Year 2017 Peak Hour Volumes - 2011 Approved Project - No Project

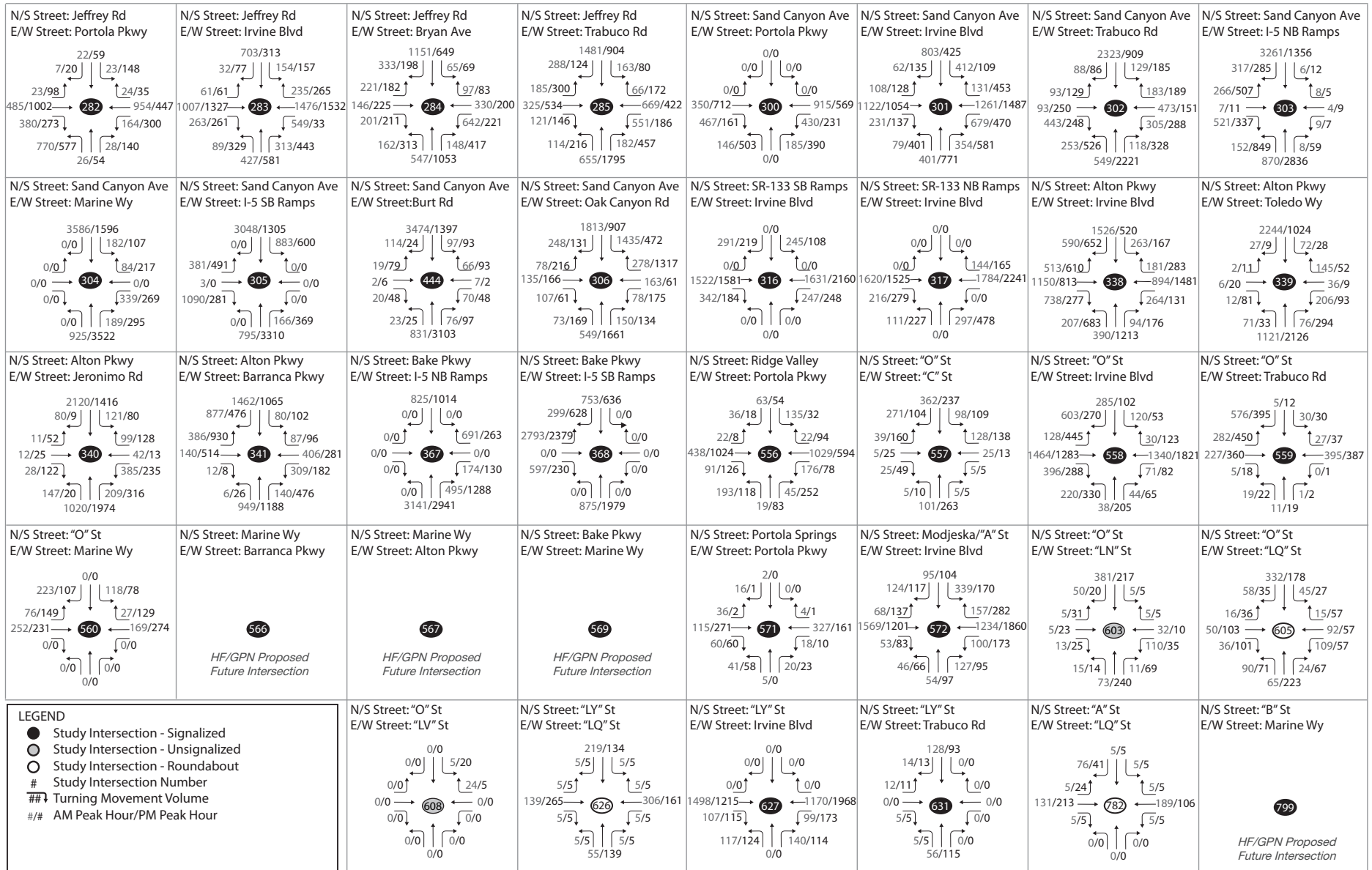
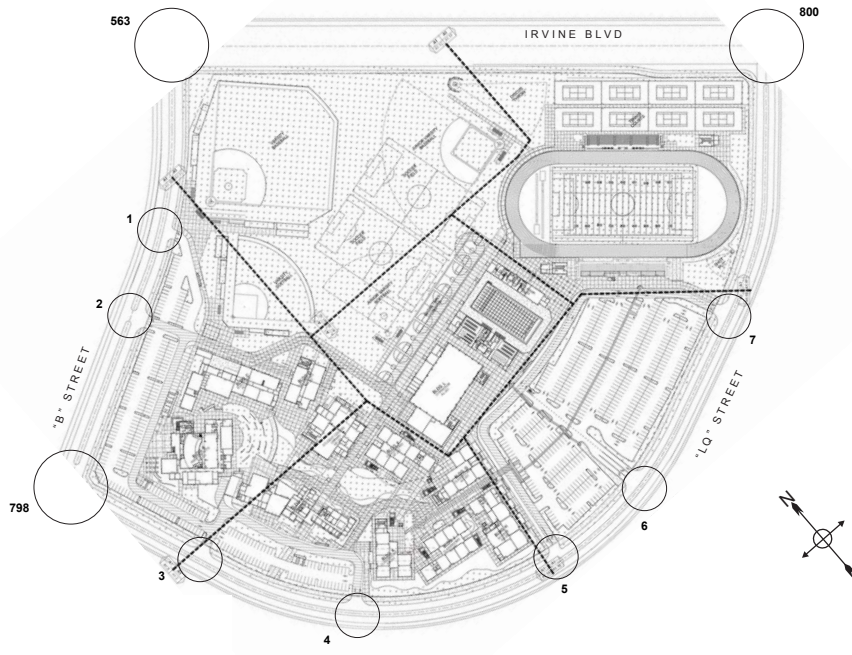


Figure 4.4 Year 2017 Peak Hour Volumes - 2012 Modified Project Option 1 - No Proj-



N/S Street: "B" St E/W Street: Driveway 1 ① Proposed Project Intersection	N/S Street: Sand Canyon Ave E/W Street: Driveway 2 ② Proposed Project Intersection	N/S Street: Driveway 3 E/W Street: "LQ" St ③ Proposed Project Intersection	N/S Street: Driveway 4 E/W Street: "LQ" St ④ Proposed Project Intersection
N/S Street: "LQ" St E/W Street: Driveway 5 ⑤ Proposed Project Intersection	N/S Street: "LQ" St E/W Street: Driveway 6 ⑥ Proposed Project Intersection	N/S Street: "LQ" St E/W Street: Driveway 7 ⑦ Proposed Project Intersection	N/S Street: "B" St E/W Street: Irvine Blvd ⑤63 HF/GPN Proposed Future Intersection
N/S Street: "Z" St E/W Street: "LQ" St ⑦87 HF/GPN Proposed Future Intersection	N/S Street: "Z" St E/W Street: Irvine Blvd ⑦90 68/40 81/45 25/45 1254/1250 77/87 80/106 20/47 177/67 21/109 1059/2017 130/191 183/158	N/S Street: "B" St E/W Street: "LQ" St ⑦98 HF/GPN Proposed Future Intersection	N/S Street: "A-02" St/"LQ" St E/W Street: Irvine Blvd ⑧00 0/0 65/39 28/77 2229/1629 0/0 0/0 158/72 62/183 1537/2459 0/0 0/0
N/S Street: SR-133 SB Ramps E/W Street: Trabuco Rd ④86 HF/GPN Proposed Future Intersection	N/S Street: SR-133 NB Ramps E/W Street: Trabuco Rd ④87 HF/GPN Proposed Future Intersection		

LEGEND

- Study Intersection - Signalized
- Study Intersection - Unsignalized
- Study Intersection - Roundabout
- # Study Intersection Number
- ## Turning Movement Volume
- ##/## AM Peak Hour/PM Peak Hour

Figure 4.4 Year 2017 Peak Hour Volumes - 2012 Modified Project Option 1 - No Proj-

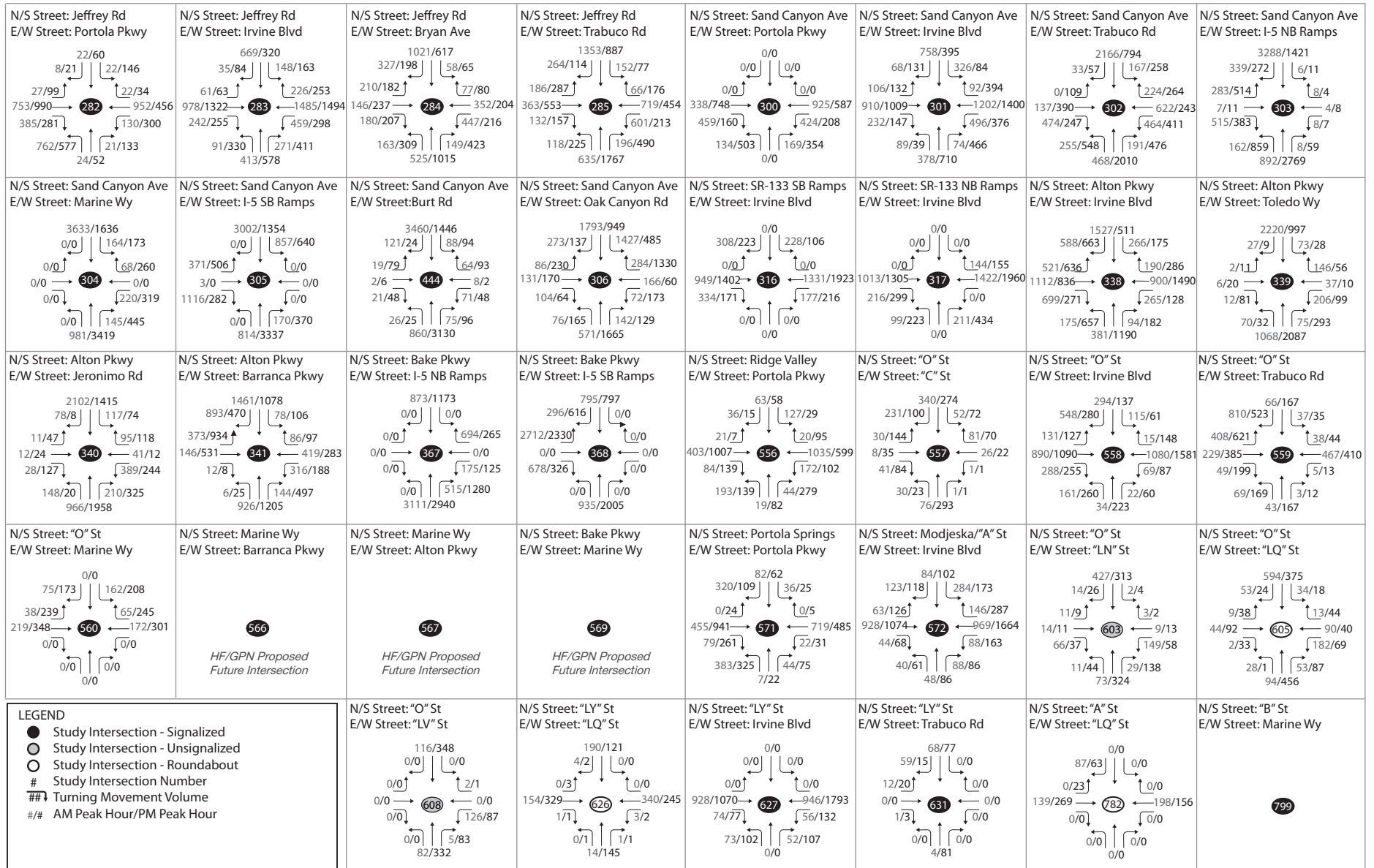
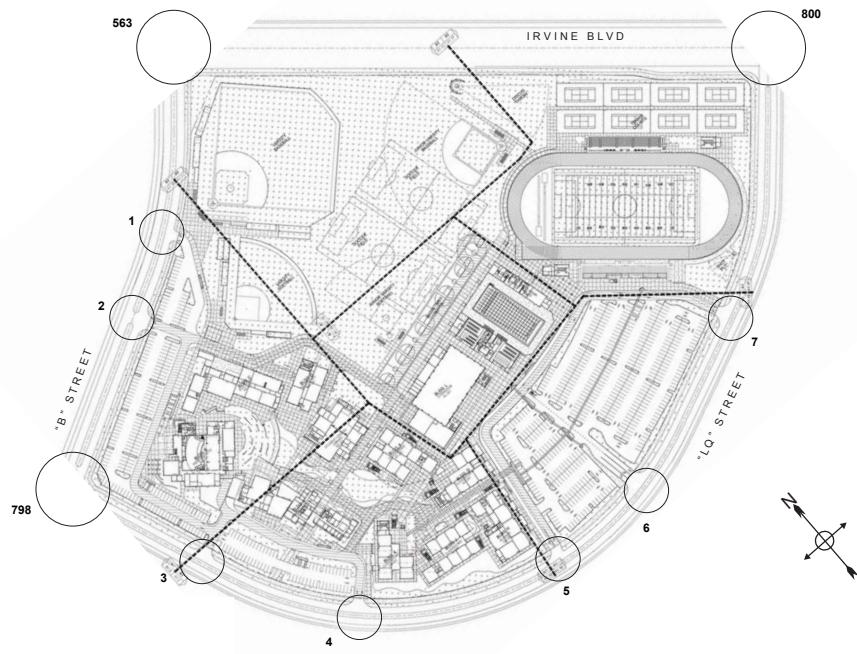


Figure 4.5 Year 2017 Peak Hour Volumes - 2012 Modified Project Options 2 - No Proj-

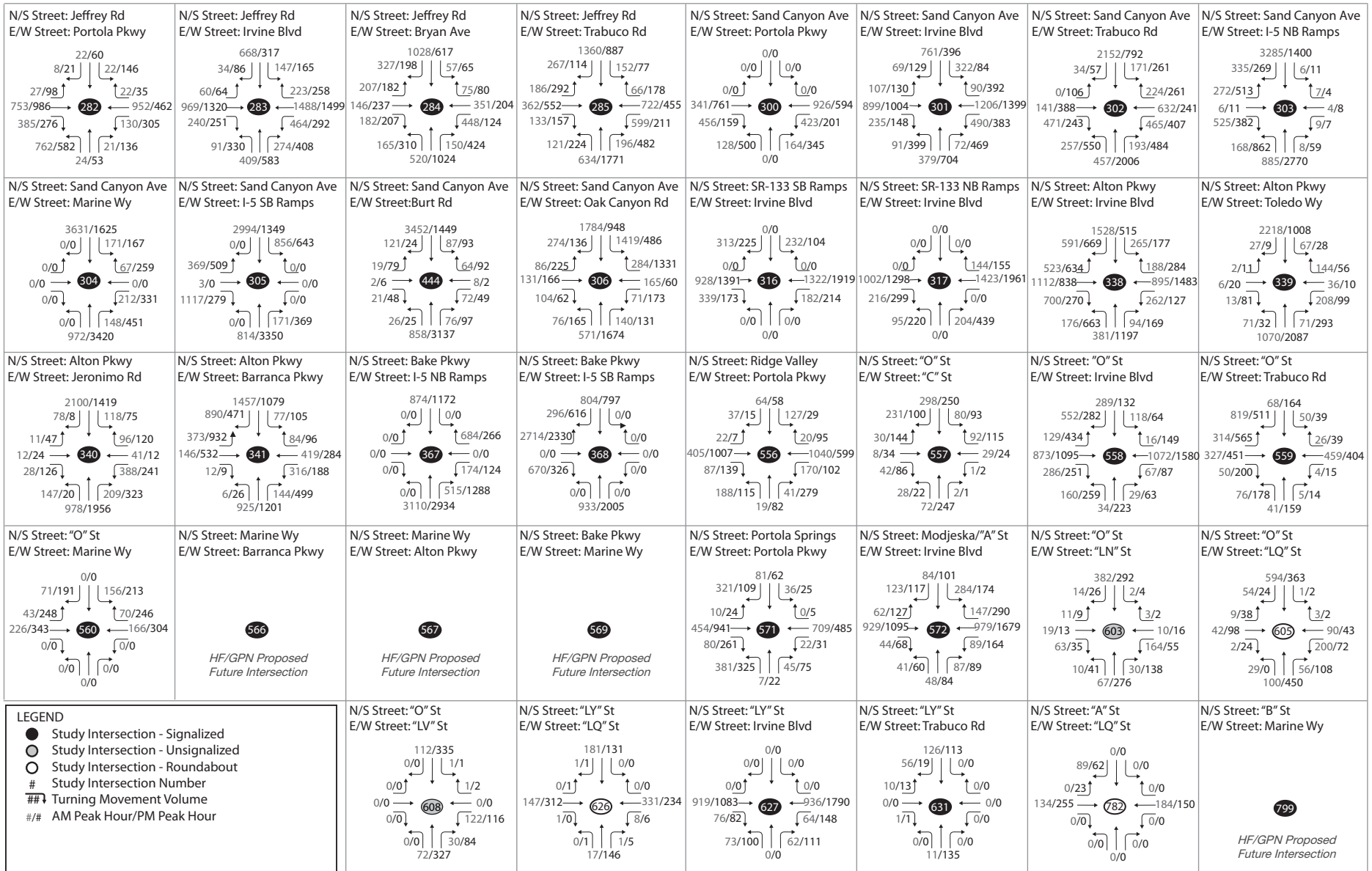


N/S Street: "B" St E/W Street: Driveway 1 ① Proposed Project Intersection	N/S Street: Sand Canyon Ave E/W Street: Driveway 2 ② Proposed Project Intersection	N/S Street: Driveway 3 E/W Street: "LQ" St ③ Proposed Project Intersection	N/S Street: Driveway 4 E/W Street: "LQ" St ④ Proposed Project Intersection
N/S Street: "LQ" St E/W Street: Driveway 5 ⑤ Proposed Project Intersection	N/S Street: "LQ" St E/W Street: Driveway 6 ⑥ Proposed Project Intersection	N/S Street: "LQ" St E/W Street: Driveway 7 ⑦ Proposed Project Intersection	N/S Street: "B" St E/W Street: Irvine Blvd ⑤63 HF/GPN Proposed Future Intersection
N/S Street: "Z" St E/W Street: "LQ" St 787 HF/GPN Proposed Future Intersection	N/S Street: "Z" St E/W Street: Irvine Blvd 790 68/35 81/49 24/47 1246/1264 81/86 80/106 177/67 21/108 1069/2029 115/176 183/146 20/46	N/S Street: "B" St E/W Street: "LQ" St 798 HF/GPN Proposed Future Intersection	N/S Street: "A-02" St/"LQ" St E/W Street: Irvine Blvd 800 0/0 66/40 29/79 2210/1630 0/0 0/0 157/71 62/182 1536/2458 0/0 0/0
N/S Street: SR-133 SB Ramps E/W Street: Trabuco Rd 486 HF/GPN Proposed Future Intersection	N/S Street: SR-133 NB Ramps E/W Street: Trabuco Rd 487 HF/GPN Proposed Future Intersection		

LEGEND

- Study Intersection - Signalized
- Study Intersection - Unsignalized
- Study Intersection - Roundabout
- # Study Intersection Number
- ## Turning Movement Volume
- ##/## AM Peak Hour/PM Peak Hour

Figure 4.5 Year 2017 Peak Hour Volumes - 2012 Modified Project Option 2 - No Proj-



4.1.2 Year 2035

The intersection geometry control for 2035 (Approved 2011 Project) are shown in Figure 4.6. The intersection geometry controls for 2035 (2012 Modified Project Options 1 and 2) are shown in Figure 4.7. Year 2035 forecast intersection volumes are shown in Figure 4.8. A summary of the level of service analysis results for the year 2035 without project condition is included in Table 4-4. Three study intersections are expected to operate at a deficient level of service during the AM and/or PM peak hours.

- Sand Canyon Avenue and I-5 NB Ramps (#303) - LOS E, AM and LOS F, PM
- Sand Canyon Avenue and I-5 SB Ramps (#305) - LOS F, AM
- Sand Canyon Avenue and Oak Canyon Road (#306) - LOS E, AM

Table 4-4 Year 2035 Peak Hour Intersection LOS – No Project – 2011 Approved Project

Intersection		Control	AM Peak		PM Peak	
			V/C Delay	LOS	V/C Delay	LOS
282	Jeffrey Rd & Portola Pkwy	S	0.67	B	0.64	B
283	Jeffrey Rd & Irvine Blvd	S	0.72	C	0.72	C
284	Jeffrey Rd & Bryan Ave	S	0.75	C	0.77	C
285	Jeffrey Rd & Trabuco Rd	S	0.68	B	0.78	C
300	Sand Canyon Ave & Portola Pkwy	S	0.43	A	0.59	A
301	Sand Canyon Ave & Irvine Blvd	S	0.79	C	0.80	C
302	Sand Canyon Ave & Trabuco Rd	S	0.81	D	0.83	D
303	Sand Canyon Ave & I-5 NB Ramps	S	0.96	E	1.07	F
305	Sand Canyon Ave & I-5 SB Ramps	S	1.01	F	0.83	D
444	Sand Canyon Ave & Burt Rd	S	0.87	D	0.86	D
306	Sand Canyon Ave & Oak Cyn Rd	S	0.91	E	0.78	C
316	SR-133 SB Ramps & Irvine Blvd	S	0.55	A	0.61	B
317	SR-133 NB Ramps & Irvine Blvd	S	0.72	C	0.80	C
338	Alton Pkwy & Irvine Blvd	S	0.90	D	0.95	E
339	Alton Pkwy & Toledo Way	S	0.75	C	0.65	B
340	Alton Pkwy & Jeronimo Rd	S	0.75	C	0.60	B
341	Alton Pkwy & Barranca Pkwy	S	0.64	B	0.83	D
367	Bake Pkwy & I-5 NB Ramps	S	0.89	D	0.61	B
368	Bake Pkwy & I-5/I-405 SB Ramps	S	0.79	C	0.89	D
486	SR-133 SB Ramps & Trabuco Rd	S	0.52	A	0.53	A
487	SR-133 NB Ramps & Trabuco Rd	S	0.49	A	0.58	A
556	Ridge Valley & Portola Pkwy	S	0.56	A	0.58	A
557	"O" St & "C" St	R	0.36	A	0.24	A
558	Ridge Valley/"O" St & Irvine Blvd	S	0.68	B	0.80	D
559	"O" St & Trabuco Rd	S	0.83	D	0.80	C
560	"O" St & Marine Way	S	0.47	A	0.65	B
563	"B" St & Irvine Blvd	S	0.73	C	0.76	C
566	Marine Way & Barranca Pkwy	S	0.71	C	0.68	B
567	Marine Way & Alton Pkwy	S	0.67	B	0.67	B
569	Bake Pkwy & Marine Way	S	0.72	C	0.70	C
571	Portola Springs & Portola Pkwy	S	0.61	B	0.49	A

Intersection		Control	AM Peak		PM Peak	
			V/C Delay	LOS	V/C Delay	LOS
572	Modjeska/"A" St & Irvine Blvd	S	0.73	C	0.78	C
603	"O" St & "LN" St	S	0.42	A	0.35	A
605	"O" St & "LQ" St	R	0.46	A	0.44	A
608	"O" St & "LV" St	S	0.37	A	0.35	A
626	"LY" St & "LQ" St	R	0.35	A	0.33	A
627	"LY" St & Irvine Blvd	S	0.58	A	0.63	B
631	"LY" St & Trabuco Rd	U	0.03	A	0.08	A
782	"A" St & "LQ" St	R	0.29	A	0.32	A
787	"Z" St & "LQ" St	U	0.03	A	0.05	A
790	"Z" St & Irvine Blvd	S	0.77	C	0.75	C
798	"B" St & "LQ" St	S	0.53	A	0.41	A
799	"B" St & Marine Way	S	0.52	A	0.59	A
800	"A-02" St/"LQ" St & Irvine Blvd	S	0.87	D	0.80	C

Year 2035 (2012 Modified Project, Option 1) forecast intersection volumes are shown in Figure 4.9. A summary of the level of service analysis results for the year 2035 without project condition is included in Table 4-5. Two study intersections are expected to operate at a deficient level of service during the AM and/or PM peak hours.

- Sand Canyon Avenue and I-5 NB Ramps (#303) - LOS E, PM
- Sand Canyon Avenue and I-5 SB Ramps (#305) - LOS F, AM

**Table 4-5 Year 2035 Peak Hour Intersection LOS – No Project – 2012 Modified Project
Option 1**

	Intersection	Control	AM Peak		PM Peak	
			V/C Delay	LOS	V/C Delay	LOS
			282	Jeffrey Rd & Portola Pkwy	S	0.79
283	Jeffrey Rd & Irvine Blvd	S	0.74	C	0.72	C
284	Jeffrey Rd & Bryan Ave	S	0.76	C	0.70	B
285	Jeffrey Rd & Trabuco Rd	S	0.69	B	0.78	C
300	Sand Canyon Ave & Portola Pkwy	S	0.44	A	0.60	A
301	Sand Canyon Ave & Irvine Blvd	S	0.77	C	0.79	C
302	Sand Canyon Ave & Trabuco Rd	S	0.80	D	0.82	D
303	Sand Canyon Ave & I-5 NB Ramps	S	0.89	D	0.97	E
305	Sand Canyon Ave & I-5 SB Ramps	S	1.01	F	0.86	D
444	Sand Canyon Ave & Burt Rd	S	0.89	D	0.88	D
306	Sand Canyon Ave & Oak Cyn Rd	S	0.89	D	0.79	C
316	SR-133 SB Ramps & Irvine Blvd	S	0.49	A	0.59	A
317	SR-133 NB Ramps & Irvine Blvd	S	0.56	A	0.78	C
338	Alton Pkwy & Irvine Blvd	S	0.92	E	0.94	E
339	Alton Pkwy & Toledo Way	S	0.86	D	0.70	B
340	Alton Pkwy & Jeronimo Rd	S	0.75	C	0.59	A
341	Alton Pkwy & Barranca Pkwy	S	0.63	B	0.79	C
367	Bake Pkwy & I-5 NB Ramps	S	0.86	D	0.62	B
368	Bake Pkwy & I-5/I-405 SB Ramps	S	0.80	C	0.90	E
486	SR-133 SB Ramps & Trabuco Rd	S	0.53	A	0.54	A
487	SR-133 NB Ramps & Trabuco Rd	S	0.50	A	0.59	A
556	Ridge Valley & Portola Pkwy	S	0.58	A	0.56	A
557	"O" St & "C" St	R	0.33	A	0.26	A
558	Ridge Valley/"O" St & Irvine Blvd	S	0.59	A	0.78	C
559	"O" St & Trabuco Rd	S	0.89	D	0.77	C
560	"O" St & Marine Way	S	0.55	A	0.66	B
563	"B" St & Irvine Blvd	S	0.59	A	0.72	C
566	Marine Way & Barranca Pkwy	S	0.68	B	0.64	B
567	Marine Way & Alton Pkwy	S	0.70	C	0.63	B
569	Bake Pkwy & Marine Way	S	0.83	D	0.76	C
571	Portola Springs & Portola Pkwy	S	0.60	A	0.50	A
572	Modjeska/"A" St & Irvine Blvd	S	0.62	B	0.76	C
603	"O" St & "LN" St	S	0.39	A	0.33	A
605	"O" St & "LQ" St	R	0.45	A	0.40	A
608	"O" St & "LV" St	S	0.35	A	0.34	A
626	"LY" St & "LQ" St	R	0.41	A	0.39	A
627	"LY" St & Irvine Blvd	S	0.50	A	0.62	B
631	"LY" St & Trabuco Rd	U	0.02	A	0.10	A
782	"A" St & "LQ" St	R	0.34	A	0.36	A
787	"Z" St & "LQ" St	U	0.01	A	0.02	A
790	"Z" St & Irvine Blvd	S	0.65	B	0.73	C

Intersection		Control	AM Peak		PM Peak	
			V/C Delay	LOS	V/C Delay	LOS
798	"B" St & "LQ" St	S	0.33	A	0.40	A
799	"B" St & Marine Way	S	0.77	C	0.70	C
800	"A-02" St/"LQ" St & Irvine Blvd	S	0.81	D	0.74	C

Year 2035 (2012 Modified Project, Option 2) forecast intersection volumes are shown in Figure 4.10. A summary of the level of service analysis results for the year 2035 without project condition is included in Table 4-6. Two study intersections are expected to operate at a deficient level of service during the AM and/or PM peak hours.

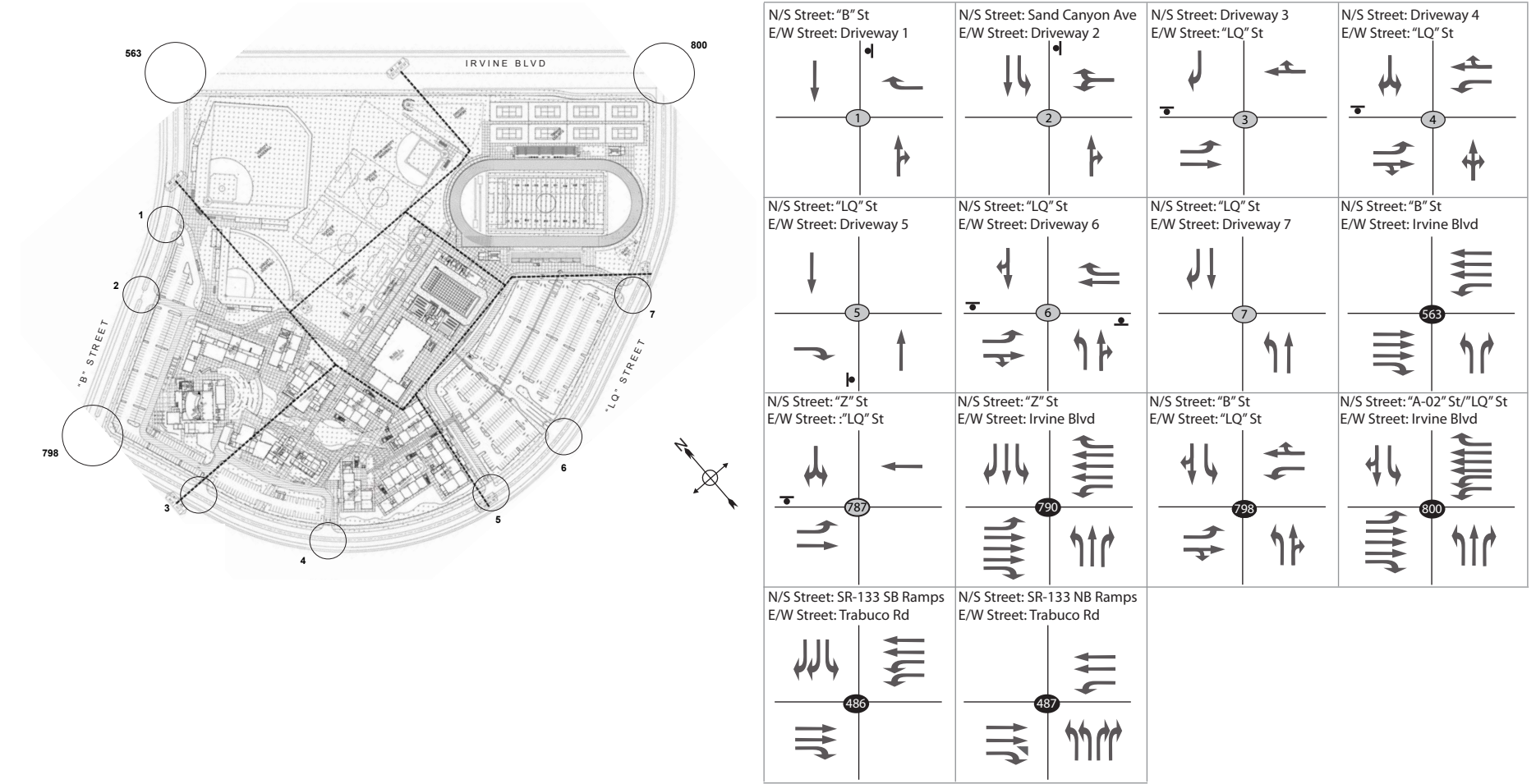
- Sand Canyon Avenue and I-5 NB Ramps (#303) - LOS E, PM
- Sand Canyon Avenue and I-5 SB Ramps (#305) - LOS F, AM

Table 4-6 Year 2035 Peak Hour Intersection LOS – No Project – 2012 Modified Project Option 2

Intersection		Control	AM Peak		PM Peak	
			V/C Delay	LOS	V/C Delay	LOS
282	Jeffrey Rd & Portola Pkwy	S	0.67	B	0.64	B
283	Jeffrey Rd & Irvine Blvd	S	0.74	C	0.71	C
284	Jeffrey Rd & Bryan Ave	S	0.76	C	0.78	C
285	Jeffrey Rd & Trabuco Rd	S	0.66	B	0.78	C
300	Sand Canyon Ave & Portola Pkwy	S	0.44	A	0.60	A
301	Sand Canyon Ave & Irvine Blvd	S	0.77	C	0.79	C
302	Sand Canyon Ave & Trabuco Rd	S	0.80	D	0.82	D
303	Sand Canyon Ave & I-5 NB Ramps	S	0.89	D	0.96	E
305	Sand Canyon Ave & I-5 SB Ramps	S	1.01	F	0.86	D
444	Sand Canyon Ave & Burt Rd	S	0.89	D	0.88	D
306	Sand Canyon Ave & Oak Cyn Rd	S	0.89	D	0.79	C
316	SR-133 SB Ramps & Irvine Blvd	S	0.49	A	0.59	A
317	SR-133 NB Ramps & Irvine Blvd	S	0.56	A	0.77	C
338	Alton Pkwy & Irvine Blvd	S	0.91	E	0.94	E
339	Alton Pkwy & Toledo Way	S	0.86	D	0.70	B
340	Alton Pkwy & Jeronimo Rd	S	0.75	C	0.59	A
341	Alton Pkwy & Barranca Pkwy	S	0.63	B	0.80	C
367	Bake Pkwy & I-5 NB Ramps	S	0.86	D	0.61	B
368	Bake Pkwy & I-5/I-405 SB Ramps	S	0.80	C	0.90	D
486	SR-133 SB Ramps & Trabuco Rd	S	0.53	A	0.54	A
487	SR-133 NB Ramps & Trabuco Rd	S	0.50	A	0.60	B
556	Ridge Valley & Portola Pkwy	S	0.58	A	0.56	A
557	"O" St & "C" St	R	0.33	A	0.26	A
558	Ridge Valley/"O" St & Irvine Blvd	S	0.59	A	0.78	C
559	"O" St & Trabuco Rd	S	0.89	D	0.77	C

Intersection		Control	AM Peak		PM Peak	
			V/C Delay	LOS	V/C Delay	LOS
560	"O" St & Marine Way	S	0.55	A	0.66	B
563	"B" St & Irvine Blvd	S	0.59	A	0.72	C
566	Marine Way & Barranca Pkwy	S	0.69	B	0.64	B
567	Marine Way & Alton Pkwy	S	0.70	C	0.63	B
569	Bake Pkwy & Marine Way	S	0.83	D	0.76	C
571	Portola Springs & Portola Pkwy	S	0.60	B	0.50	A
572	Modjeska/"A" St & Irvine Blvd	S	0.62	B	0.76	C
603	"O" St & "LN" St	S	0.39	A	0.32	A
605	"O" St & "LQ" St	R	0.45	A	0.42	A
608	"O" St & "LV" St	S	0.35	A	0.37	A
626	"LY" St & "LQ" St	R	0.41	A	0.38	A
627	"LY" St & Irvine Blvd	S	0.50	A	0.62	B
631	"LY" St & Trabuco Rd	U	0.02	A	0.10	A
782	"A" St & "LQ" St	R	0.34	A	0.37	A
787	"Z" St & "LQ" St	U	0.01	A	0.03	A
790	"Z" St & Irvine Blvd	S	0.65	B	0.74	C
798	"B" St & "LQ" St	S	0.33	A	0.40	A
799	"B" St & Marine Way	S	0.77	C	0.70	C
800	"A-02" St/"LQ" St & Irvine Blvd	S	0.81	D	0.74	C

Figure 4.6 Year 2035 & Post 2035 Intersection Geometry & Control - 2011 Approved Project



LEGEND

- Study Intersection - Signalized
- Study Intersection - Unsignalized
- Study Intersection - Roundabout
- # Study Intersection Number
- ⊥ Stop Sign
- ↪ Free Right Turn
- DEF Defacto Right Turn
- RTO Right Turn Overlap

Figure 4.6 Year 2035 & Post 2035 Intersection Geometry & Control - 2011 Approved Project

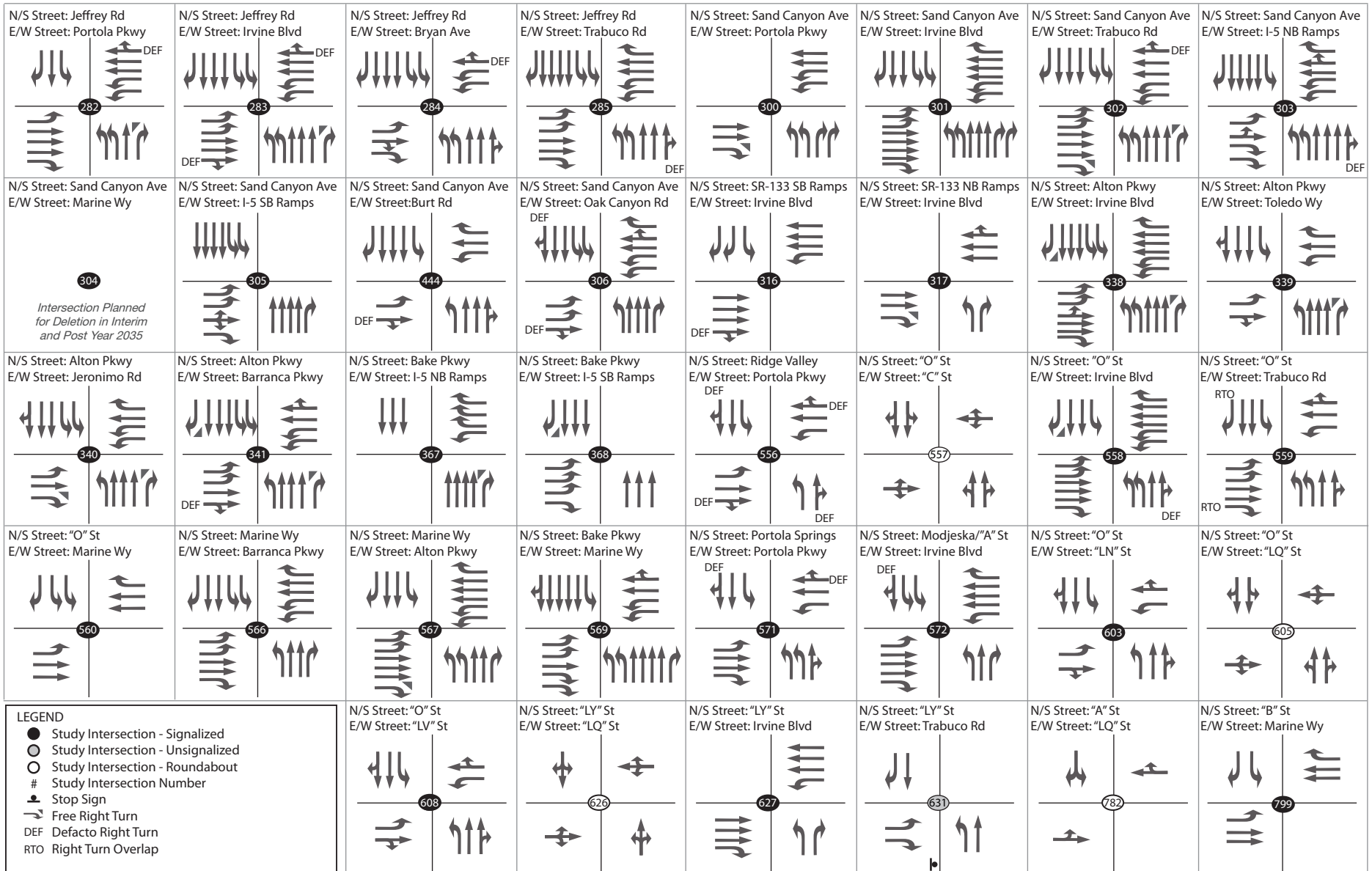
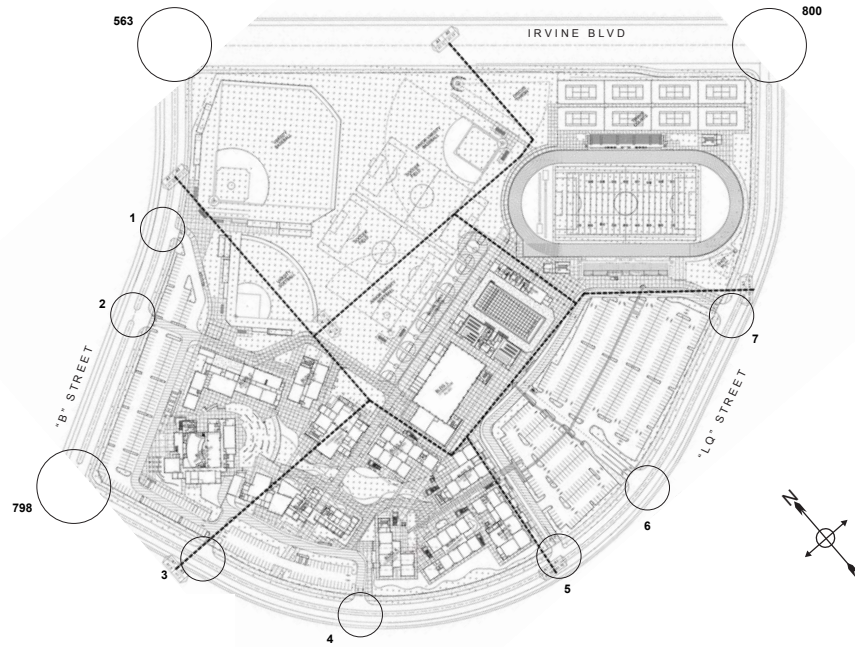


Figure 4.7 Year 2035 & Post 2035 Intersection Geometry & Control - 2012 Modified Project Options 1 & 2



N/S Street: "B" St E/W Street: Driveway 1 	N/S Street: Sand Canyon Ave E/W Street: Driveway 2 	N/S Street: Driveway 3 E/W Street: "LQ" St 	N/S Street: Driveway 4 E/W Street: "LQ" St
N/S Street: "LQ" St E/W Street: Driveway 5 	N/S Street: "LQ" St E/W Street: Driveway 6 	N/S Street: "LQ" St E/W Street: Driveway 7 	N/S Street: "B" St E/W Street: Irvine Blvd
N/S Street: "Z" St E/W Street: "LQ" St 	N/S Street: "Z" St E/W Street: Irvine Blvd 	N/S Street: "B" St E/W Street: "LQ" St 	N/S Street: "A-02" St/"LQ" St E/W Street: Irvine Blvd
N/S Street: SR-133 SB Ramps E/W Street: Trabuco Rd 	N/S Street: SR-133 NB Ramps E/W Street: Trabuco Rd 		

LEGEND	
●	Study Intersection - Signalized
○	Study Intersection - Unsignalized
○	Study Intersection - Roundabout
#	Study Intersection Number
⊥	Stop Sign
↘	Free Right Turn
DEF	Defacto Right Turn
RTO	Right Turn Overlap

Figure 4.7 Year 2035 & Post 2035 Intersection Geometry & Control - 2012 Modified Project Options 1 & 2

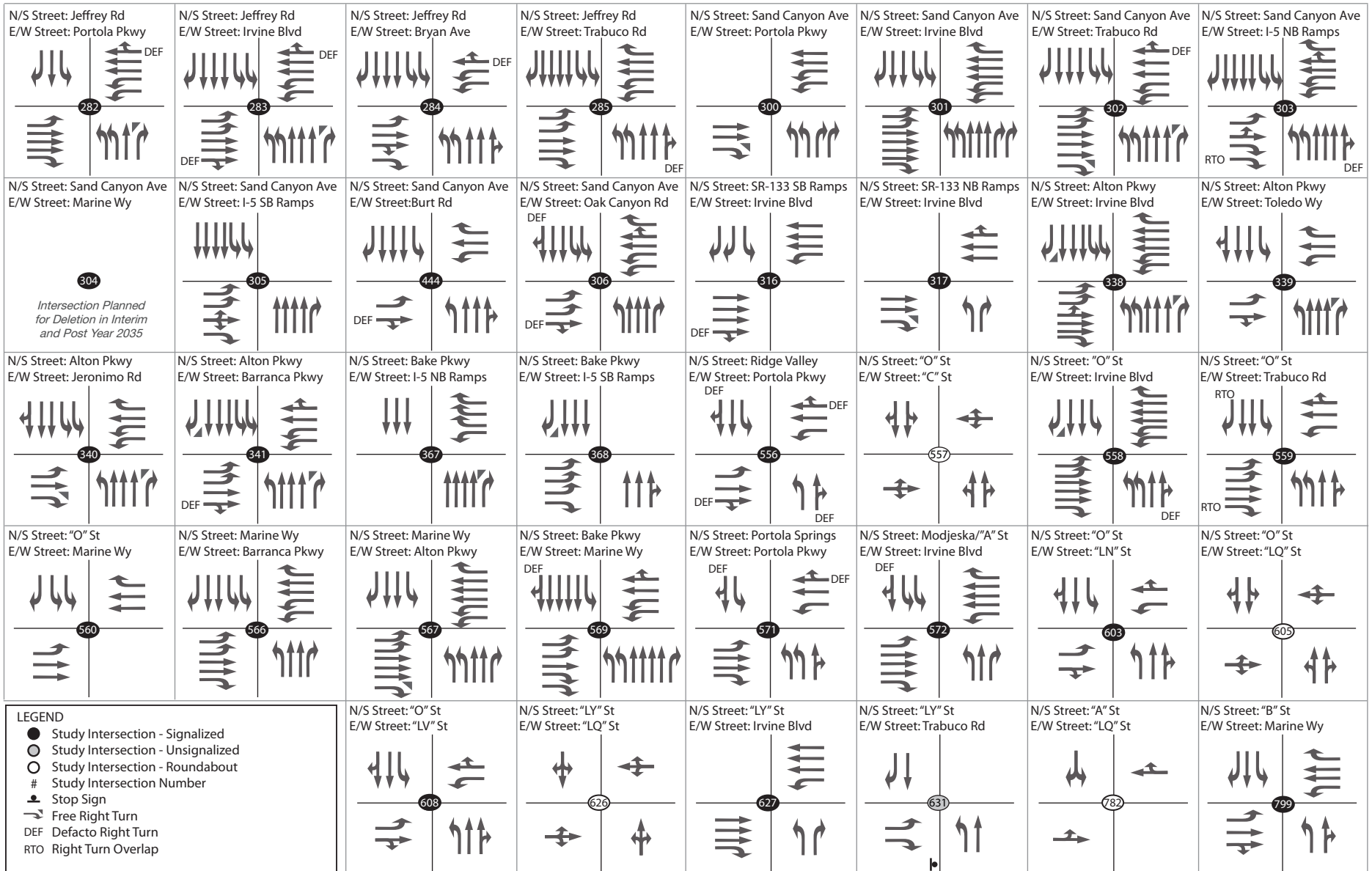
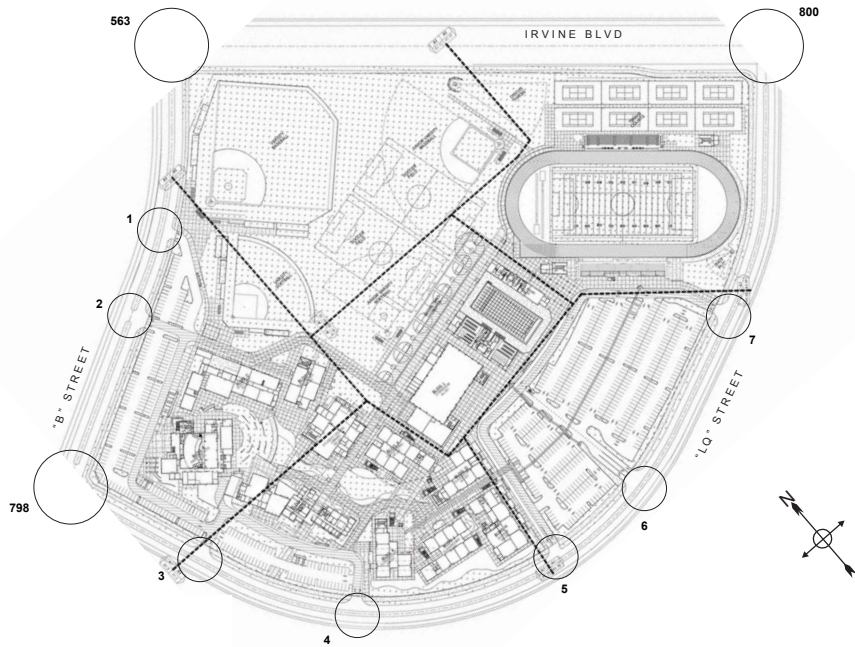


Figure 4.8 Year 2035 Peak Hour Volumes - 2011 Approved Project - No Project



N/S Street: "B" St E/W Street: Driveway 1 ① Proposed Project Intersection	N/S Street: Sand Canyon Ave E/W Street: Driveway 2 ② Proposed Project Intersection	N/S Street: Driveway 3 E/W Street: "LQ" St ③ Proposed Project Intersection	N/S Street: Driveway 4 E/W Street: "LQ" St ④ Proposed Project Intersection
N/S Street: "LQ" St E/W Street: Driveway 5 ⑤ Proposed Project Intersection	N/S Street: "LQ" St E/W Street: Driveway 6 ⑥ Proposed Project Intersection	N/S Street: "LQ" St E/W Street: Driveway 7 ⑦ Proposed Project Intersection	N/S Street: "B" St E/W Street: Irvine Blvd 563 0/0 0/0 2896/1936 → 563 ← 2027/3149 0/0 209/55 ↓ 168/85 30/154 ↑ 34/148 0/0
N/S Street: "Z" St E/W Street: "LQ" St 787 0/0 23/11 ↓ 4/0 11/55 ↑ 0/0 437/290 → 787 ← 256/361 0/0 0/0 0/0	N/S Street: "Z" St E/W Street: Irvine Blvd 790 34/20 135/80 ↓ 197/61 39/82 ↑ 29/109 2806/1877 → 790 ← 1976/3070 68/70 ↓ 50/93 54/71 ↑ 78/55 8/25	N/S Street: "B" St E/W Street: "LQ" St 798 356/119 0/0 ↓ 0/0 0/0 387/270 → 798 ← 249/319 55/19 ↓ 8/2 8/42 ↑ 1/8 47/281	N/S Street: "A-02" St/"LQ" St E/W Street: Irvine Blvd 800 68/28 34/29 ↓ 137/74 25/38 ↑ 54/176 2855/2050 → 800 ← 2115/3029 145/85 ↓ 465/318 60/163 ↑ 240/407 17/78
N/S Street: SR-133 SB Ramps E/W Street: Trabuco Rd 486 0/0 426/225 ↓ 242/184 0/0 ↑ 0/0 856/1162 → 486 ← 1341/1369 0/0 ↓ 376/359 0/0	N/S Street: SR-133 NB Ramps E/W Street: Trabuco Rd 487 0/0 0/0 ↓ 0/0 0/0 ↑ 0/0 1065/1134 → 487 ← 1416/1281 53/214 ↓ 141/303 297/445 ↑ 594/557 0/0		

LEGEND

- Study Intersection - Signalized
- Study Intersection - Unsignalized
- Study Intersection - Roundabout
- # Study Intersection Number
- ## ↓ Turning Movement Volume
- ##/## AM Peak Hour/PM Peak Hour

Figure 4.8 Year 2035 Peak Hour Volumes - 2011 Approved Project - No Project

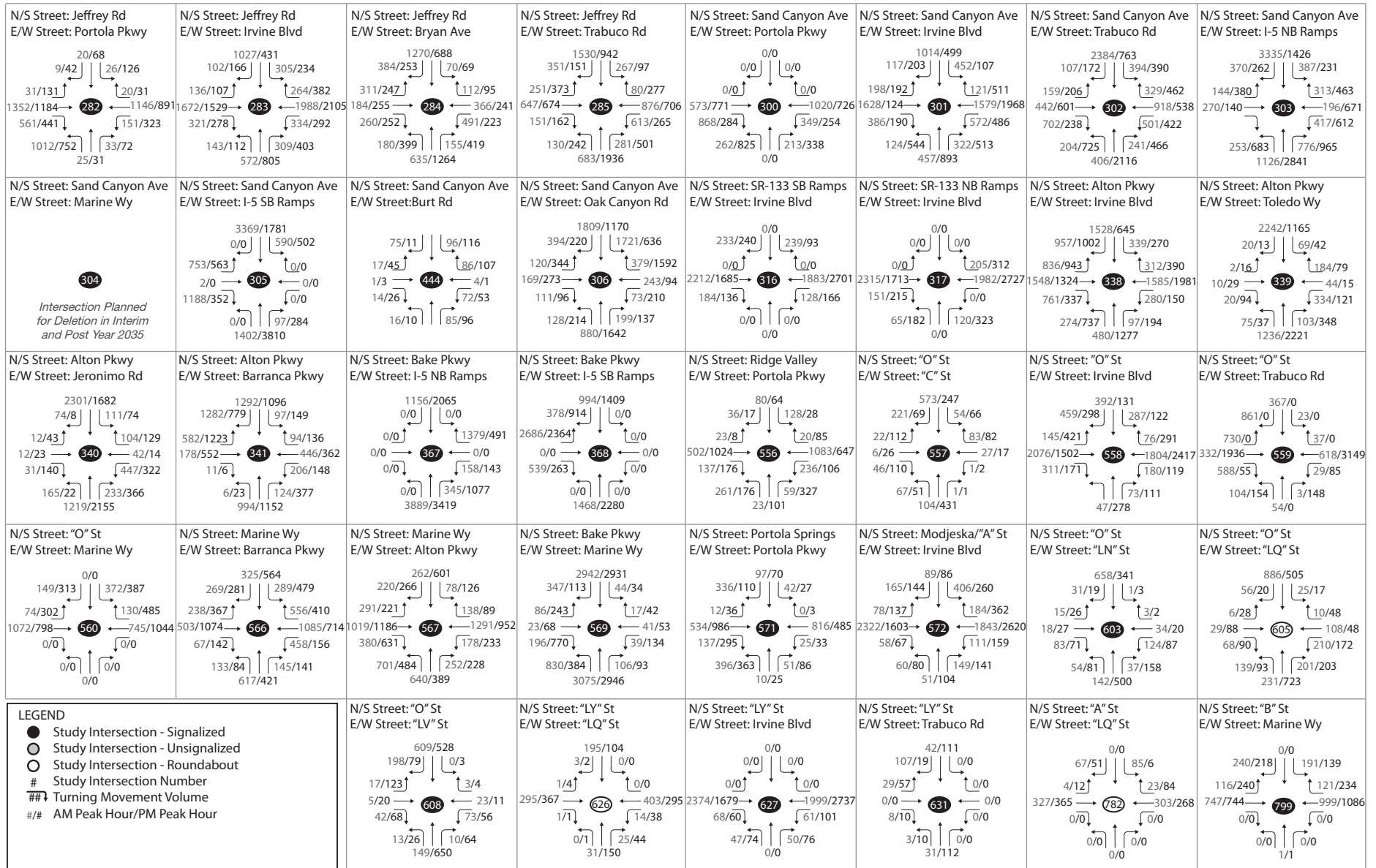
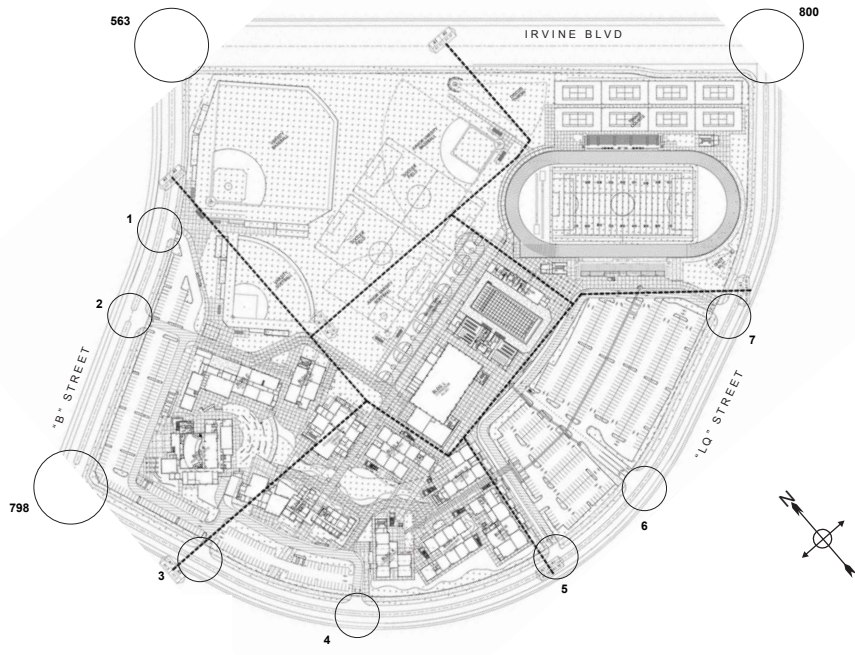


Figure 4.9 Year 2035 Peak Hour Volumes - 2012 Modified Project Options 1 - No Project



N/S Street: "B" St E/W Street: Driveway 1 ① Proposed Project Intersection	N/S Street: Sand Canyon Ave E/W Street: Driveway 2 ② Proposed Project Intersection	N/S Street: Driveway 3 E/W Street: "LQ" St ③ Proposed Project Intersection	N/S Street: Driveway 4 E/W Street: "LQ" St ④ Proposed Project Intersection
N/S Street: "LQ" St E/W Street: Driveway 5 ⑤ Proposed Project Intersection	N/S Street: "LQ" St E/W Street: Driveway 6 ⑥ Proposed Project Intersection	N/S Street: "LQ" St E/W Street: Driveway 7 ⑦ Proposed Project Intersection	N/S Street: "B" St E/W Street: Irvine Blvd ⑧ 0/0 0/0 0/0 2411/1903 → 563 ← 2127/3078 81/88 ↓ 0/11 0/112 ↑ 46/82 0/0
N/S Street: "Z" St E/W Street: "LQ" St ⑨ 0/0 4/1 ↓ 0/0 13/24 ↓ 0/0 264/383 → 787 ← 360/307 0/0 ↓ 0/0 0/0 ↑ 0/0 0/0	N/S Street: "Z" St E/W Street: Irvine Blvd ⑩ 33/19 145/81 ↓ 172/58 37/90 ↓ 24/93 2317/1979 → 790 ← 2003/2986 64/58 ↓ 54/93 58/59 ↑ 67/43 8/16	N/S Street: "B" St E/W Street: "LQ" St ⑪ 109/154 0/13 ↓ 0/0 8/0 ↓ 0/0 211/355 → 798 ← 338/254 41/27 ↓ 0/0 22/39 ↑ 0/0 100/128	N/S Street: "A-02" St/"LQ" St E/W Street: Irvine Blvd ⑫ 17/20 51/40 ↓ 156/70 28/66 ↓ 51/178 2746/2004 → 800 ← 2172/2990 0/0 ↓ 152/183 0/37 ↑ 195/155 15/42
N/S Street: SR-133 SB Ramps E/W Street: Trabuco Rd ⑬ 0/0 401/221 ↓ 248/189 0/0 ↓ 0/0 776/1201 → 486 ← 1388/1341 400/370 ↓ 441/352 0/0 ↑ 0/0 0/0	N/S Street: SR-133 NB Ramps E/W Street: Trabuco Rd ⑭ 0/0 0/0 ↓ 0/0 0/0 ↓ 0/0 996/1174 → 487 ← 1538/1249 45/218 ↓ 138/299 288/443 ↑ 571/571 0/0		

LEGEND

- Study Intersection - Signalized
- Study Intersection - Unsignalized
- Study Intersection - Roundabout
- # Study Intersection Number
- ## ↓ Turning Movement Volume
- ##/## AM Peak Hour/PM Peak Hour

Figure 4.9 Year 2035 Peak Hour Volumes - 2012 Modified Project Options 1 - No Project

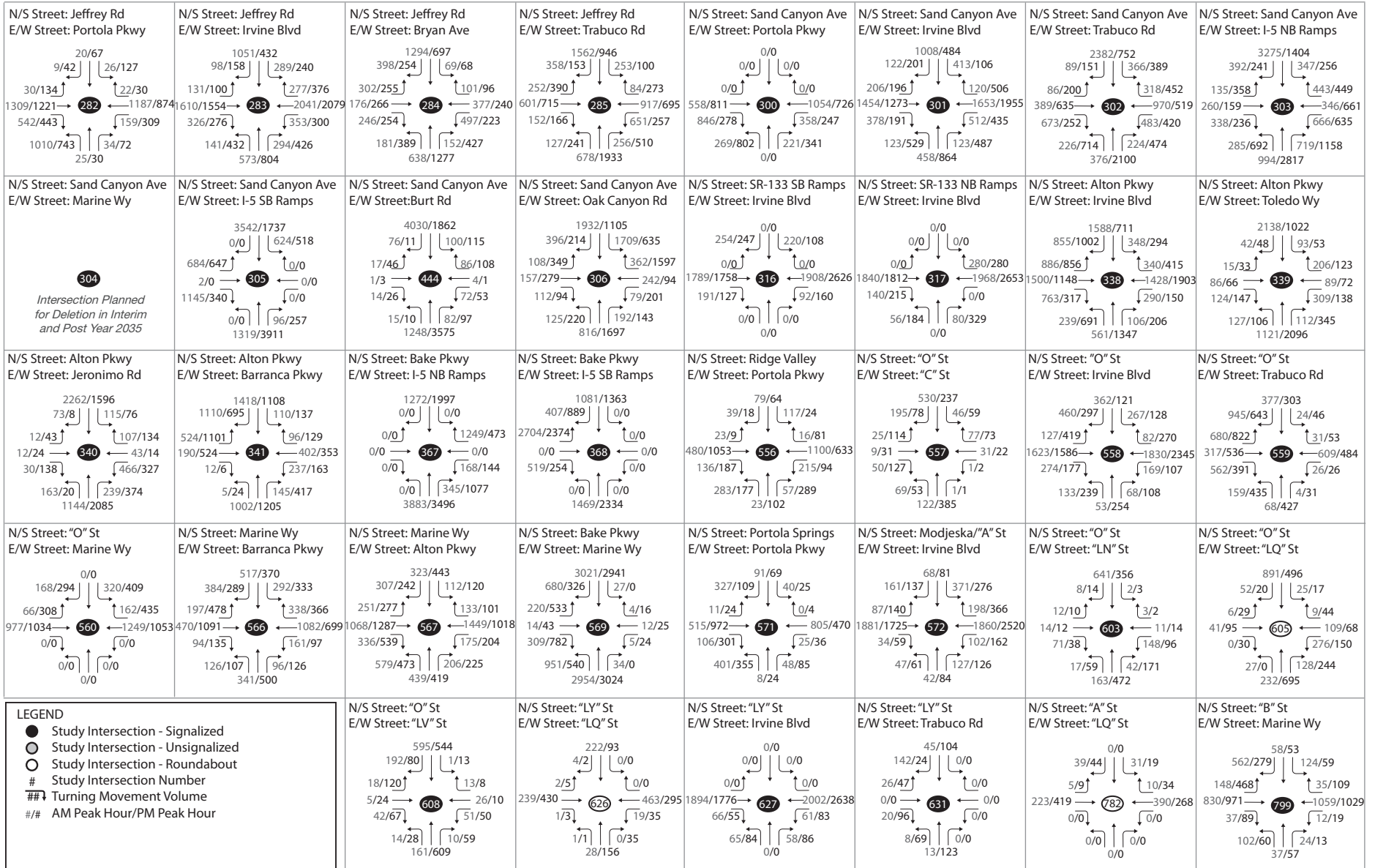
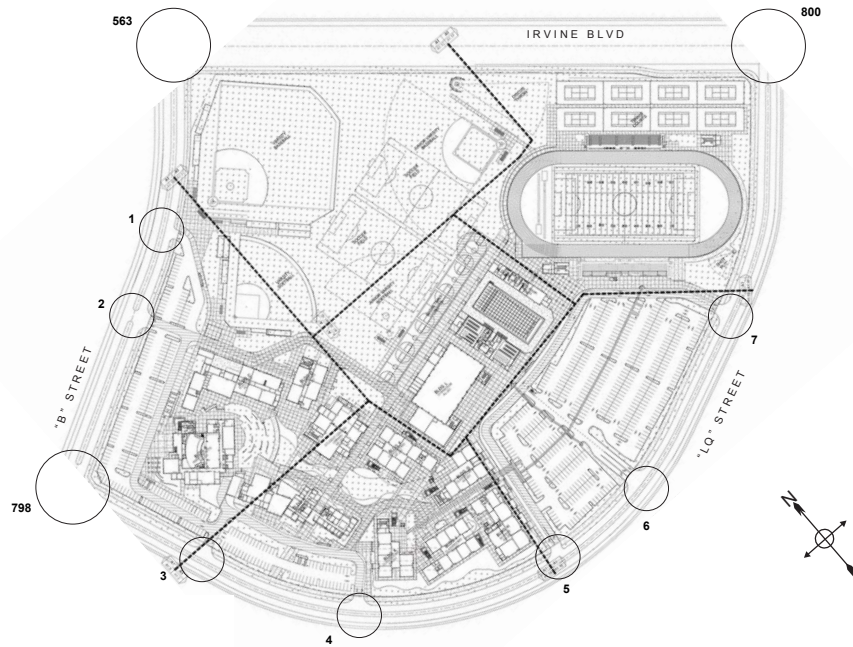


Figure 4.10 Year 2035 Peak Hour Volumes - 2012 Modified Project Option 2 - No Project

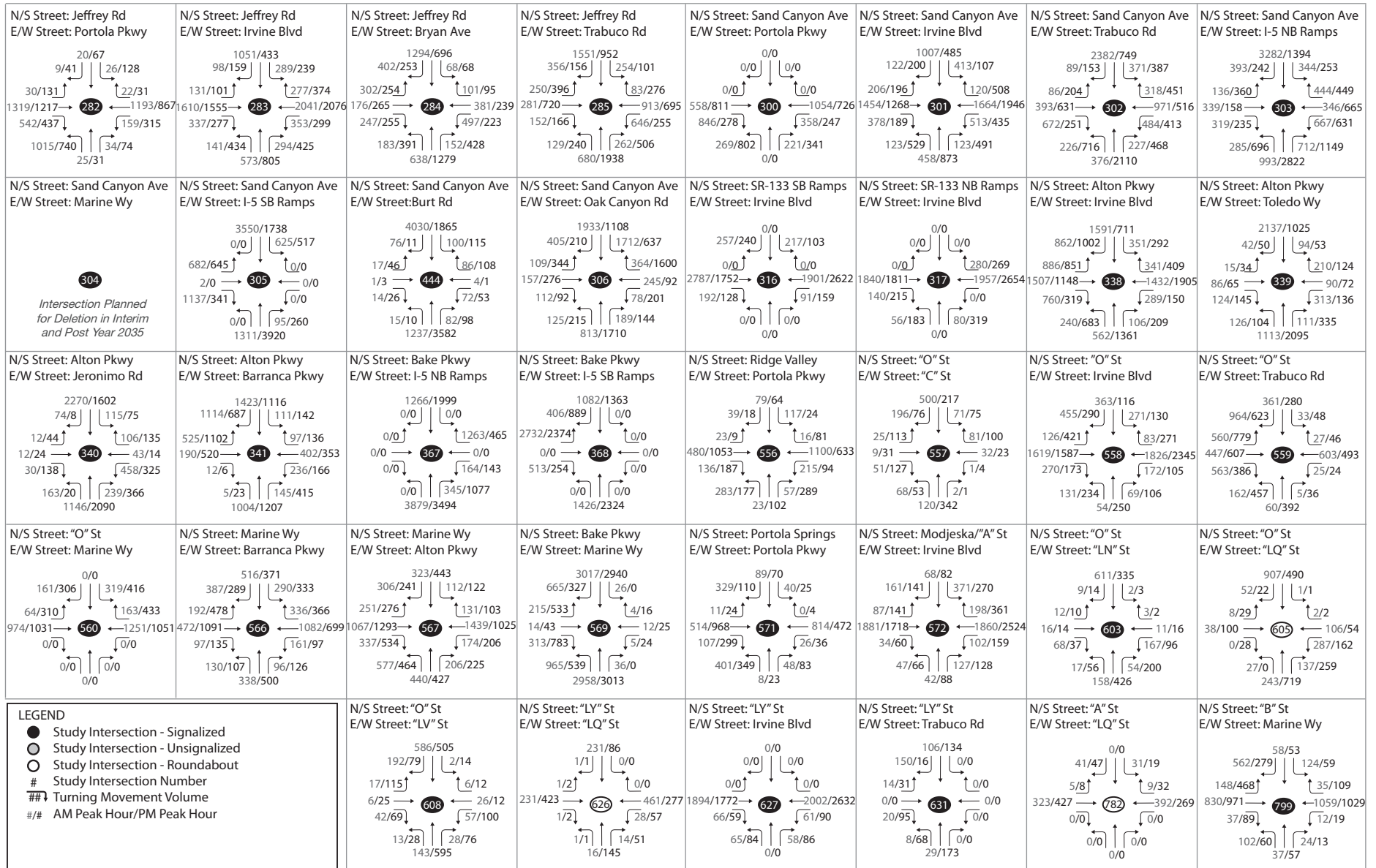


N/S Street: "B" St E/W Street: Driveway 1 ① Proposed Project Intersection	N/S Street: Sand Canyon Ave E/W Street: Driveway 2 ② Proposed Project Intersection	N/S Street: Driveway 3 E/W Street: "LQ" St ③ Proposed Project Intersection	N/S Street: Driveway 4 E/W Street: "LQ" St ④ Proposed Project Intersection
N/S Street: "LQ" St E/W Street: Driveway 5 ⑤ Proposed Project Intersection	N/S Street: "LQ" St E/W Street: Driveway 6 ⑥ Proposed Project Intersection	N/S Street: "LQ" St E/W Street: Driveway 7 ⑦ Proposed Project Intersection	N/S Street: "B" St E/W Street: Irvine Blvd ⑧ 0/0 0/0 0/0 2411/1908 → 563 ← 2127/3072 81/87 ↓ 121/90 0/111 ↑ 46/83 0/0
N/S Street: "Z" St E/W Street: "LQ" St 0/0 3/1 ↓ 0/0 13/31 ↓ 0/0 264/387 → 787 ← 362/308 0/0 ↓ 0/0 0/0 ↑ 0/0 0/0	N/S Street: "Z" St E/W Street: Irvine Blvd 33/19 145/81 ↓ 172/57 37/89 ↓ 24/92 2317/1980 → 790 ← 2003/2986 64/58 ↓ 54/93 58/65 ↑ 67/47 8/18	N/S Street: "B" St E/W Street: "LQ" St 109/154 0/15 ↓ 0/0 8/1 ↓ 0/0 212/356 → 798 ← 339/253 41/28 ↓ 0/0 22/38 ↑ 0/0 101/128	N/S Street: "A-02" St/"LQ" St E/W Street: Irvine Blvd 17/20 51/40 ↓ 156/69 28/67 ↓ 51/177 2746/2011 → 800 ← 2172/2993 0/0 ↓ 152/181 0/38 ↑ 195/153 15/42
N/S Street: SR-133 SB Ramps E/W Street: Trabuco Rd 0/0 401/217 ↓ 248/193 0/0 ↓ 0/0 786/1208 → 486 ← 1398/1335 400/363 ↓ 441/359 0/0 ↑ 0/0 0/0	N/S Street: SR-133 NB Ramps E/W Street: Trabuco Rd 0/0 0/0 ↓ 0/0 0/0 ↓ 0/0 1009/1188 → 487 ← 1548/1256 44/217 ↓ 139/303 283/440 ↑ 574/583 0/0		

LEGEND

- Study Intersection - Signalized
- Study Intersection - Unsignalized
- Study Intersection - Roundabout
- # Study Intersection Number
- ## ↓ Turning Movement Volume
- ##/## AM Peak Hour/PM Peak Hour

Figure 4.10 Year 2035 Peak Hour Volumes - 2012 Modified Project Option 2 - No Project



4.1.3 Post-2035

The intersection geometry control for Post-2035 (Approved 2011 Project) is shown in Figure 4.6. The intersection geometry controls for Post-2035 (2012 Modified Project Options 1 and 2) are shown in Figure 4.7. Post-2035 forecast without project intersection volumes are shown in Figure 4.11. A summary of the level of service analysis results for the Post-2035 without project condition is included in Table 4-7. Four study intersections are expected to operate at a deficient level of service during the AM and/or PM peak hours.

- Sand Canyon Avenue and I-5 NB Ramps (#303) - LOS E, AM and LOS F, PM
- Sand Canyon Avenue and I-5 SB Ramps (#305) - LOS F, AM
- Sand Canyon Avenue and Burt Road (#444) - LOS E, AM and PM
- Sand Canyon Avenue and Oak Canyon Road (#306) - LOS E, AM

Table 4-7 Post-2035 Peak Hour Intersection LOS – No Project – 2011 Approved Project

	Intersection	Control	AM Peak		PM Peak	
			V/C Delay	LOS	V/C Delay	LOS
282	Jeffrey Rd & Portola Pkwy	S	0.73	C	0.68	B
283	Jeffrey Rd & Irvine Blvd	S	0.79	C	0.77	C
284	Jeffrey Rd & Bryan Ave	S	0.78	C	0.79	C
285	Jeffrey Rd & Trabuco Rd	S	0.70	B	0.80	D
300	Sand Canyon Ave & Portola Pkwy	S	0.65	B	0.64	B
301	Sand Canyon Ave & Irvine Blvd	S	0.79	C	0.82	D
302	Sand Canyon Ave & Trabuco Rd	S	0.81	D	0.83	D
303	Sand Canyon Ave & I-5 NB Ramps	S	0.98	E	1.08	F
305	Sand Canyon Ave & I-5 SB Ramps	S	1.07	F	0.87	D
444	Sand Canyon Ave & Burt Rd	S	0.94	E	0.95	E
306	Sand Canyon Ave & Oak Cyn Rd	S	0.94	E	0.82	D
316	SR-133 SB Ramps & Irvine Blvd	S	0.61	B	0.57	A
317	SR-133 NB Ramps & Irvine Blvd	S	0.74	C	0.88	D
338	Alton Pkwy & Irvine Blvd	S	1.00	E	0.98	E
339	Alton Pkwy & Toledo Way	S	0.73	C	0.68	B
340	Alton Pkwy & Jeronimo Rd	S	0.71	C	0.58	A
341	Alton Pkwy & Barranca Pkwy	S	0.82	D	0.79	C
367	Bake Pkwy & I-5 NB Ramps	S	0.91	E	0.59	A
368	Bake Pkwy & I-5/I-405 SB Ramps	S	0.79	C	0.85	D
486	SR-133 SB Ramps & Trabuco Rd	S	0.54	A	0.55	A
487	SR-133 NB Ramps & Trabuco Rd	S	0.50	A	0.59	A
556	Ridge Valley & Portola Pkwy	S	0.75	C	0.73	C
557	"O" St & "C" St	R	0.37	A	0.25	A
558	Ridge Valley/"O" St & Irvine Blvd	S	0.79	C	0.86	D
559	"O" St & Trabuco Rd	S	0.82	D	0.80	C
560	"O" St & Marine Way	S	0.46	A	0.59	A
563	"B" St & Irvine Blvd	S	0.73	C	0.75	C
566	Marine Way & Barranca Pkwy	S	0.67	B	0.66	B
567	Marine Way & Alton Pkwy	S	0.67	B	0.71	C
569	Bake Pkwy & Marine Way	S	0.73	C	0.70	B

Intersection		Control	AM Peak		PM Peak	
			V/C Delay	LOS	V/C Delay	LOS
571	Portola Springs & Portola Pkwy	S	0.75	C	0.63	B
572	Modjeska/"A" St & Irvine Blvd	S	0.75	C	0.79	C
603	"O" St & "LN" St	S	0.42	A	0.38	A
605	"O" St & "LQ" St	R	0.45	A	0.41	A
608	"O" St & "LV" St	S	0.38	A	0.34	A
626	"LY" St & "LQ" St	R	0.45	A	0.31	A
627	"LY" St & Irvine Blvd	S	0.67	B	0.68	B
631	"LY" St & Trabuco Rd	U	0.08	A	0.14	A
782	"A" St & "LQ" St	R	0.33	A	0.32	A
787	"Z" St & "LQ" St	U	0.06	A	0.08	A
790	"Z" St & Irvine Blvd	S	0.77	C	0.75	C
798	"B" St & "LQ" St	S	0.50	A	0.34	A
799	"B" St & Marine Way	S	0.46	A	0.58	A
800	"A-02" St/"LQ" St & Irvine Blvd	S	0.87	D	0.76	C

Post-2035 (2012 Modified Project, Option 1) forecast without project intersection volumes are shown in Figure 4.12. A summary of the level of service analysis results for the Post-2035 (2012 Modified Project, Option 1) without project condition is included in Table 4-8. Four study intersections are expected to operate at a deficient level of service during the AM and/or PM peak hours.

- Sand Canyon Avenue and I-5 NB Ramps (#303) - LOS E, AM and PM
- Sand Canyon Avenue and I-5 SB Ramps (#305) - LOS F, AM
- Sand Canyon Avenue and Burt Road (#444) - LOS E, AM and PM
- Sand Canyon Avenue and Oak Canyon Road (#306) - LOS E, AM

Table 4-8 Post-2035 Peak Hour Intersection LOS – No Project – 2012 Modified Project Option 1

Intersection		Control	AM Peak		PM Peak	
			V/C Delay	LOS	V/C Delay	LOS
282	Jeffrey Rd & Portola Pkwy	S	0.73	C	0.68	B
283	Jeffrey Rd & Irvine Blvd	S	0.80	C	0.77	C
284	Jeffrey Rd & Bryan Ave	S	0.79	C	0.79	C
285	Jeffrey Rd & Trabuco Rd	S	0.69	B	0.79	C
300	Sand Canyon Ave & Portola Pkwy	S	0.51	A	0.63	B
301	Sand Canyon Ave & Irvine Blvd	S	0.76	C	0.80	D
302	Sand Canyon Ave & Trabuco Rd	S	0.81	D	0.83	D
303	Sand Canyon Ave & I-5 NB Ramps	S	0.91	E	0.96	E
305	Sand Canyon Ave & I-5 SB Ramps	S	1.07	F	0.89	D
444	Sand Canyon Ave & Burt Rd	S	0.96	E	0.96	E
306	Sand Canyon Ave & Oak Cyn Rd	S	0.92	E	0.84	D

Intersection		Control	AM Peak		PM Peak	
			V/C Delay	LOS	V/C Delay	LOS
316	SR-133 SB Ramps & Irvine Blvd	S	0.53	A	0.56	A
317	SR-133 NB Ramps & Irvine Blvd	S	0.58	A	0.86	D
338	Alton Pkwy & Irvine Blvd	S	0.98	E	0.93	E
339	Alton Pkwy & Toledo Way	S	0.85	D	0.71	C
340	Alton Pkwy & Jeronimo Rd	S	0.70	C	0.58	A
341	Alton Pkwy & Barranca Pkwy	S	0.61	B	0.80	C
367	Bake Pkwy & I-5 NB Ramps	S	0.88	D	0.60	A
368	Bake Pkwy & I-5/I-405 SB Ramps	S	0.80	D	0.86	D
486	SR-133 SB Ramps & Trabuco Rd	S	0.53	A	0.56	A
487	SR-133 NB Ramps & Trabuco Rd	S	0.50	A	0.60	A
556	Ridge Valley & Portola Pkwy	S	0.74	C	0.72	C
557	"O" St & "C" St	R	0.33	A	0.27	A
558	Ridge Valley/"O" St & Irvine Blvd	S	0.58	A	0.84	D
559	"O" St & Trabuco Rd	S	0.86	D	0.78	C
560	"O" St & Marine Way	S	0.53	A	0.66	B
563	"B" St & Irvine Blvd	S	0.58	A	0.72	C
566	Marine Way & Barranca Pkwy	S	0.68	B	0.66	B
567	Marine Way & Alton Pkwy	S	0.70	B	0.65	B
569	Bake Pkwy & Marine Way	S	0.82	D	0.77	C
571	Portola Springs & Portola Pkwy	S	0.75	C	0.62	B
572	Modjeska/"A" St & Irvine Blvd	S	0.61	B	0.76	C
603	"O" St & "LN" St	S	0.38	A	0.32	A
605	"O" St & "LQ" St	R	0.46	A	0.45	A
608	"O" St & "LV" St	S	0.36	A	0.34	A
626	"LY" St & "LQ" St	R	0.38	A	0.38	A
627	"LY" St & Irvine Blvd	S	0.48	A	0.62	B
631	"LY" St & Trabuco Rd	U	0.03	A	0.10	A
782	"A" St & "LQ" St	R	0.30	A	0.35	A
787	"Z" St & "LQ" St	U	0.01	A	0.02	A
790	"Z" St & Irvine Blvd	S	0.64	B	0.72	C
798	"B" St & "LQ" St	S	0.30	A	0.39	A
799	"B" St & Marine Way	S	0.73	C	0.70	B
800	"A-02" St/"LQ" St & Irvine Blvd	S	0.81	D	0.74	C

Post-2035 (2012 Modified Project, Option 2) forecast without project intersection volumes are shown in Figure 4.13. A summary of the level of service analysis results for the Post-2035 (2012 Modified Project, Option 2) without project condition is included in Table 4-9. Four study intersections are expected to operate at a deficient level of service during the AM and/or PM peak hours.

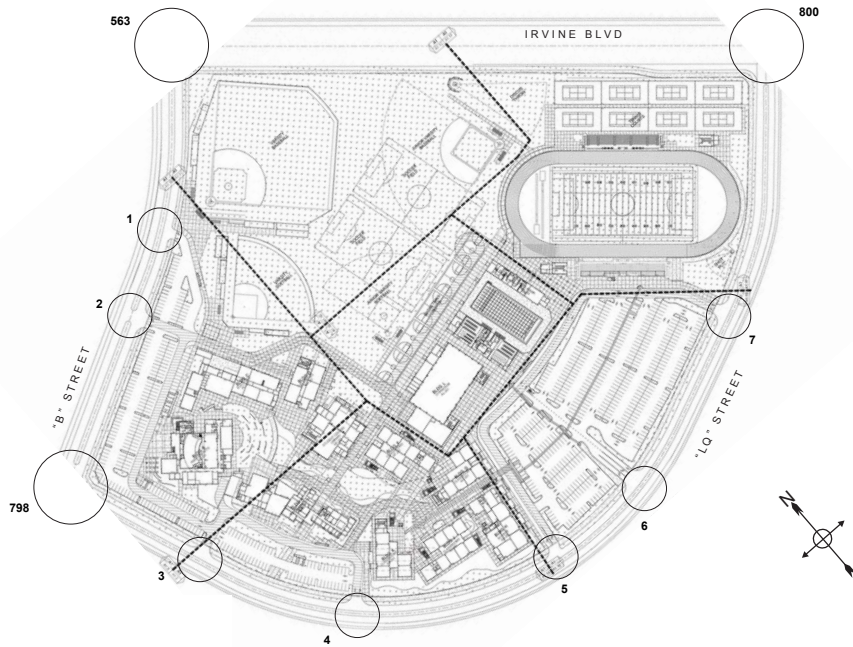
- Sand Canyon Avenue and I-5 NB Ramps (#303) - LOS E, AM and PM
- Sand Canyon Avenue and I-5 SB Ramps (#305) - LOS F, AM
- Sand Canyon Avenue and Burt Road (#444) - LOS E, AM and LOS F, PM
- Sand Canyon Avenue and Oak Canyon Road (#306) - LOS E, AM and PM

**Table 4-9 Post-2035 Peak Hour Intersection LOS – No Project – 2012 Modified Project
Option 2**

Intersection		Control	AM Peak		PM Peak	
			V/C Delay	LOS	V/C Delay	LOS
282	Jeffrey Rd & Portola Pkwy	S	0.73	C	0.68	B
283	Jeffrey Rd & Irvine Blvd	S	0.80	D	0.77	C
284	Jeffrey Rd & Bryan Ave	S	0.79	C	0.80	C
285	Jeffrey Rd & Trabuco Rd	S	0.70	B	0.80	C
300	Sand Canyon Ave & Portola Pkwy	S	0.51	A	0.64	B
301	Sand Canyon Ave & Irvine Blvd	S	0.76	C	0.81	D
302	Sand Canyon Ave & Trabuco Rd	S	0.81	D	0.83	D
303	Sand Canyon Ave & I-5 NB Ramps	S	0.91	E	0.96	E
305	Sand Canyon Ave & I-5 SB Ramps	S	1.07	F	0.89	D
444	Sand Canyon Ave & Burt Rd	S	0.96	E	0.96	E
306	Sand Canyon Ave & Oak Cyn Rd	S	0.92	E	0.84	D
316	SR-133 SB Ramps & Irvine Blvd	S	0.53	A	0.55	A
317	SR-133 NB Ramps & Irvine Blvd	S	0.58	A	0.86	D
338	Alton Pkwy & Irvine Blvd	S	0.99	E	0.90	D
339	Alton Pkwy & Toledo Way	S	0.85	D	0.71	C
340	Alton Pkwy & Jeronimo Rd	S	0.70	C	0.58	A
341	Alton Pkwy & Barranca Pkwy	S	0.61	B	0.80	C
367	Bake Pkwy & I-5 NB Ramps	S	0.88	D	0.59	A
368	Bake Pkwy & I-5/I-405 SB Ramps	S	0.80	C	0.86	D
486	SR-133 SB Ramps & Trabuco Rd	S	0.54	A	0.56	A
487	SR-133 NB Ramps & Trabuco Rd	S	0.51	A	0.61	B
556	Ridge Valley & Portola Pkwy	S	0.74	C	0.72	C
557	"O" St & "C" St	R	0.33	A	0.26	A
558	Ridge Valley/"O" St & Irvine Blvd	S	0.58	A	0.84	D
559	"O" St & Trabuco Rd	S	0.86	D	0.77	C
560	"O" St & Marine Way	S	0.52	A	0.66	B
563	"B" St & Irvine Blvd	S	0.58	A	0.71	C
566	Marine Way & Barranca Pkwy	S	0.67	B	0.66	B
567	Marine Way & Alton Pkwy	S	0.70	B	0.65	B
569	Bake Pkwy & Marine Way	S	0.82	D	0.77	C
571	Portola Springs & Portola Pkwy	S	0.75	C	0.62	B
572	Modjeska/"A" St & Irvine Blvd	S	0.61	B	0.76	C
603	"O" St & "LN" St	S	0.38	A	0.32	A
605	"O" St & "LQ" St	R	0.45	A	0.46	A
608	"O" St & "LV" St	S	0.36	A	0.38	A
626	"LY" St & "LQ" St	R	0.37	A	0.37	A
627	"LY" St & Irvine Blvd	S	0.48	A	0.62	B
631	"LY" St & Trabuco Rd	U	0.02	A	0.10	A
782	"A" St & "LQ" St	R	0.29	A	0.34	A
787	"Z" St & "LQ" St	U	0.01	A	0.02	A
790	"Z" St & Irvine Blvd	S	0.64	B	0.72	C
798	"B" St & "LQ" St	S	0.30	A	0.39	A

Intersection		Control	AM Peak		PM Peak	
			V/C Delay	LOS	V/C Delay	LOS
799	"B" St & Marine Way	S	0.74	C	0.70	B
800	"A-02" St/"LQ" St & Irvine Blvd	S	0.80	D	0.74	C

Figure 4.11 Post Year 2035 Peak Hour Volumes – 2011 Approved Project – No Project



N/S Street: "B" St E/W Street: Driveway 1 ① Proposed Project Intersection	N/S Street: Sand Canyon Ave E/W Street: Driveway 2 ② Proposed Project Intersection	N/S Street: Driveway 3 E/W Street: "LQ" St ③ Proposed Project Intersection	N/S Street: Driveway 4 E/W Street: "LQ" St ④ Proposed Project Intersection
N/S Street: "LQ" St E/W Street: Driveway 5 ⑤ Proposed Project Intersection	N/S Street: "LQ" St E/W Street: Driveway 6 ⑥ Proposed Project Intersection	N/S Street: "LQ" St E/W Street: Driveway 7 ⑦ Proposed Project Intersection	N/S Street: "B" St E/W Street: Irvine Blvd ⑧ 0/0 0/0 2926/1626 196/53 563 1662/3093 149/87 32/167 43/144 0/0
N/S Street: "Z" St E/W Street: "LQ" St ⑧ 0/0 48/28 22/29 33/40 25/17 420/282 0/0 0/0 0/0 0/0 0/0	N/S Street: "Z" St E/W Street: Irvine Blvd ⑨ 34/23 127/87 196/53 46/87 20/101 2824/1550 1484/3089 45/64 39/98 47/56 73/34 5/16	N/S Street: "B" St E/W Street: "LQ" St ⑩ 320/121 5/5 5/5 364/264 60/19 5/5 5/5 5/40 50/136	N/S Street: "A-02" St/"LQ" St E/W Street: Irvine Blvd ⑪ 72/30 29/28 148/73 20/42 61/169 2854/1781 147/79 1802/2848 449/354 48/162 241/408 15/90
N/S Street: SR-133 SB Ramps E/W Street: Trabuco Rd ⑫ 0/0 447/143 307/158 0/0 792/1264 392/333 1255/1376 427/400 0/0 0/0 0/0	N/S Street: SR-133 NB Ramps E/W Street: Trabuco Rd ⑬ 0/0 0/0 0/0 1082/1144 38/282 1399/1278 113/332 281/500 642/526 0/0		

LEGEND

- Study Intersection - Signalized
- Study Intersection - Unsignalized
- Study Intersection - Roundabout
- # Study Intersection Number
- ## Turning Movement Volume
- ##/## AM Peak Hour/PM Peak Hour

Figure 4.11 Post Year 2035 Peak Hour Volumes – 2011 Approved Project – No Project

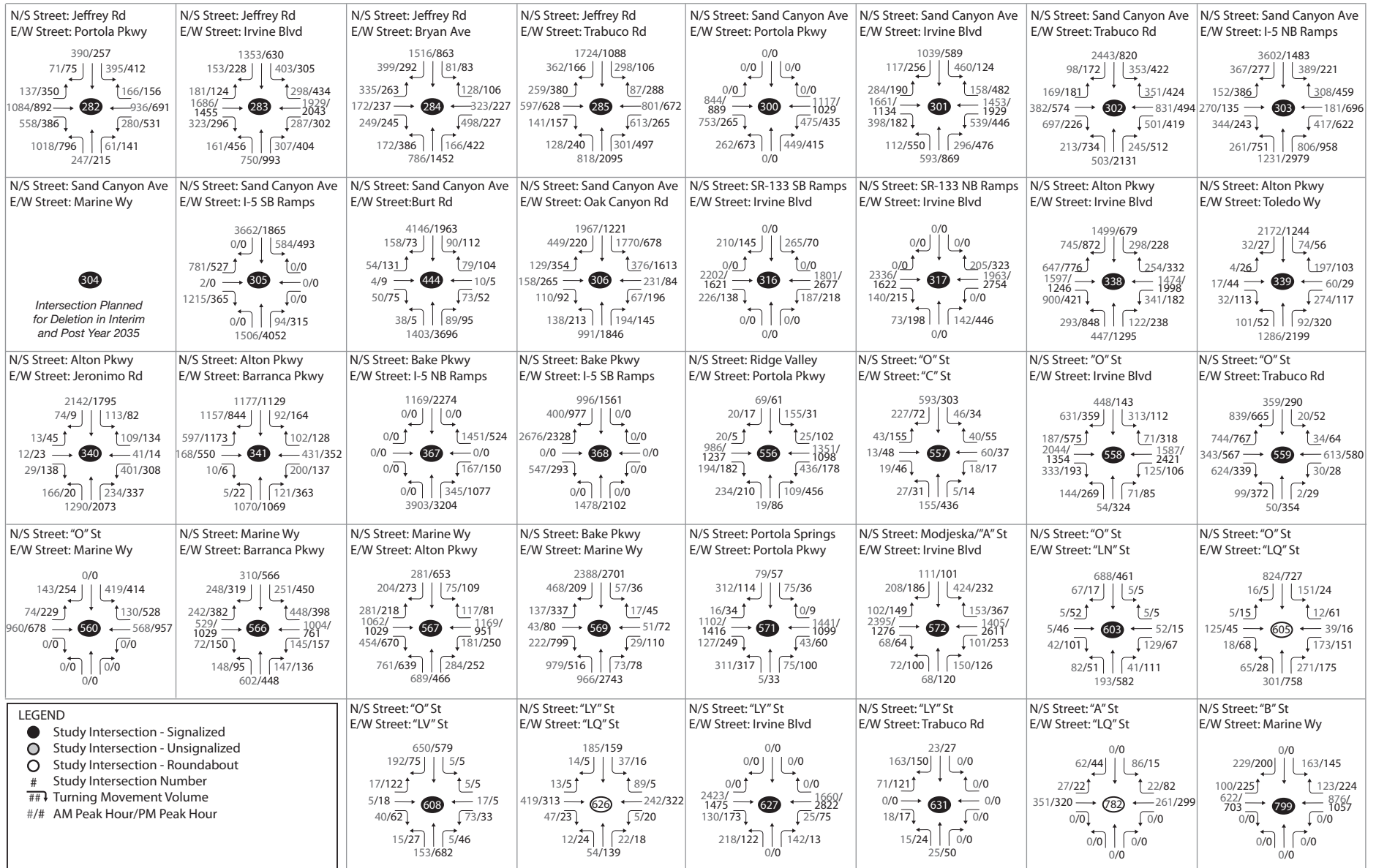
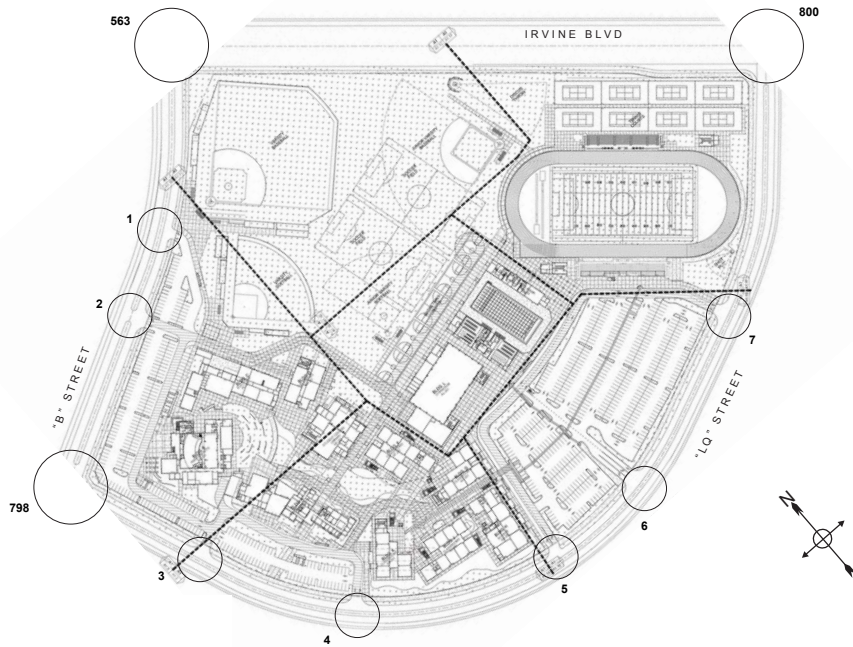


Figure 4.12 Post Year 2035 Peak Hour Volumes – 2012 Modified Project Option 1 – No Project



N/S Street: "B" St E/W Street: Driveway 1 ① <i>Proposed Project Intersection</i>	N/S Street: Sand Canyon Ave E/W Street: Driveway 2 ② <i>Proposed Project Intersection</i>	N/S Street: Driveway 3 E/W Street: "LQ" St ③ <i>Proposed Project Intersection</i>	N/S Street: Driveway 4 E/W Street: "LQ" St ④ <i>Proposed Project Intersection</i>
N/S Street: "LQ" St E/W Street: Driveway 5 ⑤ <i>Proposed Project Intersection</i>	N/S Street: "LQ" St E/W Street: Driveway 6 ⑥ <i>Proposed Project Intersection</i>	N/S Street: "LQ" St E/W Street: Driveway 7 ⑦ <i>Proposed Project Intersection</i>	N/S Street: "B" St E/W Street: Irvine Blvd ⑧ 0/0 0/0 2388/1641 82/84 0/123 0/0 0/0 0/0 1719/3028 110/92 54/81
N/S Street: "Z" St E/W Street: "LQ" St ⑧ 0/0 4/1 12/19 270/371 0/0 0/0 0/0 0/0 0/0 0/0 320/319 0/0	N/S Street: "Z" St E/W Street: Irvine Blvd ⑨ 36/18 139/85 42/79 2279/1718 42/68 57/54 8/15 166/55 19/95 1613/2955 52/84 68/38	N/S Street: "B" St E/W Street: "LQ" St ⑩ 105/160 0/14 9/1 218/343 41/25 19/40 103/131 0/0 0/0 0/0 0/0 300/263 0/0	N/S Street: "A-02" St/"LQ" St E/W Street: Irvine Blvd ⑪ 19/20 48/41 22/70 2706/1748 0/0 0/36 11/44 166/69 61/182 1780/2957 124/184 203/144
N/S Street: SR-133 SB Ramps E/W Street: Trabuco Rd ⑫ 0/0 462/143 0/0 741/1285 377/324 0/0 0/0 0/0 0/0 293/169 1337/1343 431/398	N/S Street: SR-133 NB Ramps E/W Street: Trabuco Rd ⑬ 0/0 0/0 0/0 1014/1176 41/279 277/498 0/0 0/0 0/0 0/0 1490/1247 131/324 602/547		

LEGEND

- Study Intersection - Signalized
- Study Intersection - Unsignalized
- Study Intersection - Roundabout
- # Study Intersection Number
- # Turning Movement Volume
- ## AM Peak Hour/PM Peak Hour

Figure 4.12 Post Year 2035 Peak Hour Volumes – 2012 Modified Project Option 1 – No Project

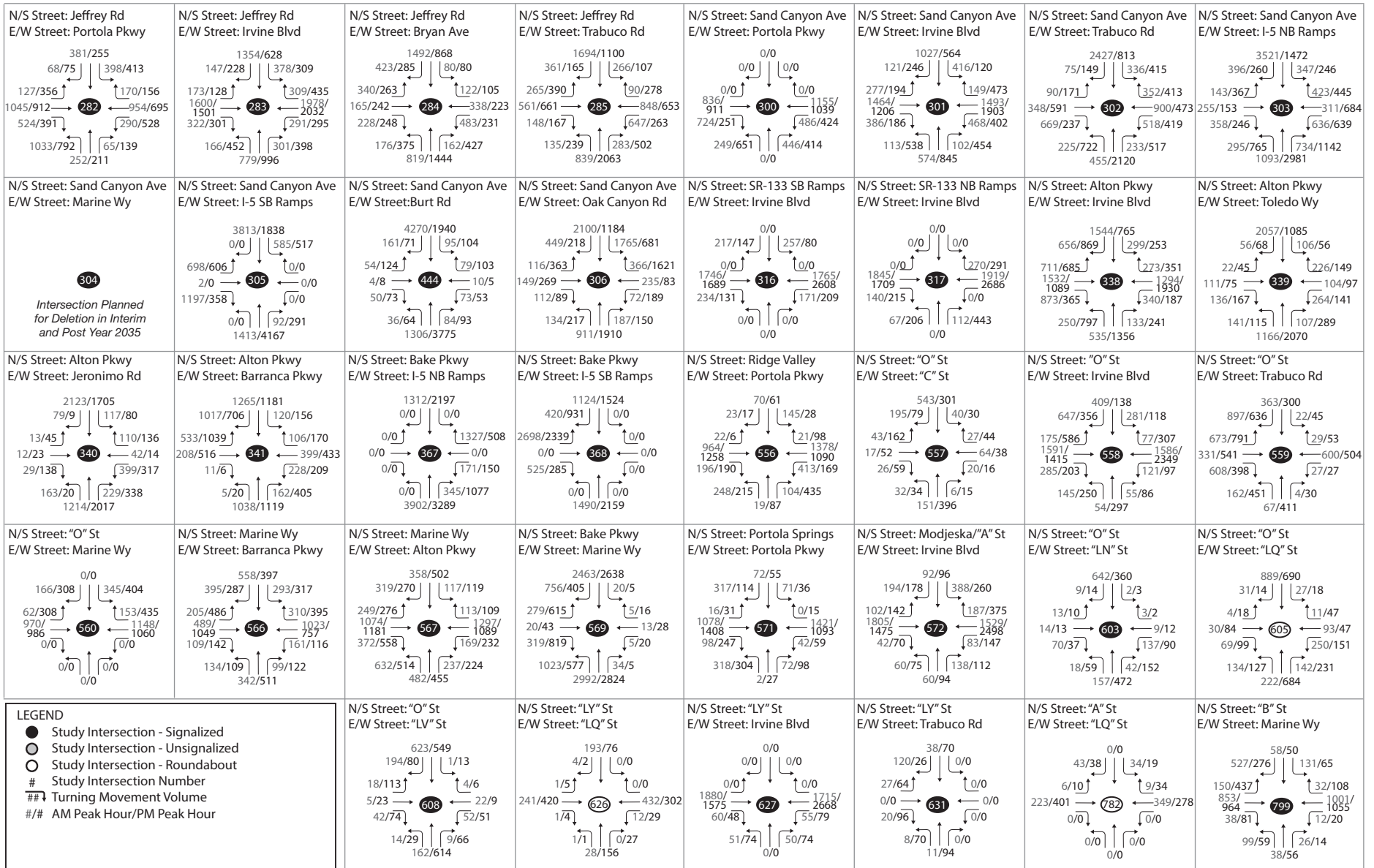
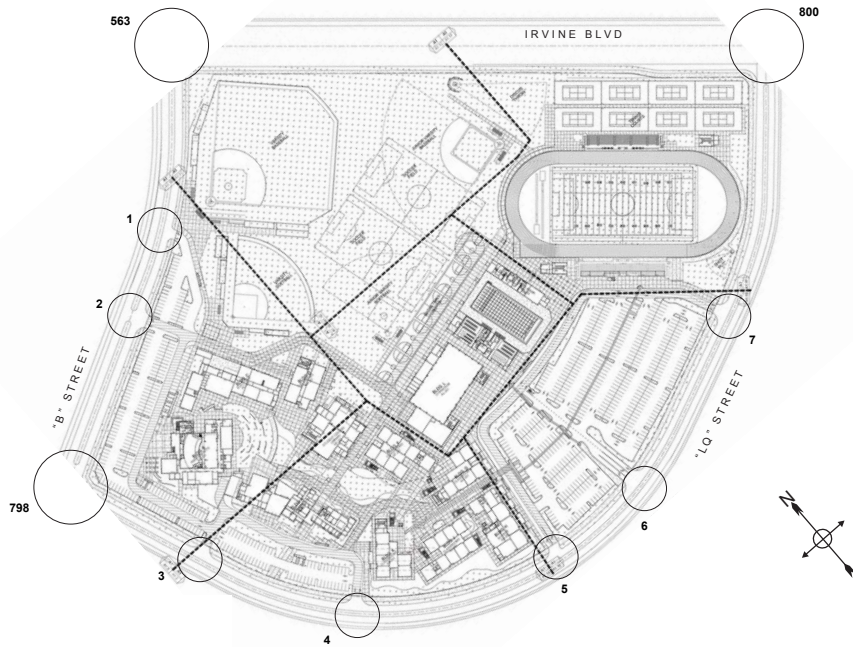


Figure 4.13 Post Year 2035 Peak Hour Volumes – 2012 Modified Project Option 2 – No Project

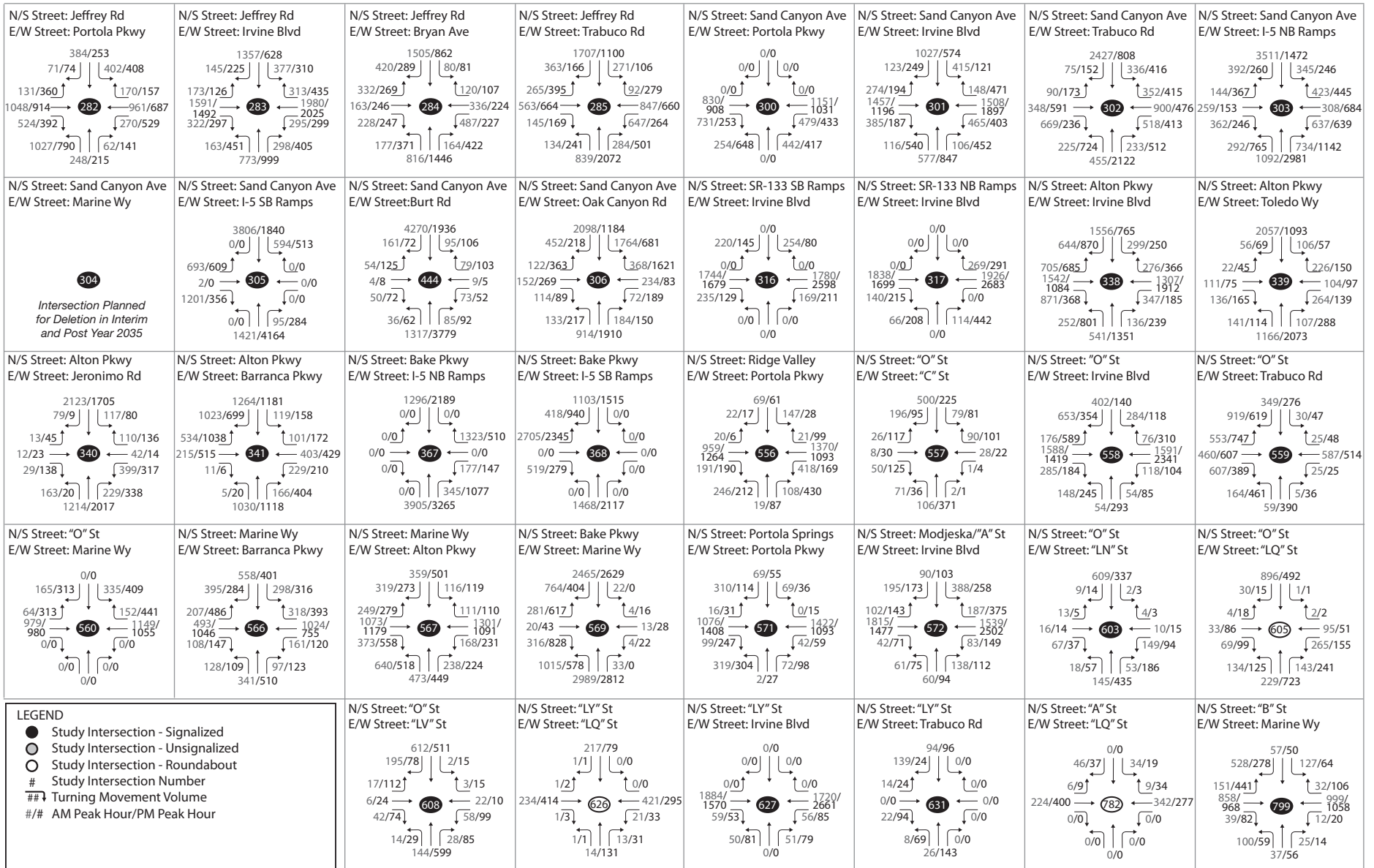


N/S Street: "B" St E/W Street: Driveway 1 ① Proposed Project Intersection	N/S Street: Sand Canyon Ave E/W Street: Driveway 2 ② Proposed Project Intersection	N/S Street: Driveway 3 E/W Street: "LQ" St ③ Proposed Project Intersection	N/S Street: Driveway 4 E/W Street: "LQ" St ④ Proposed Project Intersection
N/S Street: "LQ" St E/W Street: Driveway 5 ⑤ Proposed Project Intersection	N/S Street: "LQ" St E/W Street: Driveway 6 ⑥ Proposed Project Intersection	N/S Street: "LQ" St E/W Street: Driveway 7 ⑦ Proposed Project Intersection	N/S Street: "B" St E/W Street: Irvine Blvd ⑧ 0/0 0/0 2397/2621 72/210 0/123 0/0 0/0 0/0 1731/1777 108/117 55/81
N/S Street: "Z" St E/W Street: "LQ" St ⑧ 0/0 3/11 12/19 270/373 0/0 0/0 0/0 0/0 0/0 0/0 0/0 0/0 312/318	N/S Street: "Z" St E/W Street: Irvine Blvd ⑨ 36/18 139/85 42/79 2279/1718 42/68 57/54 8/15 166/55 19/95 1624/2955 52/84 68/38	N/S Street: "B" St E/W Street: "LQ" St ⑩ 105/157 0/14 8/0 218/344 41/26 19/40 103/131 0/0 0/0 0/0 0/0 292/263	N/S Street: "A-02" St/"LQ" St E/W Street: Irvine Blvd ⑪ 21/20 50/41 23/70 2710/1748 0/0 0/36 11/44 165/69 60/182 1787/2957 122/184 199/144
N/S Street: SR-133 SB Ramps E/W Street: Trabuco Rd ⑫ 0/0 455/143 0/0 735/1285 374/324 0/0 0/0 0/0 0/0 299/169 1334/1343 445/398	N/S Street: SR-133 NB Ramps E/W Street: Trabuco Rd ⑬ 0/0 0/0 0/0 1014/1181 41/275 279/491 0/0 0/0 0/0 0/0 0/0 1499/1254 131/329 613/554		

LEGEND

- Study Intersection - Signalized
- Study Intersection - Unsignalized
- Study Intersection - Roundabout
- # Study Intersection Number
- # Turning Movement Volume
- ## AM Peak Hour/PM Peak Hour

Figure 4.13 Post Year 2035 Peak Hour Volumes – 2012 Modified Project Option 2 – No Project



5. Proposed Project

A description of the proposed stadium project and the expected volume, distribution, and frequency of project-generated trips are presented in this section.

5.1 PROJECT DESCRIPTION

The Irvine Unified School District plans to build a new high school facility on a 40.3-acre site on the southeast corner of Irvine Boulevard and the future "B" Street, east of Sand Canyon Avenue and Highway 133 and west of Alton Parkway. The project site is on a portion of the former Marine Corps Air Station El Toro (MCAS El Toro), in Planning Area 51, Orange County Great Park, of the City of Irvine General Plan.

The school is scheduled to open in the year 2016 with a capacity of 2,600 students. It will also include a performing arts center, a gymnasium, and a stadium with 2,940 seats. The stadium would serve as a venue for special events such as graduation ceremonies and sports activities, and is not expected to generate a significant number of trips on a daily basis throughout the year. The proposed stadium would likely host one varsity football game per week for about ten to twelve weeks per year.

5.2 TRIP GENERATION

The trip generation for the High School No. 5 project has been estimated using rates published in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th Edition. The trip generation rates and the forecast trip volumes for the High School land use category (ITE Code 530), are summarized in Table 5-1.

Table 5-1 - ITE Trip Generation for a High School Land Use (Code 530) with a Capacity of 2,600 Students

	Weekday	AM			PM		
		In	Out	Total	In	Out	Total
Rates	1.71	0.2856	0.1344	0.42	0.0611	0.0689	0.13
Trips	4,446	743	349	1,092	159	179	338

5.3 TRIP DISTRIBUTION

The project trip distribution for each analysis scenario has been developed based on the following assumptions:

- 5% of the project trips are generated by faculty and staff originating outside of the City of Irvine.
- 5% of the project trips are generated by faculty and staff originating within the City of Irvine but outside of the High School No. 5 attendance area boundary.
- The number of trips originating from each sub-area within the High School No. 5 attendance area boundary is proportional to the number of residential dwelling units located in that sub-area.

Based on a field inventory and information published online, there are approximately 10,242 existing residential housing units located within the High School No. 5 attendance area, plus an

estimated 1,000 additional residential units under construction or planned to be built by 2016. For the purpose of this trip distribution, it is assumed that there are 11,242 residential dwelling units, not including the proposed Great Park Neighborhoods development.

The trip origin and destination assumptions for each of the Interim Year 2017 scenarios are summarized in Table 5-2, and the assumptions for 2035 and Post-2035 are provided in Table 5-3. The appendix contains a memo that details the trip distribution for the study area for Year 2017, 2035 and Post-2035.

Table 5-2 - Interim Year 2017 Trip Distribution Assumptions

Trip Origins/ Destinations	2011 AP	2012 MP Option 1	2012 MP Option 2
Outside of the City of Irvine	5%	5%	5%
Within the City of Irvine but outside the HS No.5 attendance area boundary	5%	5%	5%
Within the HS No.5 attendance area boundary but outside of the Great Park Neighborhoods	70%	68%	69%
Within the Great Park Neighborhoods development area	20%	22%	21%

Table 5-3 - Year 2035 and Post-2035 Trip Distribution Assumptions

Trip Origins/ Destinations	2011 AP	2012 MP Option 1	2012 MP Option 2
Outside of the City of Irvine	5%	5%	5%
Within the City of Irvine but outside the HS No.5 attendance area boundary	5%	5%	5%
Within the HS No.5 attendance area boundary but outside of the Great Park Neighborhoods	63%	49%	49%
Within the Great Park Neighborhoods development area	27%	41%	41%

6. Existing Conditions With Proposed Project

Year 2013 with project (2011 Approved Project) ADT volumes on study area arterials are listed in Table 6-1. Tables 6-2 and 6-3 summarize the study area arterials ADT volumes for 2013 (2012 Modified Project Options 1 and 2), respectively. As seen in Table 6-1, all study area segments are calculated to operate at LOS C or better under 2013 with project conditions for all three scenarios.

Year 2013 with project (2011 Approved Project) intersection volumes are shown in Figure 6.1. Figures 6.2 and 6.3 show the 2013 - 2012 Modified Project Option 1 and 2, respectively. A summary of the level of service analysis results for the 2013 with project condition is included in Table 6-4. Table 6-5 includes a summary of the 2013 (2012 Modified Project Option 1) with project, and Table 6-6 includes the 2013 (2012 Modified Project Option 1) with project analysis summary results. As seen in Tables 6-2 to 6-4, all study area intersections are calculated to operate at LOS D or better under 2013 with project conditions with the exception of Bake Parkway and I-5 NB Ramps which operates at LOS F during the PM peak hour. There are no project impacts under the year 2013 scenarios.

Table 6-1 Year 2013 (2011 Approved Project) Arterial Level of Service

#	Street Name	Limits	# Lanes	Capacity	2013 NP ADT			2013 WP ADT		
					ADT	V/C	LOS	ADT	V/C	LOS
1	Jeffrey Rd	Irvine Blvd to Bryan Ave	6D	54,000	15,856	0.290	A	15,986	0.300	A
2	Sand Canyon Ave	Portola Pkwy to Irvine Blvd	4D	32,000	12,428	0.390	A	12,698	0.400	A
3	Sand Canyon Ave	Irvine Blvd to Trabuco Rd	6D	54,000	23,063	0.430	A	24,573	0.460	A
4	Sand Canyon Ave	Trabuco Rd to Marine Way	8D	72,000	28,245	0.390	A	28,375	0.390	A
5	Sand Canyon Ave	Marine Way to Oak Canyon Rd	4D	32,000	25,000	0.780	C	25,040	0.780	C
6	Alton Pkwy	Irvine Blvd to Toledo Wy	6D	54,000	9,105	0.170	A	9,325	0.170	A
7	Alton Pkwy	Toledo Wy to Jeronimo Rd	6D	54,000	16,281	0.300	A	16,501	0.310	A
8	Alton Pkwy	Jeronimo Rd to Barranca Pkwy	6D	54,000	24,196	0.450	A	24,416	0.450	A
9	Portola Pkwy	Jeffrey Rd to Sand Canyon Ave	4D	32,000	9,988	0.310	A	10,028	0.310	A
10	Portola Pkwy	Sand Canyon Ave to Ridge Valley	4D	32,000	10,000	0.310	A	10,040	0.310	A
11	Portola Pkwy	Ridge Valley to Modjeska	4D	32,000	4,882	0.150	A	4,972	0.160	A
12	Irvine Blvd	Jeffrey Rd to Sand Canyon Ave	6D	54,000	22,364	0.410	A	23,434	0.430	A
13	Irvine Blvd	Sand Canyon Ave to SR-133 Fwy	6D	54,000	18,961	0.350	A	21,891	0.410	A
14	Irvine Blvd	SR-133 Fwy to Ridge Valley	4D	32,000	18,961	0.590	A	21,891	0.680	B
15	Irvine Blvd	Ridge Valley to "LY" St	4D	32,000	18,961	0.590	A	22,251	0.700	B
16	Irvine Blvd	"Z" St to "B" St	6D	54,000	18,961	0.350	A	23,051	0.430	A
17	Irvine Blvd	"LQ" St to Alton Pkwy	6D	54,000	18,961	0.350	A	19,181	0.360	A
18	Trabuco Rd	Jeffrey Rd to Sand Canyon Ave	4D	32,000	6,988	0.220	A	7,658	0.240	A
19	"O" St	Portola Pkwy to Irvine Blvd	4D	32,000	-	-	A	270	0.010	A
20	"O" St	Irvine Blvd to "C" St	4D	32,000	-	-	A	40	-	A
21	"O" St	"C" St to "LN" St	4D	32,000	-	-	A	40	-	A
22	"O" St	"LN" St to "LQ" St	4D	32,000	-	-	A	40	-	A
23	"O" St	"LQ" St to Trabuco Rd	4D	32,000	-	-	A	40	-	A
24	"O" St	Trabuco Rd to "LV" St	4D	32,000	-	-	A	-	-	A
25	"B" St	Irvine Blvd to "LQ" St	2D	13,000	-	-	A	2,000	0.150	A
26	"B" St	"LQ" St to Marine Wy	2D	13,000	-	-	A	-	-	A
27	"LQ" St	"O" St to "C" St	2D	13,000	-	-	A	-	-	A
28	"LQ" St	"C" St to "LY" St	2D	13,000	-	-	A	-	-	A
29	"LQ" St	"LY" St to "A" St	2D	13,000	-	-	A	-	-	A

#	Street Name	Limits	# Lanes	Capacity	2013 NP ADT			2013 WP ADT		
					ADT	V/C	LOS	ADT	V/C	LOS
30	"LQ" St	"A" St to "Z" St	2D	13,000	-	-	A	-	-	A

Table 6-2 Year 2013 (2012 Modified Project Option 1) Arterial Level of Service

#	Street Name	Limits	# Lanes	Capacity	2013 NP ADT			2013 WP ADT		
					ADT	V/C	LOS	ADT	V/C	LOS
1	Jeffrey Rd	Irvine Blvd to Bryan Ave	6D	54,000	15,856	0.290	A	15,986	0.300	A
2	Sand Canyon Ave	Portola Pkwy to Irvine Blvd	4D	32,000	12,428	0.230	A	12,698	0.400	A
3	Sand Canyon Ave	Irvine Blvd to Trabuco Rd	6D	54,000	23,063	0.430	A	24,533	0.450	A
4	Sand Canyon Ave	Trabuco Rd to Marine Way	8D	72,000	28,245	0.520	A	28,375	0.390	A
5	Sand Canyon Ave	Marine Way to Oak Canyon Rd	4D	32,000	25,000	0.460	A	25,040	0.780	C
6	Alton Pkwy	Irvine Blvd to Toledo Wy	6D	54,000	9,105	0.170	A	9,325	0.170	A
7	Alton Pkwy	Toledo Wy to Jeronimo Rd	6D	54,000	16,281	0.300	A	16,501	0.310	A
8	Alton Pkwy	Jeronimo Rd to Barranca Pkwy	6D	54,000	24,196	0.450	A	24,416	0.450	A
9	Portola Pkwy	Jeffrey Rd to Sand Canyon Ave	4D	32,000	9,988	0.180	A	10,028	0.310	A
10	Portola Pkwy	Sand Canyon Ave to Ridge Valley	4D	32,000	10,000	0.190	A	10,040	0.310	A
11	Portola Pkwy	Ridge Valley to Modjeska	4D	32,000	4,882	0.090	A	4,972	0.160	A
12	Irvine Blvd	Jeffrey Rd to Sand Canyon Ave	6D	54,000	22,364	0.410	A	23,384	0.430	A
13	Irvine Blvd	Sand Canyon Ave to SR-133 Fwy	6D	54,000	18,961	0.350	A	21,451	0.400	A
14	Irvine Blvd	SR-133 Fwy to Ridge Valley	4D	32,000	18,961	0.350	A	21,811	0.680	B
15	Irvine Blvd	Ridge Valley to "LY" St	4D	32,000	18,961	0.350	A	22,211	0.690	B
16	Irvine Blvd	"Z" St to "B" St	6D	54,000	18,961	0.350	A	22,871	0.420	A
17	Irvine Blvd	"LQ" St to Alton Pkwy	6D	54,000	18,961	0.350	A	19,181	0.360	A
18	Trabuco Rd	Jeffrey Rd to Sand Canyon Ave	4D	32,000	6,988	0.130	A	7,658	0.240	A
19	"O" St	Portola Pkwy to Irvine Blvd	4D	32,000	-	-	A	270	0.010	A
20	"O" St	Irvine Blvd to "C" St	4D	32,000	-	-	A	130	-	A
21	"O" St	"C" St to "LN" St	4D	32,000	-	-	A	90	-	A
22	"O" St	"LN" St to "LQ" St	4D	32,000	-	-	A	90	-	A
23	"O" St	"LQ" St to Trabuco Rd	4D	32,000	-	-	A	90	-	A
24	"O" St	Trabuco Rd to "LV" St	4D	32,000	-	-	A	40	-	A

#	Street Name	Limits	# Lanes	Capacity	2013 NP ADT			2013 WP ADT		
					ADT	V/C	LOS	ADT	V/C	LOS
25	"B" St	Irvine Blvd to "LQ" St	2D	13,000	-	-	A	2,000	0.150	A
26	"B" St	"LQ" St to Marine Wy	2D	13,000	-	-	A	-	-	A
27	"LQ" St	"O" St to "C" St	2D	13,000	-	-	A	-	-	A
28	"LQ" St	"C" St to "LY" St	2D	13,000	-	-	A	-	-	A
29	"LQ" St	"LY" St to "A" St	2D	13,000	-	-	A	-	-	A
30	"LQ" St	"A" St to "Z" St	2D	13,000	-	-	A	-	-	A

Table 6-3 Year 2013 (2012 Modified Project Option 2) Arterial Level of Service

#	Street Name	Limits	# Lanes	Capacity	2013 NP ADT			2013 WP ADT		
					ADT	V/C	LOS	ADT	V/C	LOS
1	Jeffrey Rd	Irvine Blvd to Bryan Ave	6D	54,000	15,856	0.290	A	15,986	0.300	A
2	Sand Canyon Ave	Portola Pkwy to Irvine Blvd	4D	32,000	12,428	0.230	A	12,698	0.400	A
3	Sand Canyon Ave	Irvine Blvd to Trabuco Rd	6D	54,000	23,063	0.430	A	24,573	0.460	A
4	Sand Canyon Ave	Trabuco Rd to Marine Way	8D	72,000	28,245	0.520	A	28,375	0.390	A
5	Sand Canyon Ave	Marine Way to Oak Canyon Rd	4D	32,000	25,000	0.460	A	25,040	0.780	C
6	Alton Pkwy	Irvine Blvd to Toledo Wy	6D	54,000	9,105	0.170	A	9,325	0.170	A
7	Alton Pkwy	Toledo Wy to Jeronimo Rd	6D	54,000	16,281	0.300	A	16,501	0.310	A
8	Alton Pkwy	Jeronimo Rd to Barranca Pkwy	6D	54,000	24,196	0.450	A	24,416	0.450	A
9	Portola Pkwy	Jeffrey Rd to Sand Canyon Ave	4D	32,000	9,988	0.180	A	10,028	0.310	A
10	Portola Pkwy	Sand Canyon Ave to Ridge Valley	4D	32,000	10,000	0.190	A	10,040	0.310	A
11	Portola Pkwy	Ridge Valley to Modjeska	4D	32,000	4,882	0.090	A	4,972	0.160	A
12	Irvine Blvd	Jeffrey Rd to Sand Canyon Ave	6D	54,000	22,364	0.410	A	23,384	0.430	A
13	Irvine Blvd	Sand Canyon Ave to SR-133 Fwy	6D	54,000	18,961	0.350	A	21,491	0.400	A
14	Irvine Blvd	SR-133 Fwy to Ridge Valley	4D	32,000	18,961	0.350	A	21,851	0.680	B
15	Irvine Blvd	Ridge Valley to "LY" St	4D	32,000	18,961	0.350	A	22,211	0.690	B
16	Irvine Blvd	"Z" St to "B" St	6D	54,000	18,961	0.350	A	23,051	0.430	A
17	Irvine Blvd	"LQ" St to Alton Pkwy	6D	54,000	18,961	0.350	A	19,181	0.360	A
18	Trabuco Rd	Jeffrey Rd to Sand Canyon Ave	4D	32,000	6,988	0.130	A	7,658	0.240	A
19	"O" St	Portola Pkwy to Irvine Blvd	4D	32,000	-	-	A	270	0.010	A

#	Street Name	Limits	# Lanes	Capacity	2013 NP ADT			2013 WP ADT		
					ADT	V/C	LOS	ADT	V/C	LOS
20	"O" St	Irvine Blvd to "C" St	4D	32,000	-	-	A	90	-	A
21	"O" St	"C" St to "LN" St	4D	32,000	-	-	A	40	-	A
22	"O" St	"LN" St to "LQ" St	4D	32,000	-	-	A	40	-	A
23	"O" St	"LQ" St to Trabuco Rd	4D	32,000	-	-	A	40	-	A
24	"O" St	Trabuco Rd to "LV" St	4D	32,000	-	-	A	-	-	A
25	"B" St	Irvine Blvd to "LQ" St	2D	13,000	-	-	A	2,000	0.150	A
26	"B" St	"LQ" St to Marine Wy	2D	13,000	-	-	A	-	-	A
27	"LQ" St	"O" St to "C" St	2D	13,000	-	-	A	-	-	A
28	"LQ" St	"C" St to "LY" St	2D	13,000	-	-	A	-	-	A
29	"LQ" St	"LY" St to "A" St	2D	13,000	-	-	A	-	-	A
30	"LQ" St	"A" St to "Z" St	2D	13,000	-	-	A	-	-	A

Table 6-4 Year 2013 Peak Hour Intersection LOS – 2011 Approved Project

Intersection	Control	AM Peak Hour							PM Peak Hour					
		No Project		With Project		Change in V/C	Impact	No Project		With Project		Change in V/C	Impact	
		V/C Delay	LOS	V/C Delay	LOS			V/C Delay	LOS	V/C Delay	LOS			
1	"B" St & Driveway 1	U	0.00	A	0.09	A	0.09		0.00	A	0.01	A	0.01	
2	"B" St & Driveway 2	U	0.00	A	0.08	A	0.08		0.00	A	0.02	A	0.02	
3	Driveway 3 & "LQ" St	U	0.00	A	0.04	A	0.04		0.00	A	0.02	A	0.02	
4	Driveway 4 & "LQ" St	U	0.00	A	0.05	A	0.05		0.00	A	0.01	A	0.01	
5	"LQ" St & Driveway 5	U	0.00	A	0.07	A	0.07		0.00	A	0.03	A	0.03	
6	"LQ" St & Driveway 6	U	0.00	A	0.19	A	0.19		0.00	A	0.08	A	0.08	
7	"LQ" St & Driveway 7	U	0.00	A	0.00	A	0.00		0.00	A	0.00	A	0.00	
282	Jeffrey Rd & Portola Pkwy	S	0.38	A	0.38	A	0.00		0.35	A	0.35	A	0.00	
283	Jeffrey Rd & Irvine Blvd	S	0.47	A	0.48	A	0.00		0.55	A	0.55	A	0.00	
284	Jeffrey Rd & Bryan Ave	S	0.46	A	0.46	A	0.00		0.38	A	0.38	A	0.00	

Intersection	Control	AM Peak Hour						PM Peak Hour						
		No Project		With Project		Change in V/C	Impact	No Project		With Project		Change in V/C	Impact	
		V/C Delay	LOS	V/C Delay	LOS			V/C Delay	LOS	V/C Delay	LOS			
285	Jeffrey Rd & Trabuco Rd	S	0.45	A	0.45	A	0.00		0.43	A	0.43	A	0.00	
300	Sand Canyon Ave & Portola Pkwy	S	0.26	A	0.27	A	0.00		0.29	A	0.29	A	0.00	
301	Sand Canyon Ave & Irvine Blvd	S	0.51	A	0.56	A	0.05		0.50	A	0.51	A	0.01	
302	Sand Canyon Ave & Trabuco Rd	S	0.39	A	0.43	A	0.04		0.38	A	0.38	A	0.00	
303	Sand Canyon Ave & I-5 NB Ramps	S	0.66	B	0.67	B	0.00		0.43	A	0.43	A	0.00	
304	Sand Canyon Ave & Marine Way	S	0.59	A	0.59	A	0.00		0.61	B	0.61	B	0.00	
305	Sand Canyon Ave & I-5 SB Ramps	S	0.70	B	0.71	C	0.01		0.73	C	0.73	C	0.00	
444	Sand Canyon Ave & Burt Rd	S	0.67	B	0.68	B	0.01		0.57	A	0.57	A	0.00	
306	Sand Canyon Ave & Oak Cyn Rd	S	0.29	A	0.29	A	0.00		0.29	A	0.29	A	0.00	
316	SR-133 SB Ramps & Irvine Blvd	S	0.39	A	0.46	A	0.07		0.41	A	0.41	A	0.00	
317	SR-133 NB Ramps & Irvine Blvd	S	0.40	A	0.54	A	0.14		0.44	A	0.46	A	0.02	
338	Alton Pkwy & Irvine Blvd	S	0.46	A	0.47	A	0.01		0.49	A	0.50	A	0.01	
339	Alton Pkwy & Toledo Way	S	0.38	A	0.39	A	0.01		0.36	A	0.36	A	0.00	
340	Alton Pkwy & Jeronimo Rd	S	0.37	A	0.37	A	0.01		0.35	A	0.35	A	0.00	
341	Alton Pkwy & Barranca Pkwy	S	0.45	A	0.46	A	0.01		0.57	A	0.57	A	0.00	
367	Bake Pkwy & I-5 NB Ramps	S	0.86	D	0.86	D	0.00		1.01	F	1.02	F	0.00	
368	Bake Pkwy & I-5/I-405 SB Ramps	S	0.61	B	0.61	B	0.00		0.67	B	0.67	B	0.00	
556	Ridge Valley & Portola Pkwy	S	0.35	A	0.35	A	0.00		0.25	A	0.25	A	0.00	
563	"B" St & Irvine Blvd	U	0.00	A	0.24	A	0.24		0.00	A	0.12	A	0.12	
571	Portola Springs & Portola Pkwy	S	0.18	A	0.18	A	0.00		0.15	A	0.15	A	0.00	
572	Modjeska/"A" St & Irvine Blvd	S	0.32	A	0.68	B	0.36		0.44	A	0.58	A	0.14	
800	"A-02" St/"LQ" St & Irvine Blvd	U	0.00	A	0.36	A	0.36		0.00	A	0.12	A	0.12	

Table 6-5 Year 2013 (2012 Modified Project Option 1) Peak Hour Intersection LOS – With Project

Intersection	Control	AM Peak Hour							PM Peak Hour					
		No Project		With Project		Change in V/C	Impact	No Project		With Project		Change in V/C	Impact	
		V/C Delay	LOS	V/C Delay	LOS			V/C Delay	LOS	V/C Delay	LOS			
1	"B" St & Driveway 1	U	0.00	A	0.02	A	0.02		0.00	A	0.02	A	0.02	
2	"B" St & Driveway 2	U	0.00	A	0.08	A	0.08		0.00	A	0.02	A	0.02	
3	Driveway 3 & "LQ" St	U	0.00	A	0.04	A	0.04		0.00	A	0.02	A	0.02	
4	Driveway 4 & "LQ" St	U	0.00	A	0.05	A	0.05		0.00	A	0.01	A	0.01	
5	"LQ" St & Driveway 5	U	0.00	A	0.07	A	0.07		0.00	A	0.03	A	0.03	
6	"LQ" St & Driveway 6	U	0.00	A	0.19	A	0.19		0.00	A	0.08	A	0.08	
7	"LQ" St & Driveway 7	U	0.00	A	0.00	A	0.00		0.00	A	0.00	A	0.00	
282	Jeffrey Rd & Portola Pkwy	S	0.38	A	0.38	A	0.00		0.35	A	0.35	A	0.00	
283	Jeffrey Rd & Irvine Blvd	S	0.47	A	0.48	A	0.00		0.55	A	0.55	A	0.00	
284	Jeffrey Rd & Bryan Ave	S	0.46	A	0.46	A	0.00		0.38	A	0.38	A	0.00	
285	Jeffrey Rd & Trabuco Rd	S	0.45	A	0.45	A	0.00		0.43	A	0.43	A	0.00	
300	Sand Canyon Ave & Portola Pkwy	S	0.26	A	0.27	A	0.01		0.29	A	0.29	A	0.00	
301	Sand Canyon Ave & Irvine Blvd	S	0.51	A	0.56	A	0.05		0.50	A	0.51	A	0.01	
302	Sand Canyon Ave & Trabuco Rd	S	0.39	A	0.43	A	0.04		0.38	A	0.38	A	0.00	
303	Sand Canyon Ave & I-5 NB Ramps	S	0.66	B	0.67	B	0.00		0.43	A	0.43	A	0.00	
304	Sand Canyon Ave & Marine Way	S	0.59	A	0.59	A	0.00		0.61	B	0.61	B	0.00	
305	Sand Canyon Ave & I-5 SB Ramps	S	0.70	B	0.71	C	0.01		0.73	C	0.73	C	0.00	
444	Sand Canyon Ave & Burt Rd	S	0.67	B	0.68	B	0.00		0.57	A	0.57	A	0.00	
306	Sand Canyon Ave & Oak Cyn Rd	S	0.29	A	0.29	A	0.00		0.29	A	0.29	A	0.00	
316	SR-133 SB Ramps & Irvine Blvd	S	0.39	A	0.46	A	0.07		0.41	A	0.41	A	0.00	
317	SR-133 NB Ramps & Irvine Blvd	S	0.40	A	0.53	A	0.14		0.44	A	0.46	A	0.02	
338	Alton Pkwy & Irvine Blvd	S	0.46	A	0.47	A	0.01		0.49	A	0.50	A	0.01	
339	Alton Pkwy & Toledo Way	S	0.38	A	0.39	A	0.01		0.36	A	0.36	A	0.00	
340	Alton Pkwy & Jeronimo Rd	S	0.37	A	0.37	A	0.01		0.35	A	0.35	A	0.00	
341	Alton Pkwy & Barranca Pkwy	S	0.45	A	0.46	A	0.01		0.57	A	0.57	A	0.00	
367	Bake Pkwy & I-5 NB Ramps	S	0.86	D	0.86	D	0.00		1.01	F	1.02	F	0.00	
368	Bake Pkwy & I-5/I-405 SB Ramps	S	0.61	B	0.61	B	0.00		0.67	B	0.67	B	0.00	

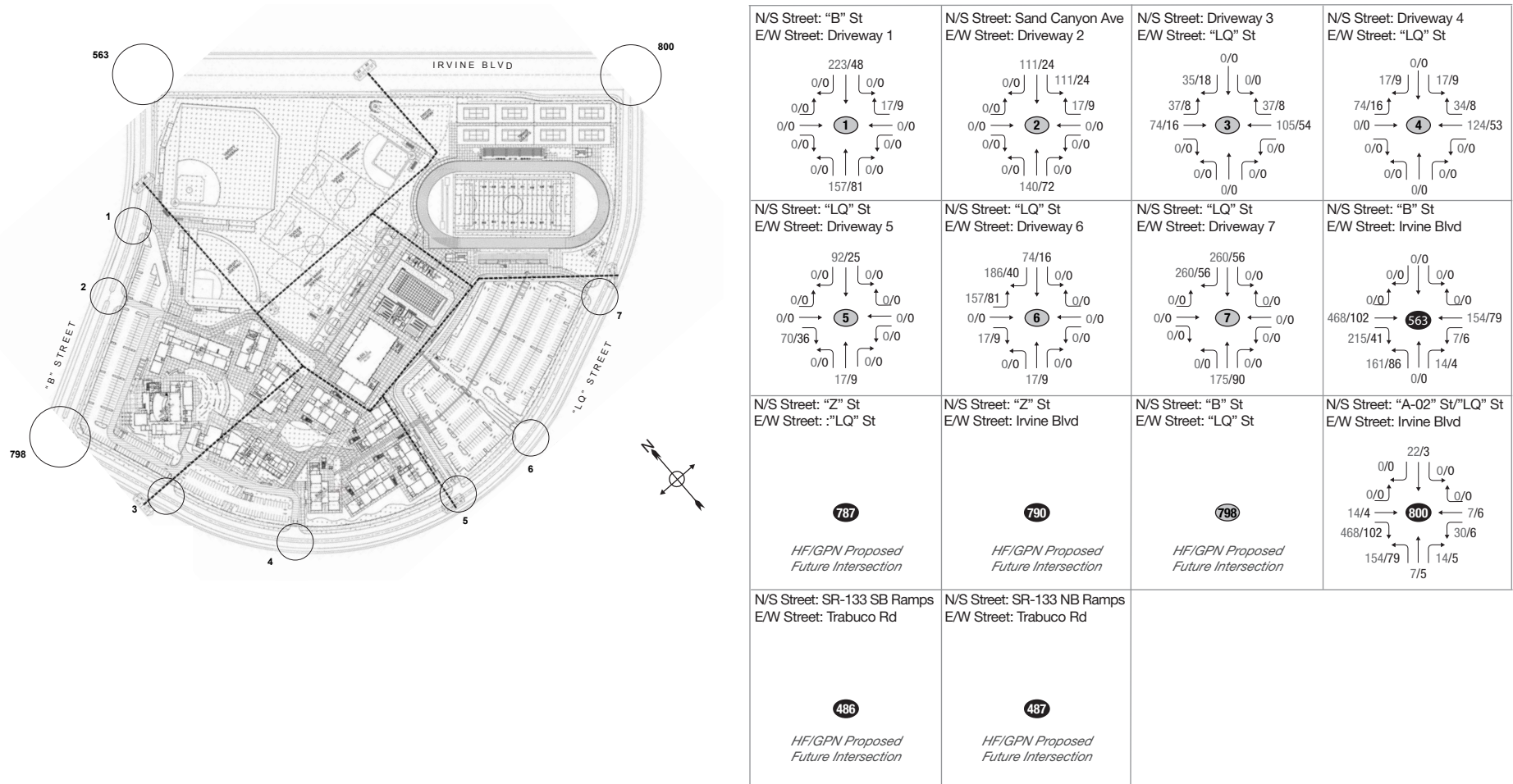
Intersection		Control	AM Peak Hour						PM Peak Hour					
			No Project		With Project		Change in V/C	Impact	No Project		With Project		Change in V/C	Impact
			V/C Delay	LOS	V/C Delay	LOS			V/C Delay	LOS	V/C Delay	LOS		
556	Ridge Valley & Portola Pkwy	S	0.35	A	0.35	A	0.00		0.25	A	0.25	A	0.00	
563	"B" St & Irvine Blvd	U	0.00	A	0.24	A	0.24		0.00	A	0.12	A	0.12	
571	Portola Springs & Portola Pkwy	S	0.18	A	0.18	A	0.01		0.15	A	0.15	A	0.00	
572	Modjeska/"A" St & Irvine Blvd	S	0.32	A	0.68	B	0.36		0.44	A	0.58	A	0.14	
800	"A-02" St/"LQ" St & Irvine Blvd	U	0.00	A	0.36	A	0.36		0.00	A	0.12	A	0.12	

Table 6-6 Year 2013 (2012 Modified Project Option 2) Peak Hour Intersection LOS – With Project

Intersection	Control	AM Peak Hour							PM Peak Hour					
		No Project		With Project		Change in V/C	Impact	No Project		With Project		Change in V/C	Impact	
		V/C Delay	LOS	V/C Delay	LOS			V/C Delay	LOS	V/C Delay	LOS			
1	"B" St & Driveway 1	U	0.00	A	0.02	A	0.02		0.00	A	0.01	A	0.01	
2	"B" St & Driveway 2	U	0.00	A	0.08	A	0.08		0.00	A	0.02	A	0.02	
3	Driveway 3 & "LQ" St	U	0.00	A	0.04	A	0.04		0.00	A	0.02	A	0.02	
4	Driveway 4 & "LQ" St	U	0.00	A	0.05	A	0.05		0.00	A	0.01	A	0.01	
5	"LQ" St & Driveway 5	U	0.00	A	0.07	A	0.07		0.00	A	0.03	A	0.03	
6	"LQ" St & Driveway 6	U	0.00	A	0.19	A	0.19		0.00	A	0.08	A	0.08	
7	"LQ" St & Driveway 7	U	0.00	A	0.00	A	0.00		0.00	A	0.00	A	0.00	
282	Jeffrey Rd & Portola Pkwy	S	0.38	A	0.38	A	0.00		0.35	A	0.35	A	0.00	
283	Jeffrey Rd & Irvine Blvd	S	0.47	A	0.48	A	0.00		0.55	A	0.55	A	0.00	
284	Jeffrey Rd & Bryan Ave	S	0.46	A	0.46	A	0.00		0.38	A	0.38	A	0.00	
285	Jeffrey Rd & Trabuco Rd	S	0.45	A	0.45	A	0.00		0.43	A	0.43	A	0.00	
300	Sand Canyon Ave & Portola Pkwy	S	0.26	A	0.27	A	0.00		0.29	A	0.29	A	0.00	
301	Sand Canyon Ave & Irvine Blvd	S	0.51	A	0.56	A	0.05		0.50	A	0.51	A	0.01	
302	Sand Canyon Ave & Trabuco Rd	S	0.39	A	0.43	A	0.04		0.38	A	0.38	A	0.01	
303	Sand Canyon Ave & I-5 NB Ramps	S	0.66	B	0.67	B	0.00		0.43	A	0.43	A	0.00	
304	Sand Canyon Ave & Marine Way	S	0.59	A	0.59	A	0.00		0.61	B	0.61	B	0.00	
305	Sand Canyon Ave & I-5 SB Ramps	S	0.70	B	0.71	C	0.01		0.73	C	0.73	C	0.00	
444	Sand Canyon Ave & Burt Rd	S	0.67	B	0.68	B	0.00		0.57	A	0.57	A	0.00	
306	Sand Canyon Ave & Oak Cyn Rd	S	0.29	A	0.29	A	0.00		0.29	A	0.29	A	0.00	
316	SR-133 SB Ramps & Irvine Blvd	S	0.39	A	0.46	A	0.07		0.41	A	0.41	A	0.00	
317	SR-133 NB Ramps & Irvine Blvd	S	0.40	A	0.54	A	0.14		0.44	A	0.46	A	0.02	
338	Alton Pkwy & Irvine Blvd	S	0.46	A	0.47	A	0.01		0.49	A	0.50	A	0.01	
339	Alton Pkwy & Toledo Way	S	0.38	A	0.39	A	0.00		0.36	A	0.36	A	0.00	
340	Alton Pkwy & Jeronimo Rd	S	0.37	A	0.37	A	0.01		0.35	A	0.35	A	0.00	
341	Alton Pkwy & Barranca Pkwy	S	0.45	A	0.46	A	0.01		0.57	A	0.57	A	0.00	
367	Bake Pkwy & I-5 NB Ramps	S	0.86	D	0.86	D	0.00		1.01	F	1.02	F	0.00	
368	Bake Pkwy & I-5/I-405 SB Ramps	S	0.61	B	0.61	B	0.00		0.67	B	0.67	B	0.00	

Intersection		Control	AM Peak Hour						PM Peak Hour					
			No Project		With Project		Change in V/C	Impact	No Project		With Project		Change in V/C	Impact
			V/C Delay	LOS	V/C Delay	LOS			V/C Delay	LOS	V/C Delay	LOS		
556	Ridge Valley & Portola Pkwy	S	0.35	A	0.35	A	0.00		0.25	A	0.25	A	0.00	
563	"B" St & Irvine Blvd	U	0.00	A	0.34	A	0.34		0.00	A	0.10	A	0.10	
571	Portola Springs & Portola Pkwy	S	0.18	A	0.18	A	0.01		0.15	A	0.15	A	0.00	
572	Modjeska/"A" St & Irvine Blvd	S	0.32	A	0.68	B	0.36		0.44	A	0.58	A	0.14	
800	"A-02" St/"LQ" St & Irvine Blvd	U	0.00	A	0.18	A	0.18		0.00	A	0.08	A	0.08	

Figure 6.1 Year 2013 Peak Hour Volumes – 2011 Approved Project – With Project



LEGEND

- Study Intersection - Signalized
- Study Intersection - Unsignalized
- Study Intersection - Roundabout
- # Study Intersection Number
- ## Turning Movement Volume
- ## AM Peak Hour/PM Peak Hour

Figure 6.1 Year 2013 Peak Hour Volumes – 2011 Approved Project – With Project

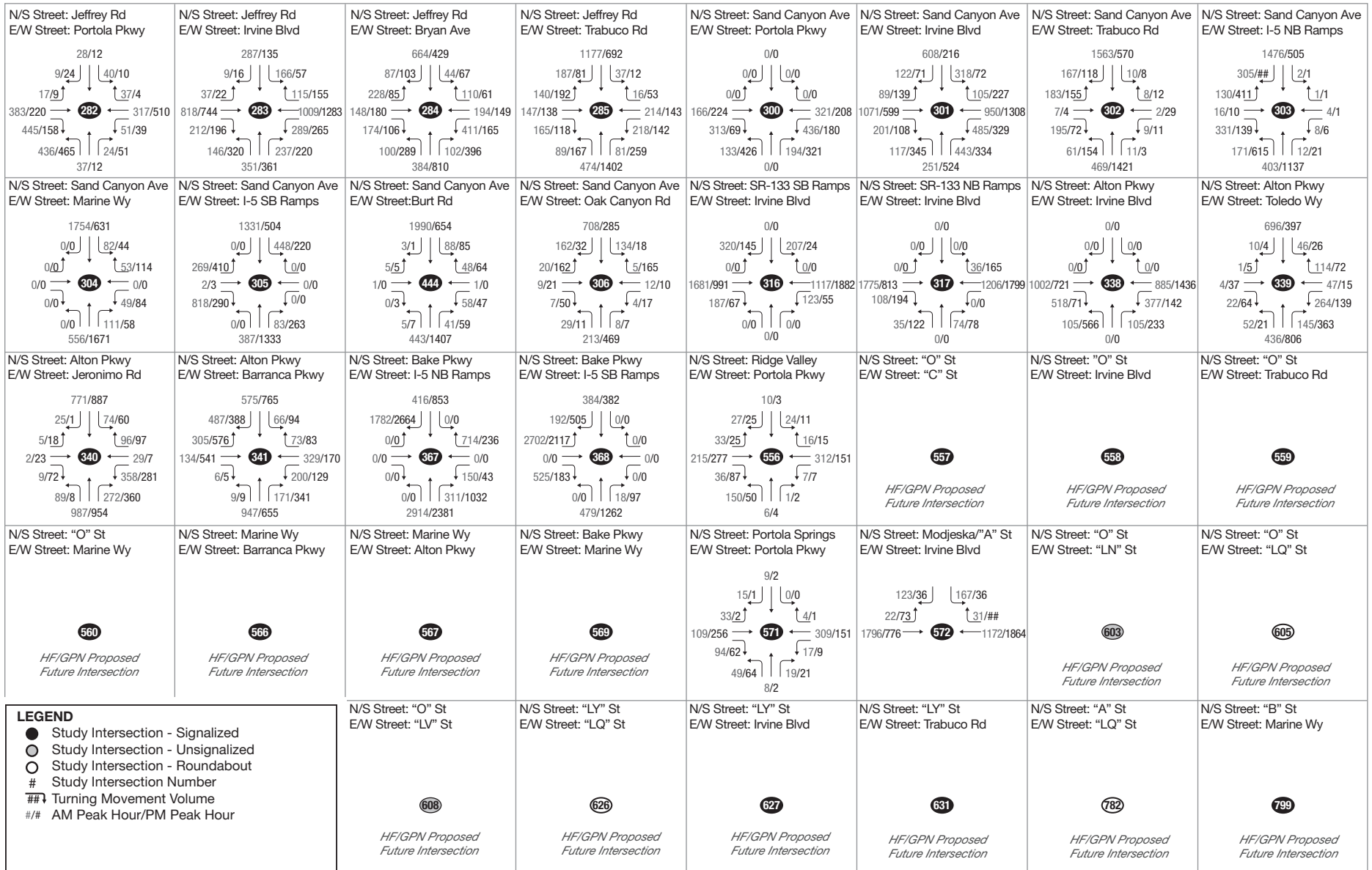
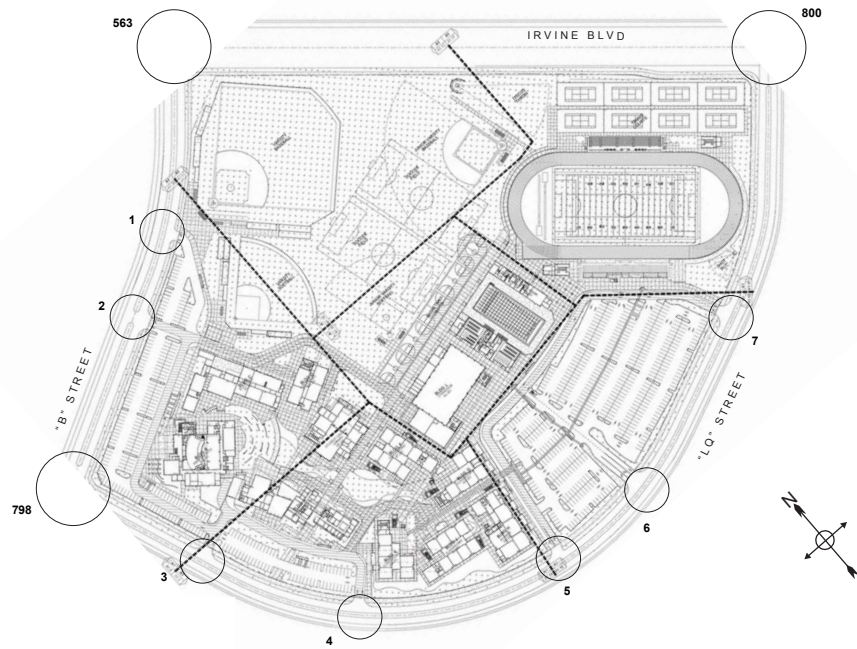


Figure 6.2 Year 2013 Peak Hour Volumes – 2012 Modified Project Options 1 – With Project



<p>N/S Street: "B" St E/W Street: Driveway 1</p> <p>223/223 0/0 ↓ 0/0 0/0 → 1 ← 0/0 0/0 ↓ 0/0 157/157</p>	<p>N/S Street: Sand Canyon Ave E/W Street: Driveway 2</p> <p>111/24 0/0 ↓ 111/24 0/0 → 2 ← 0/0 0/0 ↓ 0/0 140/72</p>	<p>N/S Street: Driveway 3 E/W Street: "LQ" St</p> <p>0/0 35/18 ↓ 0/0 37/8 → 3 ← 37/8 74/16 → 3 ← 105/54 0/0 ↓ 0/0 0/0</p>	<p>N/S Street: Driveway 4 E/W Street: "LQ" St</p> <p>0/0 17/9 ↓ 17/9 74/16 → 4 ← 37/8 0/0 → 4 ← 124/53 0/0 ↓ 0/0 0/0</p>
<p>N/S Street: "LQ" St E/W Street: Driveway 5</p> <p>92/25 0/0 ↓ 0/0 0/0 → 5 ← 0/0 70/36 ↓ 0/0 17/9</p>	<p>N/S Street: "LQ" St E/W Street: Driveway 6</p> <p>74/16 186/40 ↓ 0/0 157/81 → 6 ← 0/0 0/0 → 6 ← 0/0 17/9 ↓ 0/0 17/9</p>	<p>N/S Street: "LQ" St E/W Street: Driveway 7</p> <p>260/56 260/56 ↓ 0/0 0/0 → 7 ← 0/0 0/0 → 7 ← 0/0 0/0 ↓ 0/0 175/90</p>	<p>N/S Street: "B" St E/W Street: Irvine Blvd</p> <p>0/0 0/0 ↓ 0/0 0/0 → 563 ← 0/0 468/102 → 563 ← 154/79 215/41 ↓ 7/0 161/86 → 14/4 0/0</p>
<p>N/S Street: "Z" St E/W Street: "LQ" St</p> <p style="text-align: center;">787</p> <p><i>HF/GPN Proposed Future Intersection</i></p>	<p>N/S Street: "Z" St E/W Street: Irvine Blvd</p> <p style="text-align: center;">790</p> <p><i>HF/GPN Proposed Future Intersection</i></p>	<p>N/S Street: "B" St E/W Street: "LQ" St</p> <p style="text-align: center;">798</p> <p><i>HF/GPN Proposed Future Intersection</i></p>	<p>N/S Street: "A-02" St/"LQ" St E/W Street: Irvine Blvd</p> <p>22/3 0/0 ↓ 0/0 14/4 → 800 ← 7/6 468/102 ↓ 30/0 154/79 → 14/5 7/5</p>
<p>N/S Street: SR-133 SB Ramps E/W Street: Trabuco Rd</p> <p style="text-align: center;">486</p> <p><i>HF/GPN Proposed Future Intersection</i></p>	<p>N/S Street: SR-133 NB Ramps E/W Street: Trabuco Rd</p> <p style="text-align: center;">487</p> <p><i>HF/GPN Proposed Future Intersection</i></p>		

LEGEND	
●	Study Intersection - Signalized
○	Study Intersection - Unsignalized
○	Study Intersection - Roundabout
#	Study Intersection Number
##	Turning Movement Volume
##	AM Peak Hour/PM Peak Hour

Figure 6.2 Year 2013 Peak Hour Volumes – 2012 Modified Project Options 1 – With Project

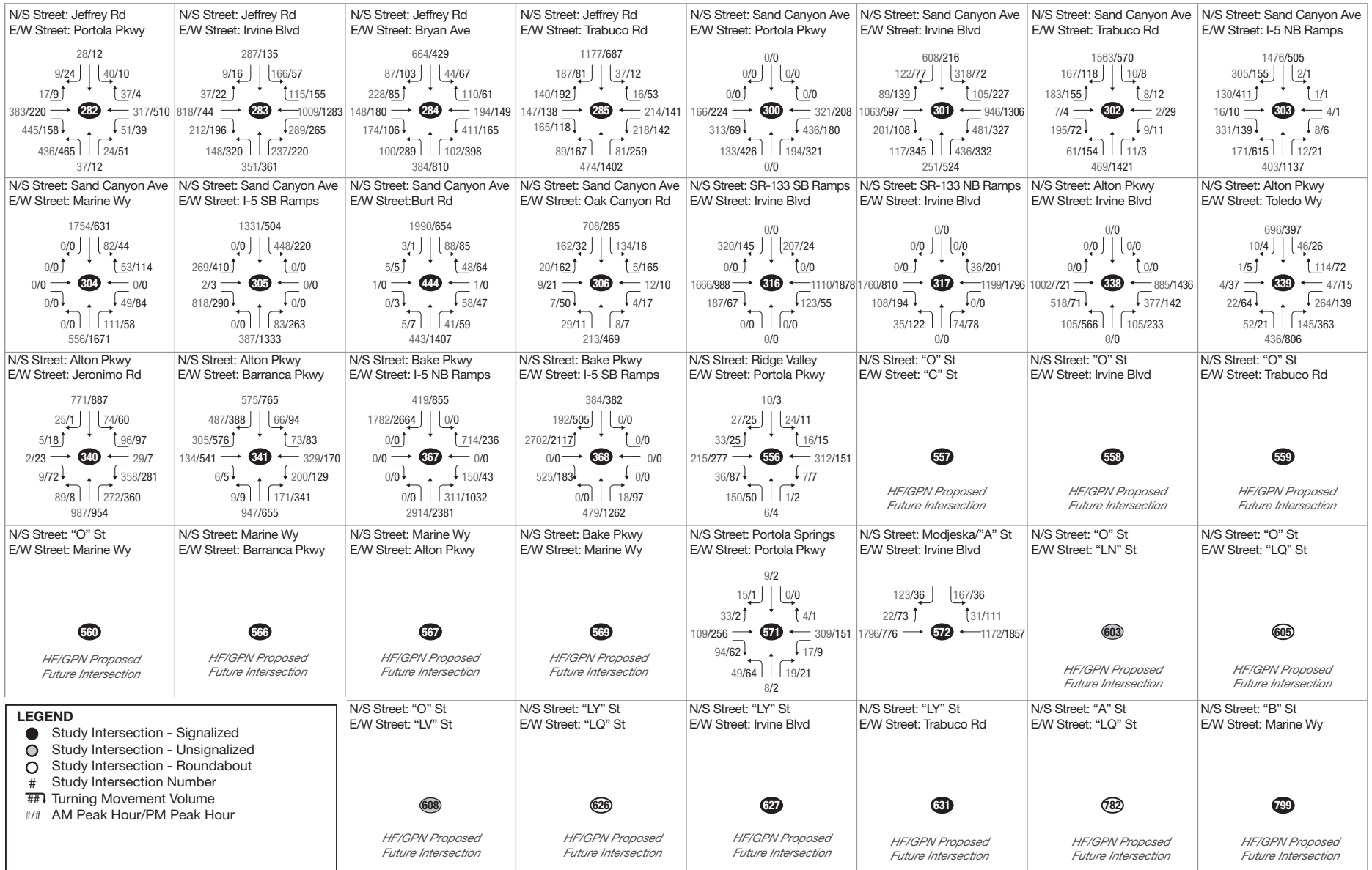
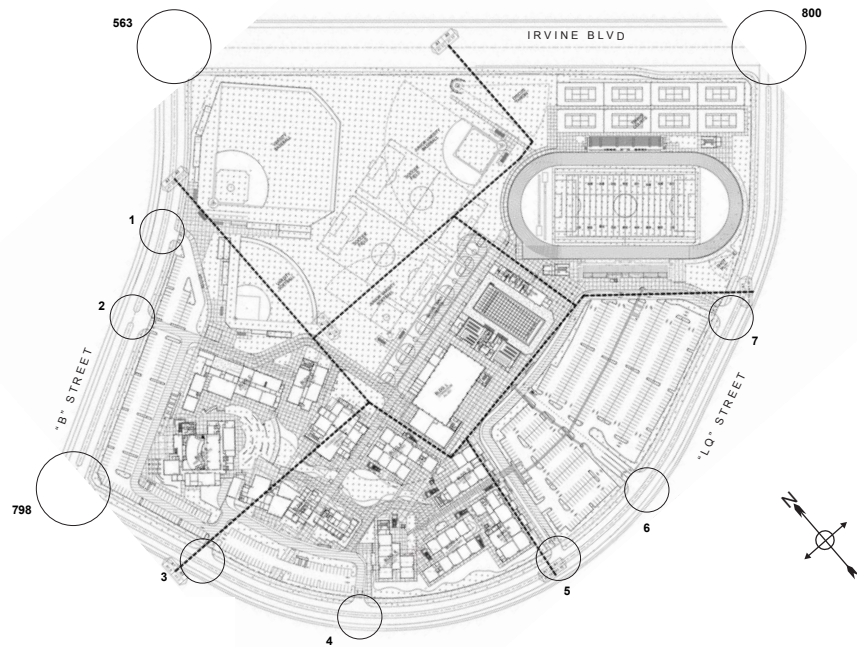


Figure 6.3 Year 2013 Peak Hour Volumes – 2012 Modified Project Options 2 – With Project

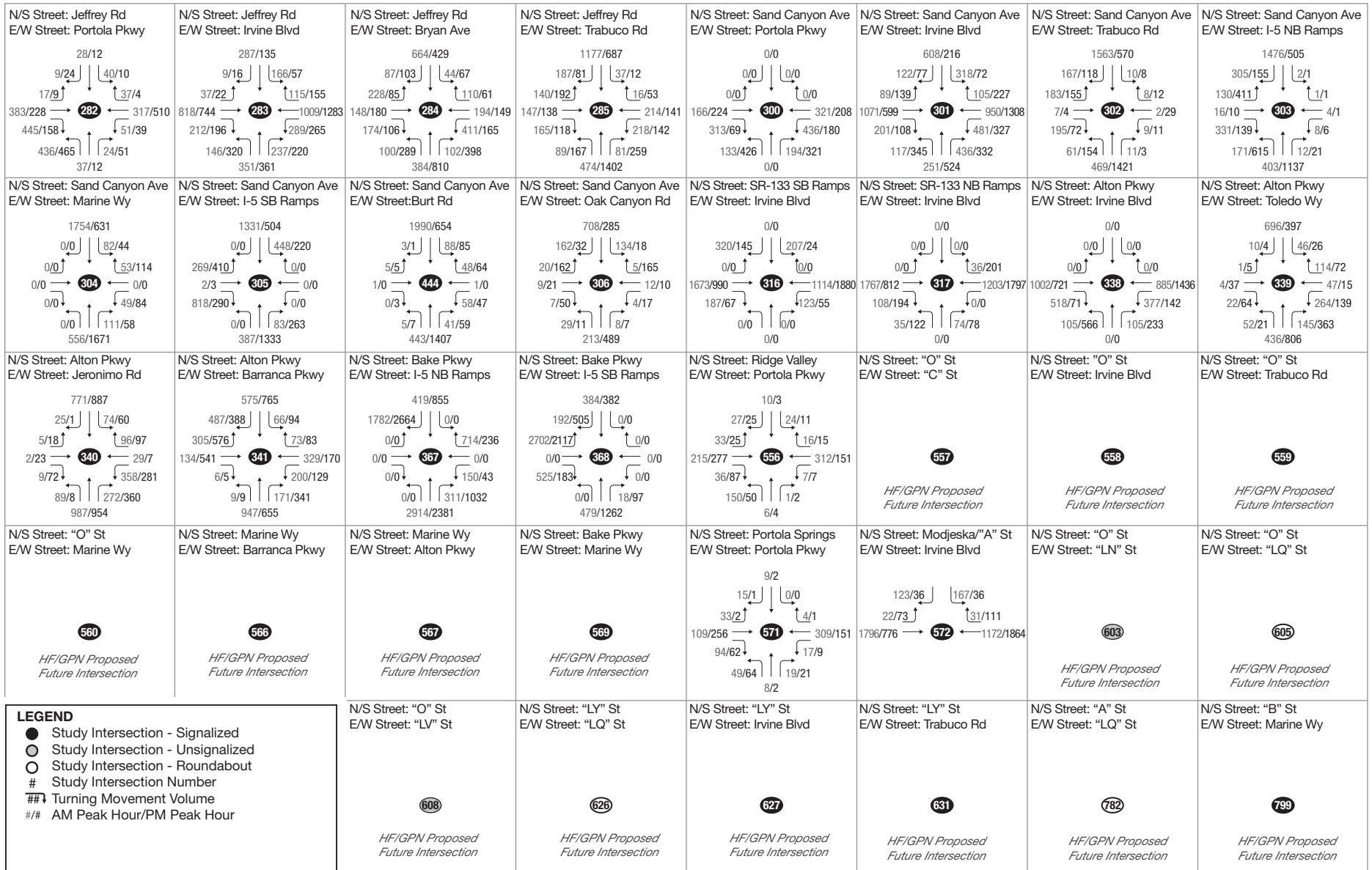


<p>N/S Street: "B" St E/W Street: Driveway 1</p> <p>223/48 0/0 ↓ 0/0 0/0 ↑ 17/9 0/0 → 1 0/0 ← 0/0 0/0 ↓ 0/0 157/81</p>	<p>N/S Street: Sand Canyon Ave E/W Street: Driveway 2</p> <p>111/24 0/0 ↓ 111/24 0/0 ↑ 17/9 0/0 → 2 0/0 ← 0/0 0/0 ↓ 0/0 140/72</p>	<p>N/S Street: Driveway 3 E/W Street: "LQ" St</p> <p>0/0 35/18 ↓ 0/0 37/8 ↑ 37/8 74/16 → 3 105/54 ← 0/0 0/0 ↓ 0/0 0/0</p>	<p>N/S Street: Driveway 4 E/W Street: "LQ" St</p> <p>111/0 0/9 ↓ 111/9 0/16 ↑ 17/8 0/0 → 4 0/53 ← 0/0 0/0 ↓ 0/0 140/0</p>
<p>N/S Street: "LQ" St E/W Street: Driveway 5</p> <p>92/25 0/0 ↓ 0/0 0/0 ↑ 0/0 0/0 → 5 70/36 ← 0/0 0/0 ↓ 0/0 17/9</p>	<p>N/S Street: "LQ" St E/W Street: Driveway 6</p> <p>74/16 186/40 ↓ 0/0 157/81 ↑ 0/0 0/0 → 6 17/9 ← 0/0 0/0 ↓ 0/0 17/9</p>	<p>N/S Street: "LQ" St E/W Street: Driveway 7</p> <p>260/56 260/56 ↓ 0/0 0/0 ↑ 0/0 0/0 → 7 0/0 ← 0/0 0/0 ↓ 0/0 175/90</p>	<p>N/S Street: "B" St E/W Street: Irvine Blvd</p> <p>0/0 0/0 ↓ 0/0 0/0 ↑ 0/0 468/102 → 563 154/79 ← 0/0 215/41 ↓ 7/6 161/86 ↑ 14/4 0/0</p>
<p>N/S Street: "Z" St E/W Street: "LQ" St</p> <p style="text-align: center;">787</p> <p style="text-align: center;"><i>HF/GPN Proposed Future Intersection</i></p>	<p>N/S Street: "Z" St E/W Street: Irvine Blvd</p> <p style="text-align: center;">790</p>	<p>N/S Street: "B" St E/W Street: "LQ" St</p> <p style="text-align: center;">798</p> <p style="text-align: center;"><i>HF/GPN Proposed Future Intersection</i></p>	<p>N/S Street: "A-02" St/"LQ" St E/W Street: Irvine Blvd</p> <p style="text-align: center;">22/3 ↓ 14/4 → 800 ← 7/6 468/102 ↓ 30/6 154/79 ↑ 14/5 7/5</p>
<p>N/S Street: SR-133 SB Ramps E/W Street: Trabuco Rd</p> <p style="text-align: center;">486</p> <p style="text-align: center;"><i>HF/GPN Proposed Future Intersection</i></p>	<p>N/S Street: SR-133 NB Ramps E/W Street: Trabuco Rd</p> <p style="text-align: center;">487</p> <p style="text-align: center;"><i>HF/GPN Proposed Future Intersection</i></p>		

LEGEND

- Study Intersection - Signalized
- Study Intersection - Unsignalized
- Study Intersection - Roundabout
- # Study Intersection Number
- ## Turning Movement Volume
- ## AM Peak Hour/PM Peak Hour

Figure 6.3 Year 2013 Peak Hour Volumes – 2012 Modified Project Options 2 – With Project



7. Future Conditions With Proposed Project

The forecast year 2017, 2035, and post-2035 intersection volumes with project generated trips and the corresponding level of service analysis results are presented in this section.

7.1 PROJECTED TRAFFIC AND LOS

7.1.1 Year 2017

Year 2017 forecast intersection volumes with project are shown in Figure 7.1. Year 2017 with project (2011 Approved Project) ADT volumes on study area arterials are listed in Table 7-1. As seen in Table 7-1, all study area segments are calculated to operate at LOS A under 2017 with project (2011 Approved Project) conditions.

Year 2017 With Project deficient segment locations for the 2012 Modified Project Options 1 and 2 scenarios include:

- Irvine Boulevard: "LQ" St to Alton Parkway - LOS F

Year 2017 with project (2011 Approved Project) intersection volumes are shown in Figure 7.1. Figures 7.2 and 7.3 show the 2017 - 2012 Modified Project Option 1 and 2, respectively. A summary of the level of service intersection analysis results for the 2017 with project (2011 Approved Project) condition is included in Table 7-4. Table 7-5 includes a summary of the 2017 (2012 Modified Project Option 1) with project, and Table 7-6 includes the 2017 (2012 Modified Project Option 2) with project analysis summary results.

Year 2017 (2011 Approved Project) With Project deficient intersection locations:

- Sand Canyon Avenue and Oak Canyon Road (#306) - LOS E PM

Year 2017 (2012 Modified Project Option 1) With Project deficient intersection location:

- Sand Canyon Avenue and Oak Canyon Road (#306) - LOS F, PM

Year 2017 (2012 Modified Project Option 2) With Project deficient intersection locations:

- Sand Canyon Avenue and Oak Canyon Road (#306) - LOS F, PM

Table 7-1 Year 2017 (2011 Approved Project) Arterial Level of Service

#	Street Name	Limits	# Lanes	Capacity	2017 NP ADT			2017 WP ADT		
					ADT	V/C	LOS	ADT	V/C	LOS
1	Jeffrey Rd	Irvine Blvd to Bryan Ave	6D	54,000	17,316	0.320	A	17,446	0.320	A
2	Sand Canyon Ave	Portola Pkwy to Irvine Blvd	4D	32,000	13,572	0.420	A	13,842	0.430	A
3	Sand Canyon Ave	Irvine Blvd to Trabuco Rd	6D	54,000	25,187	0.470	A	26,697	0.490	A
4	Sand Canyon Ave	Trabuco Rd to Marine Way	8D	72,000	30,846	0.430	A	30,976	0.430	A
5	Sand Canyon Ave	Marine Way to Oak Canyon Rd	6D	54,000	27,302	0.510	A	27,342	0.510	A
6	Alton Pkwy	Irvine Blvd to Toledo Wy	6D	54,000	9,944	0.180	A	10,164	0.190	A
7	Alton Pkwy	Toledo Wy to Jeronimo Rd	6D	54,000	17,780	0.330	A	18,000	0.330	A
8	Alton Pkwy	Jeronimo Rd to Barranca Pkwy	6D	54,000	26,424	0.490	A	26,644	0.490	A
9	Portola Pkwy	Jeffrey Rd to Sand Canyon Ave	4D	32,000	10,908	0.340	A	10,948	0.340	A
10	Portola Pkwy	Sand Canyon Ave to Ridge Valley	4D	32,000	10,921	0.340	A	10,961	0.340	A
11	Portola Pkwy	Ridge Valley to Modjeska	4D	32,000	5,332	0.170	A	5,422	0.170	A
12	Irvine Blvd	Jeffrey Rd to Sand Canyon Ave	6D	54,000	24,423	0.450	A	25,493	0.470	A
13	Irvine Blvd	Sand Canyon Ave to SR-133 Fwy	6D	54,000	20,707	0.380	A	23,637	0.440	A
14	Irvine Blvd	SR-133 Fwy to Ridge Valley	6D	54,000	20,707	0.380	A	23,637	0.440	A
15	Irvine Blvd	Ridge Valley to "LY" St	5D	42,000	20,707	0.490	A	23,997	0.570	A
16	Irvine Blvd	"Z" St to "B" St	6D	54,000	20,707	0.380	A	24,797	0.460	A
17	Irvine Blvd	"LQ" St to Alton Pkwy	5D	42,000	20,707	0.490	A	20,927	0.500	A
18	Trabuco Rd	Jeffrey Rd to Sand Canyon Ave	4D	32,000	7,631	0.240	A	8,301	0.260	A
19	"O" St	Portola Pkwy to Irvine Blvd	4D	32,000	-	-	A	270	0.010	A
20	"O" St	Irvine Blvd to "C" St	4D	32,000	-	-	A	40	-	A
21	"O" St	"C" St to "LN" St	4D	32,000	-	-	A	40	-	A
22	"O" St	"LN" St to "LQ" St	4D	32,000	-	-	A	40	-	A
23	"O" St	"LQ" St to Trabuco Rd	4D	32,000	-	-	A	40	-	A
24	"O" St	Trabuco Rd to "LV" St	4D	32,000	-	-	A	2,000	0.150	A
25	"B" St	Irvine Blvd to "LQ" St	2D	13,000	-	-	A	-	-	A
26	"B" St	"LQ" St to Marine Wy	2D	13,000	-	-	A	-	-	A
27	"LQ" St	"O" St to "C" St	2D	13,000	-	-	A	-	-	A
28	"LQ" St	"C" St to "LY" St	2D	13,000	-	-	A	-	-	A
29	"LQ" St	"LY" St to "A" St	2D	13,000	-	-	A	-	-	A

#	Street Name	Limits	# Lanes	Capacity	2017 NP ADT			2017 WP ADT		
					ADT	V/C	LOS	ADT	V/C	LOS
30	"LQ" St	"A" St to "Z" St	2D	13,000	-	-	A	-		A

Table 7-2 Year 2017 (2012 Modified Project Option 1) Arterial Level of Service

#	Street Name	Limits	# Lanes	Capacity	2017 NP ADT			2017 WP ADT		
					ADT	V/C	LOS	ADT	V/C	LOS
1	Jeffrey Rd	Irvine Blvd to Bryan Ave	6D	54,000	26,248	0.490	A	26,378	0.490	A
2	Sand Canyon Ave	Portola Pkwy to Irvine Blvd	4D	32,000	21,094	0.660	B	21,364	0.670	B
3	Sand Canyon Ave	Irvine Blvd to Trabuco Rd	6D	54,000	25,031	0.460	A	26,501	0.490	A
4	Sand Canyon Ave	Trabuco Rd to Marine Way	8D	72,000	58,559	0.810	D	58,689	0.820	D
5	Sand Canyon Ave	Marine Way to Oak Canyon Rd	6D	54,000	45,307	0.840	D	45,347	0.840	D
6	Alton Pkwy	Irvine Blvd to Toledo Wy	6D	54,000	28,814	0.530	A	29,034	0.540	A
7	Alton Pkwy	Toledo Wy to Jeronimo Rd	6D	54,000	32,495	0.600	A	32,715	0.610	B
8	Alton Pkwy	Jeronimo Rd to Barranca Pkwy	6D	54,000	38,937	0.720	C	39,157	0.730	C
9	Portola Pkwy	Jeffrey Rd to Sand Canyon Ave	4D	32,000	19,489	0.610	B	19,529	0.610	B
10	Portola Pkwy	Sand Canyon Ave to Ridge Valley	4D	32,000	18,875	0.590	A	18,915	0.590	A
11	Portola Pkwy	Ridge Valley to Modjeska	4D	32,000	19,182	0.600	A	19,272	0.600	A
12	Irvine Blvd	Jeffrey Rd to Sand Canyon Ave	6D	54,000	30,961	0.570	A	31,981	0.590	A
13	Irvine Blvd	Sand Canyon Ave to SR-133 Fwy	6D	54,000	34,264	0.630	B	36,754	0.680	B
14	Irvine Blvd	SR-133 Fwy to Ridge Valley	6D	54,000	36,861	0.680	B	39,711	0.740	C
15	Irvine Blvd	Ridge Valley to "LY" St	5D	42,000	30,624	0.730	C	33,874	0.810	D
16	Irvine Blvd	"Z" St to "B" St	6D	54,000	39,458	0.730	C	43,368	0.800	C
17	Irvine Blvd	"LQ" St to Alton Pkwy	5D	42,000	45,634	1.090	F	45,854	1.090	F
18	Trabuco Rd	Jeffrey Rd to Sand Canyon Ave	4D	32,000	16,288	0.510	A	16,958	0.530	A
19	"O" St	Portola Pkwy to Irvine Blvd	4D	32,000	10,665	0.330	A	10,935	0.340	A
20	"O" St	Irvine Blvd to "C" St	4D	32,000	9,683	0.300	A	9,813	0.310	A
21	"O" St	"C" St to "LN" St	4D	32,000	6,554	0.200	A	6,644	0.210	A
22	"O" St	"LN" St to "LQ" St	4D	32,000	9,315	0.290	A	9,405	0.290	A
23	"O" St	"LQ" St to Trabuco Rd	4D	32,000	12,740	0.400	A	12,830	0.400	A
24	"O" St	Trabuco Rd to "LV" St	4D	32,000	4,356	0.140	A	4,396	0.140	A

#	Street Name	Limits	# Lanes	Capacity	2017 NP ADT			2017 WP ADT		
					ADT	V/C	LOS	ADT	V/C	LOS
25	"B" St	Irvine Blvd to "LQ" St	2D	13,000	-	-	A	2,000	0.150	A
26	"B" St	"LQ" St to Marine Wy	2D	13,000	-	-	A	-	-	A
27	"LQ" St	"O" St to "C" St	2D	13,000	4,806	0.370	A	4,806	0.370	A
28	"LQ" St	"C" St to "LY" St	2D	13,000	5,419	0.420	A	5,419	0.420	A
29	"LQ" St	"LY" St to "A" St	2D	13,000	5,061	0.390	A	5,061	0.390	A
30	"LQ" St	"A" St to "Z" St	2D	13,000	3,323	0.260	A	3,323	0.260	A

Table 7-3 Year 2017 (2012 Modified Project Option 2) Arterial Level of Service

#	Street Name	Limits	# Lanes	Capacity	2017 NP ADT			2017 WP ADT		
					ADT	V/C	LOS	ADT	V/C	LOS
1	Jeffrey Rd	Irvine Blvd to Bryan Ave	6D	54,000	26,248	0.490	A	26,378	0.490	A
2	Sand Canyon Ave	Portola Pkwy to Irvine Blvd	4D	32,000	21,094	0.660	B	21,364	0.670	B
3	Sand Canyon Ave	Irvine Blvd to Trabuco Rd	6D	54,000	24,990	0.460	A	26,500	0.490	A
4	Sand Canyon Ave	Trabuco Rd to Marine Way	8D	72,000	58,252	0.810	D	58,382	0.810	D
5	Sand Canyon Ave	Marine Way to Oak Canyon Rd	6D	54,000	45,358	0.840	D	45,398	0.840	D
6	Alton Pkwy	Irvine Blvd to Toledo Wy	6D	54,000	28,814	0.530	A	29,034	0.540	A
7	Alton Pkwy	Toledo Wy to Jeronimo Rd	6D	54,000	32,495	0.600	A	32,715	0.610	B
8	Alton Pkwy	Jeronimo Rd to Barranca Pkwy	6D	54,000	38,937	0.720	C	39,157	0.730	C
9	Portola Pkwy	Jeffrey Rd to Sand Canyon Ave	4D	32,000	19,591	0.610	B	19,631	0.610	B
10	Portola Pkwy	Sand Canyon Ave to Ridge Valley	4D	32,000	17,802	0.560	A	17,842	0.560	A
11	Portola Pkwy	Ridge Valley to Modjeska	4D	32,000	19,131	0.600	A	19,221	0.600	A
12	Irvine Blvd	Jeffrey Rd to Sand Canyon Ave	6D	54,000	30,961	0.570	A	31,981	0.590	A
13	Irvine Blvd	Sand Canyon Ave to SR-133 Fwy	6D	54,000	34,121	0.630	B	36,651	0.680	B
14	Irvine Blvd	SR-133 Fwy to Ridge Valley	6D	54,000	36,718	0.680	B	39,608	0.730	C
15	Irvine Blvd	Ridge Valley to "LY" St	5D	42,000	30,522	0.730	C	33,772	0.800	C
16	Irvine Blvd	"Z" St to "B" St	6D	54,000	39,274	0.730	C	43,364	0.800	C
17	Irvine Blvd	"LQ" St to Alton Pkwy	5D	42,000	45,634	1.090	F	45,854	1.090	F
18	Trabuco Rd	Jeffrey Rd to Sand Canyon Ave	4D	32,000	16,288	0.510	A	16,958	0.530	A
19	"O" St	Portola Pkwy to Irvine Blvd	4D	32,000	10,665	0.330	A	10,935	0.340	A

#	Street Name	Limits	# Lanes	Capacity	2017 NP ADT			2017 WP ADT		
					ADT	V/C	LOS	ADT	V/C	LOS
20	"O" St	Irvine Blvd to "C" St	4D	32,000	9,417	0.290	A	9,507	0.300	A
21	"O" St	"C" St to "LN" St	4D	32,000	5,583	0.170	A	5,623	0.180	A
22	"O" St	"LN" St to "LQ" St	4D	32,000	8,344	0.260	A	8,384	0.260	A
23	"O" St	"LQ" St to Trabuco Rd	4D	32,000	11,973	0.370	A	12,013	0.380	A
24	"O" St	Trabuco Rd to "LV" St	4D	32,000	4,397	0.140	A	4,397	0.140	A
25	"B" St	Irvine Blvd to "LQ" St	2D	13,000	-	-	A	2,000	0.150	A
26	"B" St	"LQ" St to Marine Wy	2D	13,000	-	-	A	-	-	A
27	"LQ" St	"O" St to "C" St	2D	13,000	3,579	0.280	A	3,579	0.280	A
28	"LQ" St	"C" St to "LY" St	2D	13,000	5,113	0.390	A	5,113	0.390	A
29	"LQ" St	"LY" St to "A" St	2D	13,000	4,908	0.380	A	4,908	0.380	A
30	"LQ" St	"A" St to "Z" St	2D	13,000	3,221	0.250	A	3,221	0.250	A

Table 7-4 Year 2017 (2011 Approved Project) Peak Hour Intersection LOS Comparison

Intersection	Control	AM Peak Hour							PM Peak Hour					
		No Project		With Project		Change in V/C	Impact	No Project		With Project		Change in V/C	Impact	
		V/C Delay	LOS	V/C Delay	LOS			V/C Delay	LOS	V/C Delay	LOS			
1	"B" St & Driveway 1	U	n/a	n/a	0.02	A	0.02		n/a	n/a	0.01	A	0.01	
2	"B" St & Driveway 2	U	n/a	n/a	0.18	A	0.18		n/a	n/a	0.02	A	0.02	
3	Driveway 3 & "LQ" St	U	n/a	n/a	0.04	A	0.04		n/a	n/a	0.02	A	0.02	
4	Driveway 4 & "LQ" St	U	n/a	n/a	0.05	A	0.05		n/a	n/a	0.01	A	0.01	
5	"LQ" St & Driveway 5	U	n/a	n/a	0.07	A	0.07		n/a	n/a	0.03	A	0.03	
6	"LQ" St & Driveway 6	U	n/a	n/a	0.19	A	0.19		n/a	n/a	0.08	A	0.08	
7	"LQ" St & Driveway 7	U	n/a	n/a	0.00	A	0.00		n/a	n/a	0.00	A	0.00	
282	Jeffrey Rd & Portola Pkwy	S	0.58	A	0.58	A	0.00		0.64	B	0.64	B	0.00	
283	Jeffrey Rd & Irvine Blvd	S	0.67	B	0.67	B	0.00		0.68	B	0.68	B	0.00	
284	Jeffrey Rd & Bryan Ave	S	0.65	B	0.65	B	0.00		0.50	A	0.51	A	0.00	
285	Jeffrey Rd & Trabuco Rd	S	0.63	B	0.63	B	0.00		0.64	B	0.64	B	0.00	

Intersection		Control	AM Peak Hour						PM Peak Hour					
			No Project		With Project		Change in V/C	Impact	No Project		With Project		Change in V/C	Impact
			V/C Delay	LOS	V/C Delay	LOS			V/C Delay	LOS	V/C Delay	LOS		
300	Sand Canyon Ave & Portola Pkwy	S	0.36	A	0.36	A	0.00		0.36	A	0.36	A	0.00	
301	Sand Canyon Ave & Irvine Blvd	S	0.67	B	0.73	C	0.06		0.62	B	0.63	B	0.01	
302	Sand Canyon Ave & Trabuco Rd	S	0.70	B	0.74	C	0.04		0.67	B	0.68	B	0.00	
303	Sand Canyon Ave & I-5 NB Ramps	S	0.70	C	0.71	C	0.00		0.72	C	0.72	C	0.00	
304	Sand Canyon Ave & Marine Way	S	0.78	C	0.78	C	0.00		0.76	C	0.76	C	0.00	
305	Sand Canyon Ave & I-5 SB Ramps	S	0.86	D	0.86	D	0.01		0.76	C	0.77	C	0.00	
444	Sand Canyon Ave & Burt Rd	S	0.79	C	0.79	C	0.00		0.62	B	0.62	B	0.00	
306	Sand Canyon Ave & Oak Cyn Rd	S	0.67	B	0.67	B	0.00		0.99	E	0.99	E	0.00	
316	SR-133 SB Ramps & Irvine Blvd	S	0.55	A	0.64	B	0.09		0.49	A	0.52	A	0.02	
317	SR-133 NB Ramps & Irvine Blvd	S	0.63	B	0.77	C	0.14		0.77	C	0.80	C	0.03	
338	Alton Pkwy & Irvine Blvd	S	0.88	D	0.89	D	0.01		0.81	D	0.81	D	0.00	
339	Alton Pkwy & Toledo Way	S	0.67	B	0.67	B	0.00		0.60	A	0.60	A	0.00	
340	Alton Pkwy & Jeronimo Rd	S	0.69	B	0.69	B	0.00		0.55	A	0.55	A	0.00	
341	Alton Pkwy & Barranca Pkwy	S	0.60	A	0.61	B	0.01		0.70	B	0.70	B	0.00	
367	Bake Pkwy & I-5 NB Ramps	S	0.84	D	0.84	D	0.00		0.89	D	0.89	D	0.00	
368	Bake Pkwy & I-5/I-405 SB Ramps	S	0.72	C	0.72	C	0.00		0.84	D	0.84	D	0.00	
556	Ridge Valley & Portola Pkwy	S	0.52	A	0.52	A	0.00		0.63	B	0.63	B	0.00	
557	"O" St & "C" St	R	0.31	A	0.31	A	0.00		0.23	A	0.23	A	0.00	
558	Ridge Valley/"O" St & Irvine Blvd	S	0.63	B	0.70	B	0.07		0.84	D	0.88	D	0.04	
559	"O" St & Trabuco Rd	S	0.54	A	0.54	A	0.00		0.45	A	0.45	A	0.00	
560	"O" St & Marine Way	S	0.29	A	0.29	A	0.00		0.34	A	0.34	A	0.00	
563	"B" St & Irvine Blvd	S	n/a	n/a	0.24	A	0.24		n/a	n/a	0.12	A	0.12	
571	Portola Springs & Portola Pkwy	S	0.19	A	0.19	A	0.01		0.15	A	0.16	A	0.00	
572	Modjeska/"A" St & Irvine Blvd	S	0.55	A	0.70	B	0.15		0.60	B	0.63	B	0.03	
603	"O" St & "LN" St	U	0.18	A	0.19	A	0.00		0.07	A	0.08	A	0.00	
605	"O" St & "LQ" St	R	0.20	A	0.20	A	0.00		0.22	A	0.23	A	0.00	
608	"O" St & "LV" St	U	0.02	A	0.02	A	0.00		0.01	A	0.01	A	0.00	

Intersection		Control	AM Peak Hour						PM Peak Hour					
			No Project		With Project		Change in V/C	Impact	No Project		With Project		Change in V/C	Impact
			V/C Delay	LOS	V/C Delay	LOS			V/C Delay	LOS	V/C Delay	LOS		
626	"LY" St & "LQ" St	R	0.27	A	0.27	A	0.00		0.25	A	0.25	A	0.00	
627	"LY" St & Irvine Blvd	S	0.47	A	0.58	A	0.11		0.70	C	0.74	C	0.04	
631	"LY" St & Trabuco Rd	U	0.02	A	0.02	A	0.00		0.01	A	0.01	A	0.00	
782	"A" St & "LQ" St	R	0.17	A	0.17	A	0.01		0.20	A	0.21	A	0.00	
790	"Z" St & Irvine Blvd	S	0.68	B	0.82	D	0.14		0.59	A	0.62	B	0.03	
800	"A-02" St/"LQ" St & Irvine Blvd	S	0.91	E	0.84	D	-0.08		0.85	D	0.86	D	0.01	

Table 7-5 Year 2017 (2012 Modified Project Option 1) Peak Hour Intersection LOS Comparison

Intersection		Control	AM Peak Hour						PM Peak Hour					
			No Project		With Project		Change in V/C	Impact	No Project		With Project		Change in V/C	Impact
			V/C Delay	LOS	V/C Delay	LOS			V/C Delay	LOS	V/C Delay	LOS		
1	"B" St & Driveway 1	U	n/a	n/a	0.02	A	0.02		n/a	n/a	0.01	A	0.01	
2	"B" St & Driveway 2	U	n/a	n/a	0.08	A	0.08		n/a	n/a	0.02	A	0.02	
3	Driveway 3 & "LQ" St	U	n/a	n/a	0.04	A	0.04		n/a	n/a	0.02	A	0.02	
4	Driveway 4 & "LQ" St	U	n/a	n/a	0.05	A	0.05		n/a	n/a	0.01	A	0.01	
5	"LQ" St & Driveway 5	U	n/a	n/a	0.07	A	0.07		n/a	n/a	0.03	A	0.03	
6	"LQ" St & Driveway 6	U	n/a	n/a	0.19	A	0.19		n/a	n/a	0.08	A	0.08	
7	"LQ" St & Driveway 7	U	n/a	n/a	0.00	A	0.00		n/a	n/a	0.00	A	0.00	
282	Jeffrey Rd & Portola Pkwy	S	0.58	A	0.58	A	0.00		0.63	B	0.64	B	0.00	
283	Jeffrey Rd & Irvine Blvd	S	0.66	B	0.66	B	0.00		0.67	B	0.67	B	0.00	
284	Jeffrey Rd & Bryan Ave	S	0.63	B	0.63	B	0.00		0.58	A	0.58	A	0.00	
285	Jeffrey Rd & Trabuco Rd	S	0.63	B	0.64	B	0.00		0.64	B	0.65	B	0.00	
300	Sand Canyon Ave & Portola Pkwy	S	0.36	A	0.36	A	0.00		0.48	A	0.48	A	0.00	
301	Sand Canyon Ave & Irvine Blvd	S	0.58	A	0.63	B	0.05		0.53	A	0.54	A	0.01	

Intersection		Control	AM Peak Hour						PM Peak Hour					
			No Project		With Project		Change in V/C	Impact	No Project		With Project		Change in V/C	Impact
			V/C Delay	LOS	V/C Delay	LOS			V/C Delay	LOS	V/C Delay	LOS		
302	Sand Canyon Ave & Trabuco Rd	S	0.71	C	0.72	C	0.00		0.72	C	0.72	C	0.00	
303	Sand Canyon Ave & I-5 NB Ramps	S	0.71	C	0.71	C	0.00		0.71	C	0.71	C	0.00	
304	Sand Canyon Ave & Marine Way	S	0.83	D	0.83	D	0.00		0.89	D	0.89	D	0.00	
305	Sand Canyon Ave & I-5 SB Ramps	S	0.86	D	0.86	D	0.00		0.78	C	0.78	C	0.00	
444	Sand Canyon Ave & Burt Rd	S	0.79	C	0.79	C	0.00		0.80	C	0.80	C	0.00	
306	Sand Canyon Ave & Oak Cyn Rd	S	0.67	B	0.67	B	0.00		1.00	F	1.00	F	0.00	
316	SR-133 SB Ramps & Irvine Blvd	S	0.43	A	0.50	A	0.08		0.45	A	0.47	A	0.02	
317	SR-133 NB Ramps & Irvine Blvd	S	0.44	A	0.55	A	0.11		0.68	B	0.71	C	0.03	
338	Alton Pkwy & Irvine Blvd	S	0.85	D	0.87	D	0.02		0.81	D	0.81	D	0.00	
339	Alton Pkwy & Toledo Way	S	0.66	B	0.67	B	0.00		0.59	A	0.60	A	0.00	
340	Alton Pkwy & Jeronimo Rd	S	0.69	B	0.69	B	0.00		0.54	A	0.54	A	0.00	
341	Alton Pkwy & Barranca Pkwy	S	0.60	A	0.61	B	0.01		0.70	C	0.71	C	0.00	
367	Bake Pkwy & I-5 NB Ramps	S	0.83	D	0.84	D	0.00		0.66	B	0.66	B	0.00	
368	Bake Pkwy & I-5/I-405 SB Ramps	S	0.70	B	0.70	B	0.00		0.83	D	0.83	D	0.00	
556	Ridge Valley & Portola Pkwy	S	0.52	A	0.52	A	0.00		0.65	B	0.65	B	0.00	
557	"O" St & "C" St	R	0.53	A	0.54	A	0.01		0.38	A	0.39	A	0.01	
558	Ridge Valley/"O" St & Irvine Blvd	S	0.54	A	0.61	B	0.07		0.67	B	0.70	B	0.03	
559	"O" St & Trabuco Rd	S	0.75	C	0.75	C	0.00		0.64	B	0.64	B	0.00	
560	"O" St & Marine Way	S	0.27	A	0.27	A	0.00		0.49	A	0.49	A	0.00	
563	"B" St & Irvine Blvd	S	n/a	n/a	0.28	A	0.28		n/a	n/a	0.15	A	0.15	
571	Portola Springs & Portola Pkwy	S	0.56	A	0.57	A	0.00		0.48	A	0.48	A	0.00	
572	Modjeska/"A" St & Irvine Blvd	S	0.40	A	0.53	A	0.14		0.55	A	0.58	A	0.03	
603	"O" St & "LN" St	S	0.32	A	0.32	A	0.00		0.24	A	0.24	A	0.00	
605	"O" St & "LQ" St	R	0.31	A	0.31	A	0.00		0.24	A	0.24	A	0.00	
608	"O" St & "LV" St	S	0.19	A	0.19	A	0.00		0.31	A	0.31	A	0.00	
626	"LY" St & "LQ" St	R	0.29	A	0.29	A	0.00		0.29	A	0.29	A	0.00	
627	"LY" St & Irvine Blvd	S	0.37	A	0.45	A	0.08		0.64	B	0.68	B	0.04	

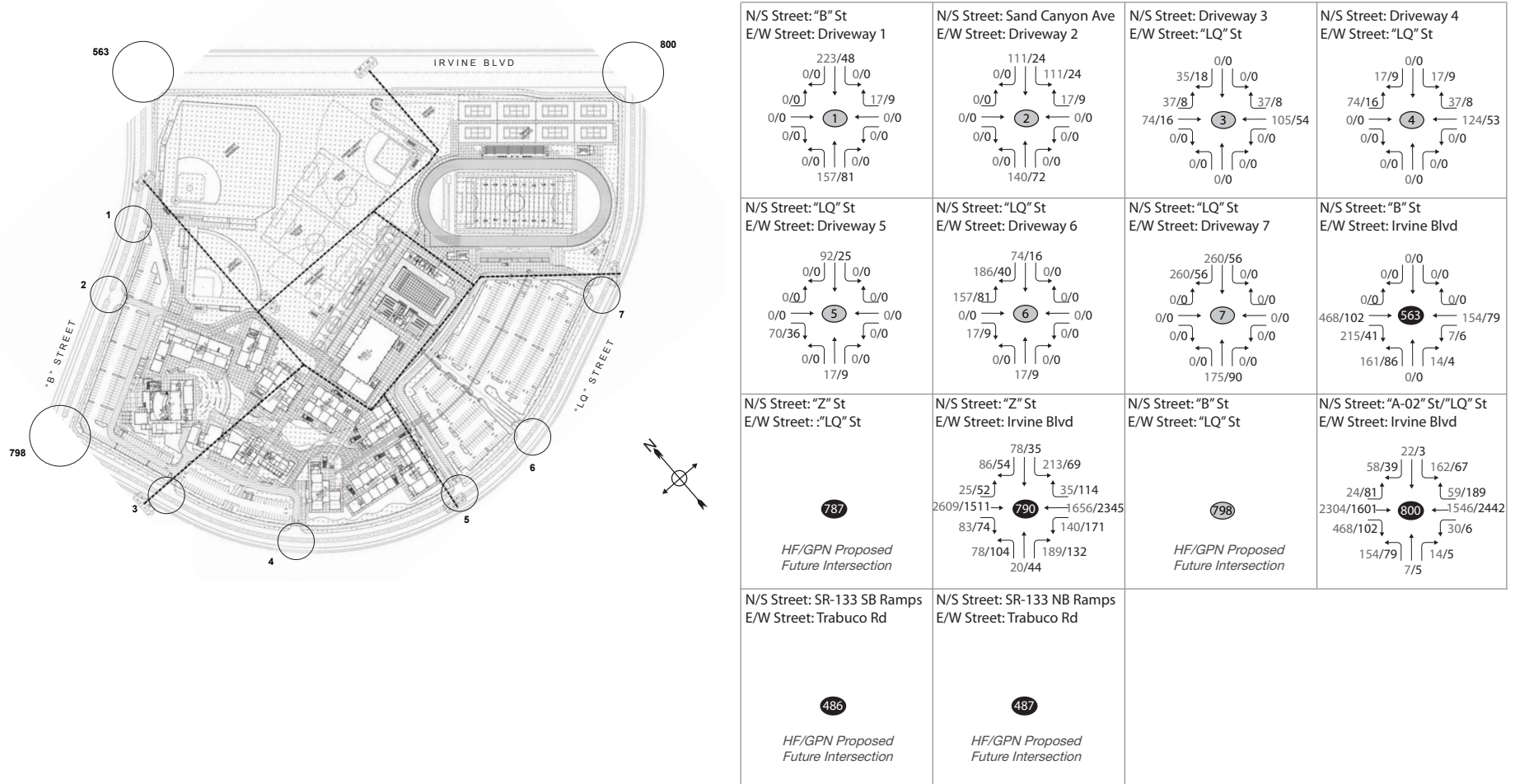
Intersection		Control	AM Peak Hour						PM Peak Hour					
			No Project		With Project		Change in V/C	Impact	No Project		With Project		Change in V/C	Impact
			V/C Delay	LOS	V/C Delay	LOS			V/C Delay	LOS	V/C Delay	LOS		
631	"LY" St & Trabuco Rd	U	0.01	A	0.01	A	0.00		0.02	A	0.02	A	0.00	
782	"A" St & "LQ" St	R	0.17	A	0.17	A	0.01		0.24	A	0.25	A	0.00	
790	"Z" St & Irvine Blvd	S	0.53	A	0.67	B	0.14		0.53	A	0.59	A	0.06	
800	"A-02" St/"LQ" St & Irvine Blvd	S	0.89	D	0.87	D	-0.02		0.86	D	0.89	D	0.03	

Table 7-6 Year 2017 (2012 Modified Project Option 2) Peak Hour Intersection LOS Comparison

Intersection		Control	AM Peak Hour						PM Peak Hour					
			No Project		With Project		Change in V/C	Impact	No Project		With Project		Change in V/C	Impact
			V/C Delay	LOS	V/C Delay	LOS			V/C Delay	LOS	V/C Delay	LOS		
1	"B" St & Driveway 1	U	n/a	n/a	0.02	A	0.02		n/a	n/a	0.01	A	0.01	
2	"B" St & Driveway 2	U	n/a	n/a	0.08	A	0.08		n/a	n/a	0.02	A	0.02	
3	Driveway 3 & "LQ" St	U	n/a	n/a	0.04	A	0.04		n/a	n/a	0.02	A	0.02	
4	Driveway 4 & "LQ" St	U	n/a	n/a	0.05	A	0.05		n/a	n/a	0.01	A	0.01	
5	"LQ" St & Driveway 5	U	n/a	n/a	0.07	A	0.07		n/a	n/a	0.03	A	0.03	
6	"LQ" St & Driveway 6	U	n/a	n/a	0.19	A	0.19		n/a	n/a	0.08	A	0.08	
7	"LQ" St & Driveway 7	U	n/a	n/a	0.00	A	0.00		n/a	n/a	0.00	A	0.00	
282	Jeffrey Rd & Portola Pkwy	S	0.58	A	0.58	A	0.00		0.64	B	0.64	B	0.00	
283	Jeffrey Rd & Irvine Blvd	S	0.66	B	0.67	B	0.00		0.67	B	0.67	B	0.00	
284	Jeffrey Rd & Bryan Ave	S	0.63	B	0.63	B	0.00		0.58	A	0.58	A	0.00	
285	Jeffrey Rd & Trabuco Rd	S	0.63	B	0.64	B	0.00		0.64	B	0.65	B	0.00	
300	Sand Canyon Ave & Portola Pkwy	S	0.36	A	0.36	A	0.00		0.48	A	0.48	A	0.00	
301	Sand Canyon Ave & Irvine Blvd	S	0.58	A	0.63	B	0.05		0.60	A	0.60	B	0.01	
302	Sand Canyon Ave & Trabuco Rd	S	0.71	C	0.72	C	0.00		0.72	C	0.72	C	0.00	
303	Sand Canyon Ave & I-5 NB Ramps	S	0.71	C	0.71	C	0.00		0.70	C	0.71	C	0.00	
304	Sand Canyon Ave & Marine Way	S	0.82	D	0.83	D	0.00		0.89	D	0.89	D	0.00	
305	Sand Canyon Ave & I-5 SB Ramps	S	0.86	D	0.86	D	0.00		0.79	C	0.79	C	0.00	
444	Sand Canyon Ave & Burt Rd	S	0.79	C	0.79	C	0.00		0.80	C	0.80	C	0.00	
306	Sand Canyon Ave & Oak Cyn Rd	S	0.67	B	0.67	B	0.00		1.00	F	1.00	F	0.00	
316	SR-133 SB Ramps & Irvine Blvd	S	0.43	A	0.51	A	0.07		0.45	A	0.47	A	0.02	
317	SR-133 NB Ramps & Irvine Blvd	S	0.43	A	0.54	A	0.11		0.68	B	0.72	C	0.03	
338	Alton Pkwy & Irvine Blvd	S	0.85	D	0.87	D	0.02		0.81	D	0.81	D	0.00	
339	Alton Pkwy & Toledo Way	S	0.67	B	0.67	B	0.00		0.59	A	0.60	A	0.00	
340	Alton Pkwy & Jeronimo Rd	S	0.68	B	0.69	B	0.00		0.54	A	0.54	A	0.00	
341	Alton Pkwy & Barranca Pkwy	S	0.60	A	0.60	B	0.01		0.70	C	0.70	C	0.00	
367	Bake Pkwy & I-5 NB Ramps	S	0.83	D	0.83	D	0.00		0.66	B	0.89	D	0.23	

Intersection		Control	AM Peak Hour						PM Peak Hour					
			No Project		With Project		Change in V/C	Impact	No Project		With Project		Change in V/C	Impact
			V/C Delay	LOS	V/C Delay	LOS			V/C Delay	LOS	V/C Delay	LOS		
368	Bake Pkwy & I-5/I-405 SB Ramps	S	0.70	B	0.70	B	0.00		0.83	D	0.83	D	0.00	
556	Ridge Valley & Portola Pkwy	S	0.52	A	0.52	A	0.00		0.65	B	0.65	B	0.00	
557	"O" St & "C" St	R	0.52	A	0.53	A	0.01		0.38	A	0.38	A	0.00	
558	Ridge Valley/"O" St & Irvine Blvd	S	0.54	A	0.60	B	0.07		0.76	C	0.79	C	0.03	
559	"O" St & Trabuco Rd	S	0.74	C	0.74	C	0.00		0.63	B	0.63	B	0.00	
560	"O" St & Marine Way	S	0.27	A	0.27	A	0.00		0.50	A	0.50	A	0.00	
563	"B" St & Irvine Blvd	S	n/a	n/a	0.28	A	0.28		n/a	n/a	0.15	A	0.15	
571	Portola Springs & Portola Pkwy	S	0.56	A	0.56	A	0.00		0.48	A	0.48	A	0.00	
572	Modjeska/"A" St & Irvine Blvd	S	0.40	A	0.53	A	0.14		0.55	A	0.58	A	0.03	
603	"O" St & "LN" St	S	0.32	A	0.32	A	0.00		0.23	A	0.23	A	0.00	
605	"O" St & "LQ" St	R	0.30	A	0.30	A	0.00		0.24	A	0.24	A	0.00	
608	"O" St & "LV" St	S	0.19	A	0.19	A	0.00		0.51	A	0.51	A	0.00	
626	"LY" St & "LQ" St	R	0.29	A	0.29	A	0.00		0.28	A	0.28	A	0.00	
627	"LY" St & Irvine Blvd	S	0.37	A	0.44	A	0.08		0.64	B	0.67	B	0.04	
631	"LY" St & Trabuco Rd	U	0.01	A	0.01	A	0.00		0.02	A	0.02	A	0.00	
782	"A" St & "LQ" St	R	0.15	A	0.16	A	0.01		0.23	A	0.23	A	0.00	
790	"Z" St & Irvine Blvd	S	0.52	A	0.67	B	0.14		0.56	A	0.59	A	0.03	
800	"A-02" St/"LQ" St & Irvine Blvd	S	0.88	D	0.83	D	-0.06		0.86	D	0.87	D	0.01	

Figure 7.1 Year 2017 Peak Hour Volumes - 2011 Approved Project - With Project



LEGEND

- Study Intersection - Signalized
- Study Intersection - Unsignalized
- Study Intersection - Roundabout
- # Study Intersection Number
- ## Turning Movement Volume
- ##/## AM Peak Hour/PM Peak Hour

Figure 7.1 Year 2017 Peak Hour Volumes - 2011 Approved Project - With Project

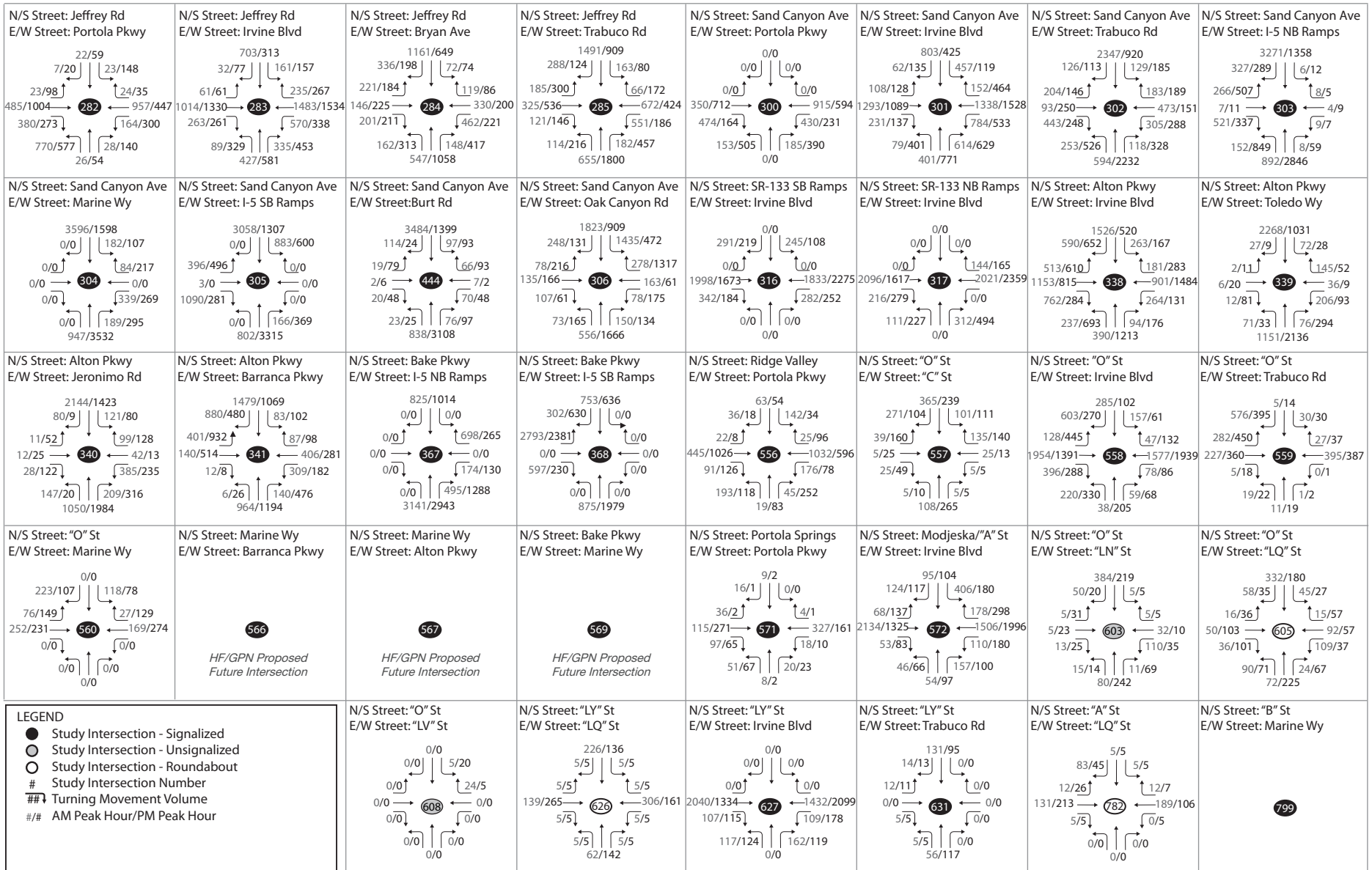
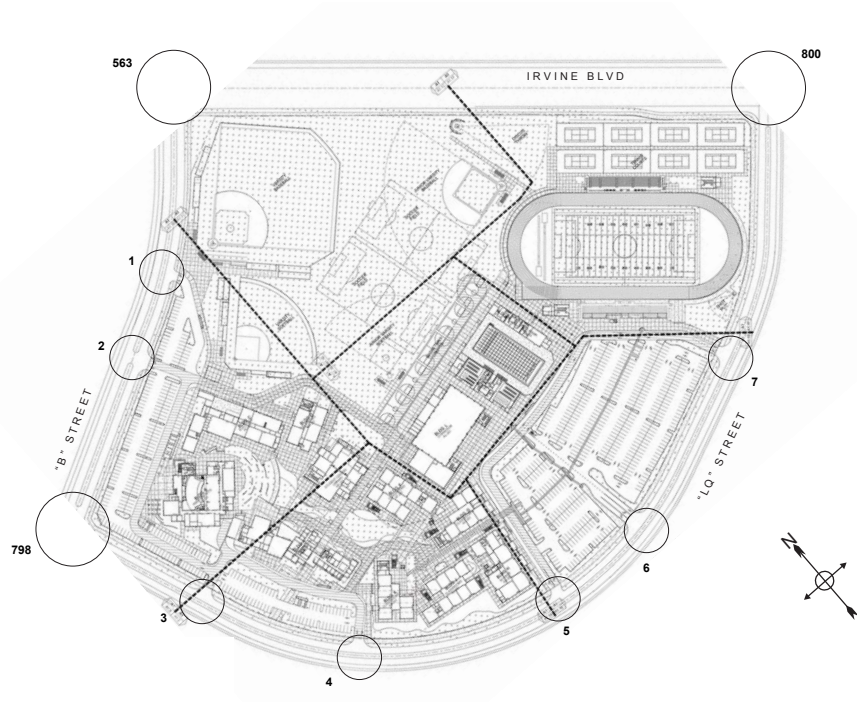


Figure 7.2 Year 2017 Peak Hour Volumes - 2012 Modified Project Option 1 - With Proj-



<p>N/S Street: "B" St E/W Street: Driveway 1</p> <p>223/48 0/0 ↓ 0/0 0/0 → 17/9 0/0 ← 0/0 0/0 ↓ 0/0 157/81</p> <p>1</p>	<p>N/S Street: Sand Canyon Ave E/W Street: Driveway 2</p> <p>111/24 0/0 ↓ 111/24 0/0 → 17/9 0/0 ← 0/0 0/0 ↓ 0/0 140/72</p> <p>2</p>	<p>N/S Street: Driveway 3 E/W Street: "LQ" St</p> <p>35/18 0/0 0/0 ↓ 0/0 37/8 ↓ 37/8 74/16 → 105/54 0/0 ← 0/0 0/0 ↓ 0/0 0/0</p> <p>3</p>	<p>N/S Street: Driveway 4 E/W Street: "LQ" St</p> <p>0/0 17/9 ↓ 17/9 74/16 → 37/8 0/0 ← 124/53 0/0 ↓ 0/0 0/0</p> <p>4</p>
<p>N/S Street: "LQ" St E/W Street: Driveway 5</p> <p>92/25 0/0 ↓ 0/0 0/0 → 0/0 70/36 ↓ 0/0 17/9</p> <p>5</p>	<p>N/S Street: "LQ" St E/W Street: Driveway 6</p> <p>74/16 186/40 ↓ 0/0 157/81 → 0/0 17/9 ↓ 0/0 17/9</p> <p>6</p>	<p>N/S Street: "LQ" St E/W Street: Driveway 7</p> <p>260/56 260/56 ↓ 0/0 0/0 → 0/0 0/0 ↓ 0/0 0/0</p> <p>7</p>	<p>N/S Street: "B" St E/W Street: Irvine Blvd</p> <p>0/0 0/0 ↓ 0/0 468/102 → 563 215/41 ↓ 154/79 161/86 → 7/6 0/0</p> <p>563</p>
<p>N/S Street: "Z" St E/W Street: "LQ" St</p> <p>787</p> <p>HF/GPN Proposed Future Intersection</p>	<p>N/S Street: "Z" St E/W Street: Irvine Blvd</p> <p>68/40 81/45 ↓ 192/70 25/45 → 28/113 1915/1388 → 363/2176 77/87 ↓ 133/193 80/106 → 190/160 20/47</p> <p>790</p>	<p>N/S Street: "B" St E/W Street: "LQ" St</p> <p>798</p> <p>HF/GPN Proposed Future Intersection</p>	<p>N/S Street: "A-02" St/"LQ" St E/W Street: Irvine Blvd</p> <p>22/3 65/39 ↓ 158/72 28/77 → 62/183 2243/1633 → 1544/2465 468/102 ↓ 30/6 154/79 → 14/5 7/5</p> <p>800</p>
<p>N/S Street: SR-133 SB Ramps E/W Street: Trabuco Rd</p> <p>486</p> <p>HF/GPN Proposed Future Intersection</p>	<p>N/S Street: SR-133 NB Ramps E/W Street: Trabuco Rd</p> <p>487</p> <p>HF/GPN Proposed Future Intersection</p>		

LEGEND

- Study Intersection - Signalized
- Study Intersection - Unsignalized
- Study Intersection - Roundabout
- # Study Intersection Number
- ## Turning Movement Volume
- ##/## AM Peak Hour/PM Peak Hour

Figure 7.2 Year 2017 Peak Hour Volumes - 2012 Modified Project Option 1 - With Proj-

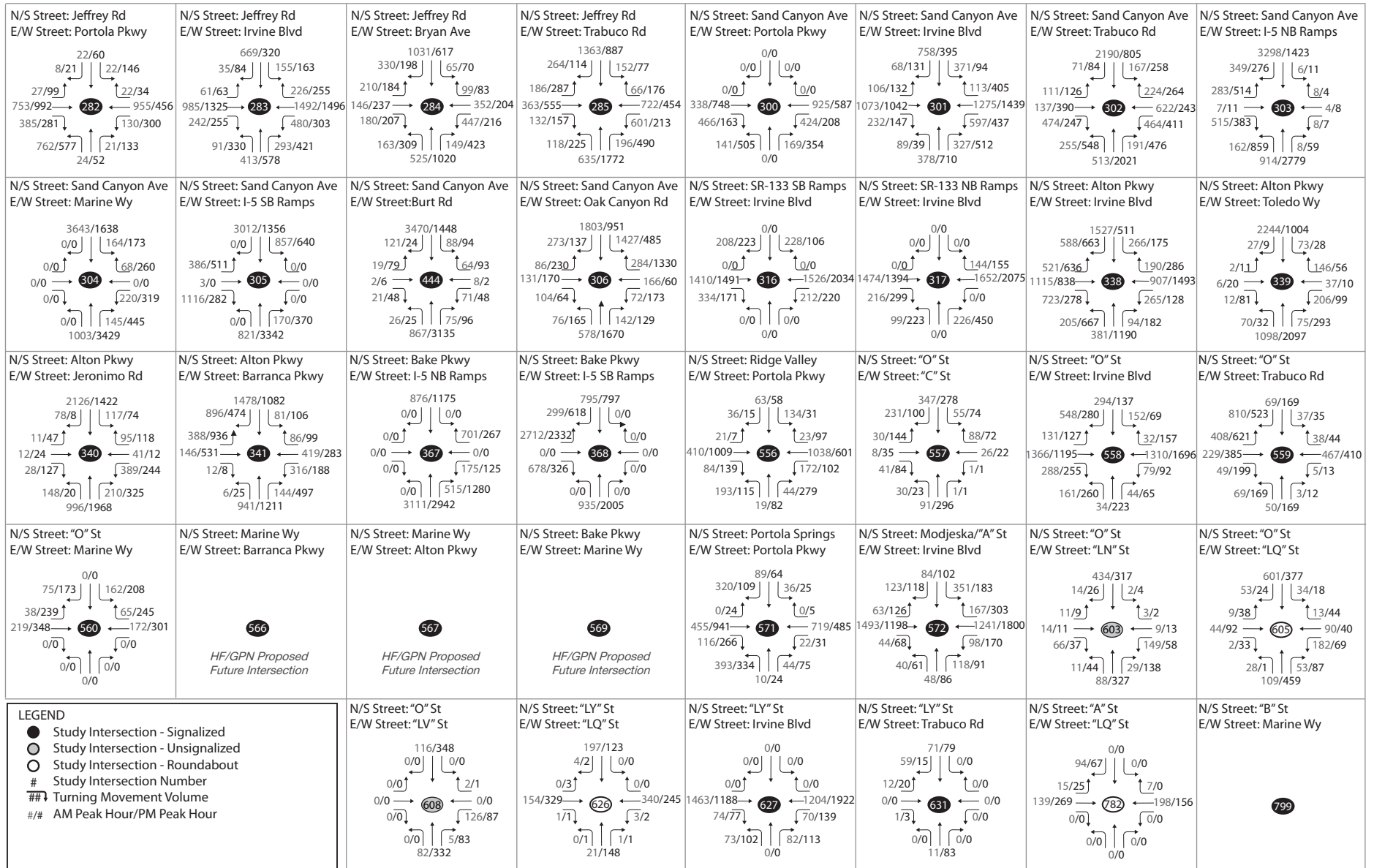
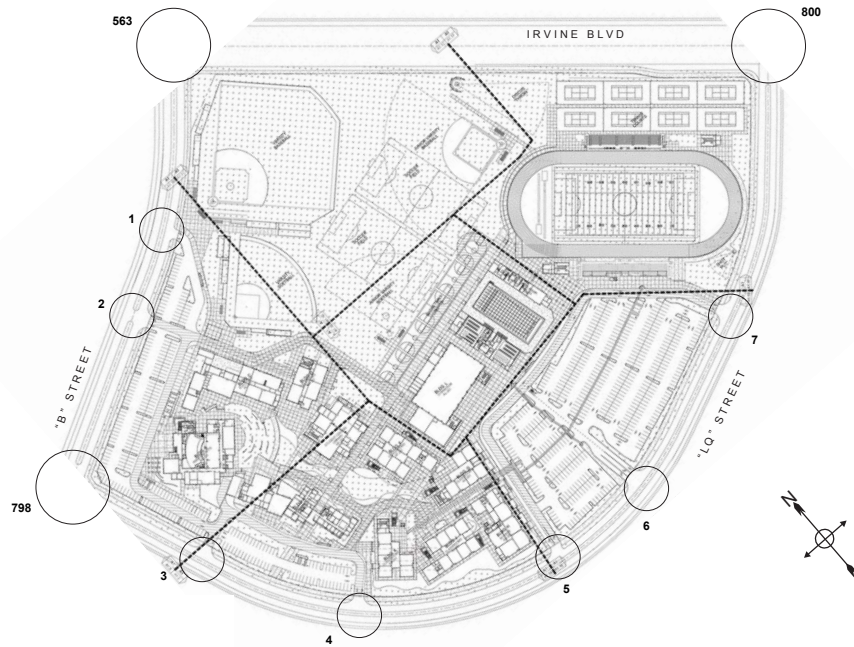


Figure 7.3 Year 2017 Peak Hour Volumes - 2012 Modified Project Option 2 - With Proj-

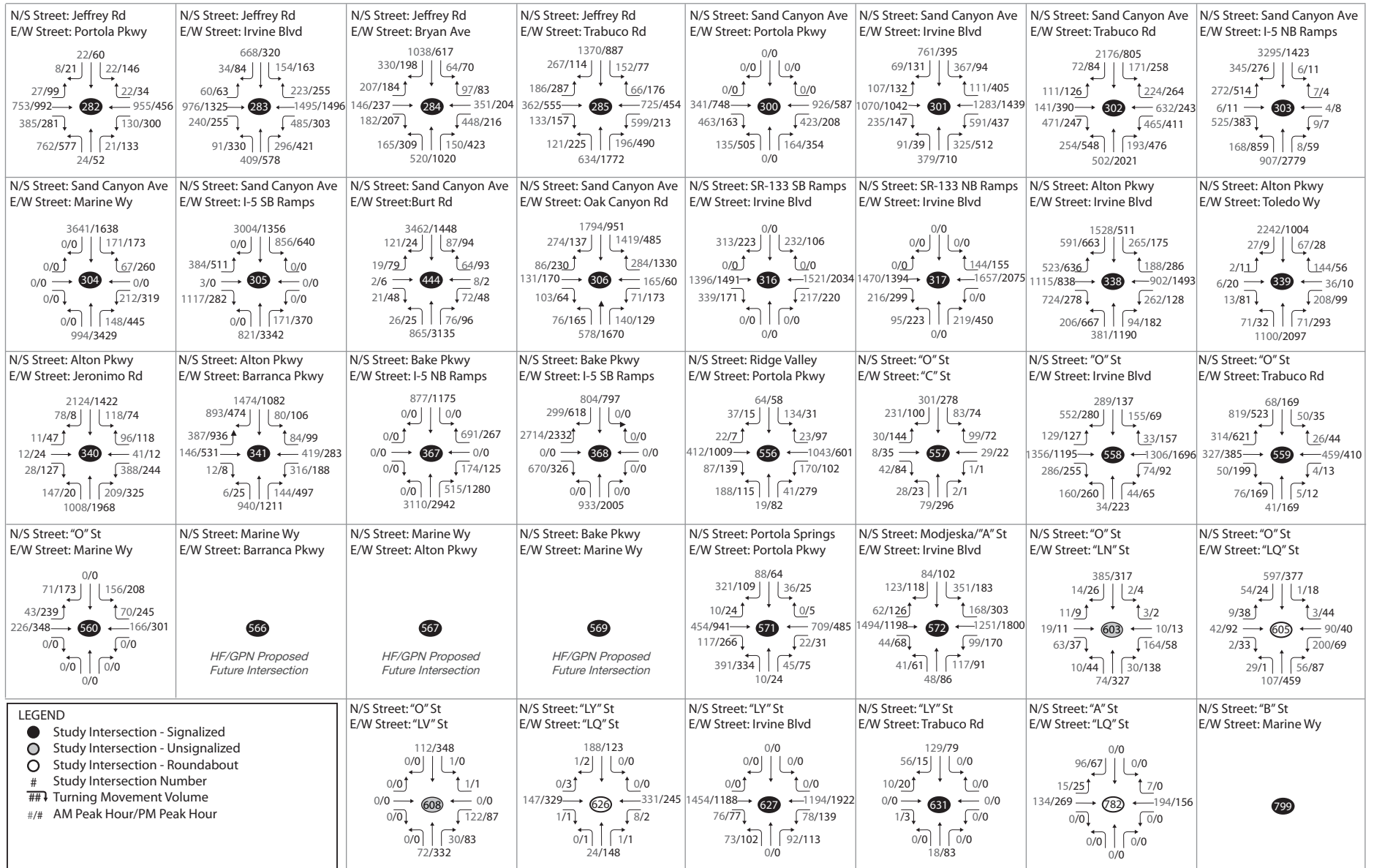


<p>N/S Street: "B" St E/W Street: Driveway 1</p> <p>223/48 0/0 ↓ 0/0 0/0 → 1 ← 0/0 0/0 ↓ 17/9 0/0 → 0/0 0/0 ↓ 0/0 157/81</p>	<p>N/S Street: Sand Canyon Ave E/W Street: Driveway 2</p> <p>111/24 0/0 ↓ 111/24 0/0 → 2 ← 0/0 0/0 ↓ 17/9 0/0 → 0/0 0/0 ↓ 0/0 140/72</p>	<p>N/S Street: Driveway 3 E/W Street: "LQ" St</p> <p>35/18 0/0 0/0 ↓ 0/0 37/8 ↓ 37/8 74/16 → 3 ← 105/54 0/0 ↓ 0/0 0/0 ↓ 0/0 0/0</p>	<p>N/S Street: Driveway 4 E/W Street: "LQ" St</p> <p>0/0 17/9 ↓ 17/9 74/16 → 4 ← 37/8 0/0 ↓ 124/53 0/0 ↓ 0/0 0/0 ↓ 0/0 0/0</p>
<p>N/S Street: "LQ" St E/W Street: Driveway 5</p> <p>92/25 0/0 ↓ 0/0 0/0 → 5 ← 0/0 70/36 ↓ 0/0 0/0 ↓ 0/0 17/9</p>	<p>N/S Street: "LQ" St E/W Street: Driveway 6</p> <p>74/16 186/40 ↓ 0/0 157/81 → 6 ← 0/0 0/0 ↓ 0/0 17/9 ↓ 0/0 17/9</p>	<p>N/S Street: "LQ" St E/W Street: Driveway 7</p> <p>260/56 260/56 ↓ 0/0 0/0 → 7 ← 0/0 0/0 ↓ 0/0 0/0 ↓ 0/0 175/90</p>	<p>N/S Street: "B" St E/W Street: Irvine Blvd</p> <p>0/0 0/0 ↓ 0/0 468/102 → 563 ← 154/79 215/41 ↓ 7/6 161/86 ↓ 14/4 0/0</p>
<p>N/S Street: "Z" St E/W Street: "LQ" St</p> <p>787</p> <p>HF/GPN Proposed Future Intersection</p>	<p>N/S Street: "Z" St E/W Street: Irvine Blvd</p> <p>68/40 81/45 ↓ 192/70 24/45 → 790 ← 28/113 1907/1388 ↓ 373/2176 81/87 ↓ 118/193 80/106 ↓ 190/160 20/47</p>	<p>N/S Street: "B" St E/W Street: "LQ" St</p> <p>798</p> <p>HF/GPN Proposed Future Intersection</p>	<p>N/S Street: "A-02" St/"LQ" St E/W Street: Irvine Blvd</p> <p>22/3 66/39 ↓ 157/72 29/77 → 800 ← 62/183 2224/1633 ↓ 1543/2465 468/102 ↓ 30/6 154/79 ↓ 14/5 7/5</p>
<p>N/S Street: SR-133 SB Ramps E/W Street: Trabuco Rd</p> <p>486</p> <p>HF/GPN Proposed Future Intersection</p>	<p>N/S Street: SR-133 NB Ramps E/W Street: Trabuco Rd</p> <p>487</p> <p>HF/GPN Proposed Future Intersection</p>		

LEGEND

- Study Intersection - Signalized
- Study Intersection - Unsignalized
- Study Intersection - Roundabout
- # Study Intersection Number
- ## Turning Movement Volume
- ##/## AM Peak Hour/PM Peak Hour

Figure 7.3 Year 2017 Peak Hour Volumes - 2012 Modified Project Option 2 - With Proj-



7.1.2 Year 2035

Year 2035 with project ADT volumes on study area arterials are listed in Table 7-7. Table 7-8 includes a summary of the 2035 (2012 Modified Project Option 1) with project, and Table 7-9 includes the 2035 (2012 Modified Project Option 2) with project analysis summary results.

Year 2035 With Project deficient segment locations for all three 2035 scenarios include:

- Irvine Boulevard: "Z" St to "B" St - LOS F
- Irvine Boulevard: "LQ" St to Alton Parkway - LOS F

Year 2035 with project intersection volumes are shown in Figure 7.4. Figures 7.5 and 7.6 show the 2035 - 2012 Modified Project Option 1 and 2, respectively. A summary of the level of service intersection analysis results for the 2035 with project condition is included in Table 7-10. Table 7-11 includes a summary of the 2035 (2012 Modified Project Option 1) with project, and Table 7-12 includes the 2035 (2012 Modified Project Option 2) with project analysis summary results.

Year 2035 With Project (2011 Approved Project) deficient intersection locations:

- Sand Canyon Avenue and I-5 NB Ramps (#303) - LOS E, AM and LOS F PM
- Sand Canyon Avenue and I-5 SB Ramps (#305) - LOS F, AM
- Sand Canyon Avenue and Oak Canyon Road (#306) - LOS E, AM
- "A-02" Street/"LQ" Street and Irvine Boulevard (#800) - LOS E, AM

Year 2035 (2012 Modified Project Option 1) With Project deficient intersection locations:

- Sand Canyon Avenue and I-5 NB Ramps (#303) - LOS E, PM
- Sand Canyon Avenue and I-5 SB Ramps (#305) - LOS F, AM

Year 2035 (2012 Modified Project Option 2) With Project deficient intersection locations:

- Sand Canyon Avenue and I-5 NB Ramps (#303) - LOS E, PM
- Sand Canyon Avenue and I-5 SB Ramps (#305) - LOS F, AM

Table 7-7 Year 2035 (2011 Approved Project) Arterial Level of Service

#	Street Name	Limits	# Lanes	Capacity	2035 NP ADT			2035 WP ADT		
					ADT	V/C	LOS	ADT	V/C	LOS
1	Jeffrey Rd	Irvine Blvd to Bryan Ave	6D	54,000	31,815	0.590	A	31,945	0.590	A
2	Sand Canyon Ave	Portola Pkwy to Irvine Blvd	4D	32,000	25,909	0.810	D	26,129	0.820	D
3	Sand Canyon Ave	Irvine Blvd to Trabuco Rd	6D	54,000	29,287	0.540	A	30,617	0.570	A
4	Sand Canyon Ave	Trabuco Rd to Marine Way	8D	72,000	63,878	0.890	D	64,008	0.890	D
5	Sand Canyon Ave	Marine Way to Oak Canyon Rd	8D	72,000	53,646	0.750	C	53,686	0.750	C
6	Alton Pkwy	Irvine Blvd to Toledo Wy	6D	54,000	32,472	0.600	A	32,692	0.610	B
7	Alton Pkwy	Toledo Wy to Jeronimo Rd	6D	54,000	37,314	0.690	B	37,534	0.700	B
8	Alton Pkwy	Jeronimo Rd to Barranca Pkwy	6D	54,000	45,921	0.850	D	46,141	0.850	D
9	Portola Pkwy	Jeffrey Rd to Sand Canyon Ave	4D	32,000	25,026	0.780	C	25,066	0.780	C
10	Portola Pkwy	Sand Canyon Ave to Ridge Valley	4D	32,000	19,324	0.600	A	19,364	0.610	B
11	Portola Pkwy	Ridge Valley to Modjeska	4D	32,000	20,292	0.630	B	20,382	0.640	B
12	Irvine Blvd	Jeffrey Rd to Sand Canyon Ave	6D	54,000	37,733	0.700	B	38,713	0.720	C
13	Irvine Blvd	Sand Canyon Ave to SR-133 Fwy	6D	54,000	41,520	0.770	C	43,830	0.810	D
14	Irvine Blvd	SR-133 Fwy to Ridge Valley	6D	54,000	42,801	0.790	C	45,421	0.840	D
15	Irvine Blvd	Ridge Valley to "LY" St	6D	54,000	40,466	0.750	C	43,356	0.800	C
16	Irvine Blvd	"Z" St to "B" St	6D	54,000	51,892	0.960	E	55,362	1.030	F
17	Irvine Blvd	"LQ" St to Alton Pkwy	6D	54,000	61,630	1.140	F	61,850	1.150	F
18	Trabuco Rd	Jeffrey Rd to Sand Canyon Ave	4D	32,000	20,034	0.630	B	20,614	0.640	B
19	"O" St	Portola Pkwy to Irvine Blvd	4D	32,000	13,847	0.430	A	14,027	0.440	A
20	"O" St	Irvine Blvd to "C" St	4D	32,000	11,201	0.350	A	11,291	0.350	A
21	"O" St	"C" St to "LN" St	4D	32,000	9,856	0.310	A	9,896	0.310	A
22	"O" St	"LN" St to "LQ" St	4D	32,000	14,213	0.440	A	14,253	0.450	A
23	"O" St	"LQ" St to Trabuco Rd	4D	32,000	21,852	0.680	B	21,892	0.680	B
24	"O" St	Trabuco Rd to "LV" St	4D	32,000	12,814	0.400	A	12,854	0.400	A
25	"B" St	Irvine Blvd to "LQ" St	2D	13,000	4,519	0.350	A	4,519	0.350	A
26	"B" St	"LQ" St to Marine Wy	2D	13,000	6,778	0.520	A	6,778	0.520	A
27	"LQ" St	"O" St to "C" St	2D	13,000	6,477	0.500	A	6,607	0.510	A
28	"LQ" St	"C" St to "LY" St	2D	13,000	7,284	0.560	A	7,414	0.570	A
29	"LQ" St	"LY" St to "A" St	2D	13,000	7,058	0.540	A	7,498	0.580	A

#	Street Name	Limits	# Lanes	Capacity	2035 NP ADT			2035 WP ADT		
					ADT	V/C	LOS	ADT	V/C	LOS
30	"LQ" St	"A" St to "Z" St	2D	13,000	6,488	0.500	A	7,108	0.550	A

Table 7-8 Year 2035 (2012 Modified Project Option 1) Arterial Level of Service

#	Street Name	Limits	# Lanes	Capacity	2035 NP ADT			2035 WP ADT		
					ADT	V/C	LOS	ADT	V/C	LOS
1	Jeffrey Rd	Irvine Blvd to Bryan Ave	6D	54,000	32,504	0.600	A	32,594	0.600	A
2	Sand Canyon Ave	Portola Pkwy to Irvine Blvd	4D	32,000	26,016	0.810	D	26,236	0.820	D
3	Sand Canyon Ave	Irvine Blvd to Trabuco Rd	6D	54,000	29,674	0.550	A	30,694	0.570	A
4	Sand Canyon Ave	Trabuco Rd to Marine Way	8D	72,000	63,663	0.880	D	63,793	0.890	D
5	Sand Canyon Ave	Marine Way to Oak Canyon Rd	8D	72,000	53,861	0.750	C	53,901	0.750	C
6	Alton Pkwy	Irvine Blvd to Toledo Wy	6D	54,000	32,310	0.600	A	32,530	0.600	A
7	Alton Pkwy	Toledo Wy to Jeronimo Rd	6D	54,000	36,560	0.680	B	36,780	0.680	B
8	Alton Pkwy	Jeronimo Rd to Barranca Pkwy	6D	54,000	45,168	0.840	D	45,388	0.840	D
9	Portola Pkwy	Jeffrey Rd to Sand Canyon Ave	4D	32,000	24,919	0.780	C	24,959	0.780	C
10	Portola Pkwy	Sand Canyon Ave to Ridge Valley	4D	32,000	19,647	0.610	B	19,687	0.620	B
11	Portola Pkwy	Ridge Valley to Modjeska	4D	32,000	20,346	0.640	B	20,436	0.640	B
12	Irvine Blvd	Jeffrey Rd to Sand Canyon Ave	6D	54,000	38,519	0.710	C	39,319	0.730	C
13	Irvine Blvd	Sand Canyon Ave to SR-133 Fwy	6D	54,000	43,016	0.800	C	44,836	0.830	D
14	Irvine Blvd	SR-133 Fwy to Ridge Valley	6D	54,000	44,447	0.820	D	46,537	0.860	D
15	Irvine Blvd	Ridge Valley to "LY" St	6D	54,000	42,317	0.780	C	44,587	0.830	D
16	Irvine Blvd	"Z" St to "B" St	6D	54,000	54,152	1.000	E	56,822	1.050	F
17	Irvine Blvd	"LQ" St to Alton Pkwy	6D	54,000	57,756	1.070	F	57,976	1.070	F
18	Trabuco Rd	Jeffrey Rd to Sand Canyon Ave	4D	32,000	20,615	0.640	B	21,055	0.660	B
19	"O" St	Portola Pkwy to Irvine Blvd	4D	32,000	13,632	0.430	A	13,762	0.430	A
20	"O" St	Irvine Blvd to "C" St	4D	32,000	10,932	0.340	A	10,972	0.340	A
21	"O" St	"C" St to "LN" St	4D	32,000	9,856	0.310	A	9,896	0.310	A
22	"O" St	"LN" St to "LQ" St	4D	32,000	14,106	0.440	A	14,146	0.440	A
23	"O" St	"LQ" St to Trabuco Rd	4D	32,000	21,368	0.670	B	21,458	0.670	B
24	"O" St	Trabuco Rd to "LV" St	4D	32,000	13,675	0.430	A	13,715	0.430	A

#	Street Name	Limits	# Lanes	Capacity	2035 NP ADT			2035 WP ADT		
					ADT	V/C	LOS	ADT	V/C	LOS
25	"B" St	Irvine Blvd to "LQ" St	2D	13,000	5,165	0.400	A	5,165	0.400	A
26	"B" St	"LQ" St to Marine Wy	2D	13,000	6,891	0.530	A	7,111	0.550	A
27	"LQ" St	"O" St to "C" St	2D	13,000	7,004	0.540	A	7,094	0.550	A
28	"LQ" St	"C" St to "LY" St	2D	13,000	7,714	0.590	A	7,844	0.600	A
29	"LQ" St	"LY" St to "A" St	2D	13,000	7,585	0.580	A	7,985	0.610	B
30	"LQ" St	"A" St to "Z" St	2D	13,000	6,951	0.530	A	7,441	0.570	A

Table 7-9 Year 2035 (2012 Modified Project Option 2) Arterial Level of Service

#	Street Name	Limits	# Lanes	Capacity	2035 NP ADT			2035 WP ADT		
					ADT	V/C	LOS	ADT	V/C	LOS
1	Jeffrey Rd	Irvine Blvd to Bryan Ave	6D	54,000	32,504	0.600	A	32,594	0.600	A
2	Sand Canyon Ave	Portola Pkwy to Irvine Blvd	4D	32,000	26,016	0.810	D	26,236	0.820	D
3	Sand Canyon Ave	Irvine Blvd to Trabuco Rd	6D	54,000	29,674	0.550	A	30,694	0.570	A
4	Sand Canyon Ave	Trabuco Rd to Marine Way	8D	72,000	63,663	0.880	D	63,793	0.890	D
5	Sand Canyon Ave	Marine Way to Oak Canyon Rd	8D	72,000	53,861	0.750	C	53,901	0.750	C
6	Alton Pkwy	Irvine Blvd to Toledo Wy	6D	54,000	32,310	0.600	A	32,530	0.600	A
7	Alton Pkwy	Toledo Wy to Jeronimo Rd	6D	54,000	36,560	0.680	B	36,780	0.680	B
8	Alton Pkwy	Jeronimo Rd to Barranca Pkwy	6D	54,000	45,275	0.840	D	45,495	0.840	D
9	Portola Pkwy	Jeffrey Rd to Sand Canyon Ave	4D	32,000	24,919	0.780	C	24,959	0.780	C
10	Portola Pkwy	Sand Canyon Ave to Ridge Valley	4D	32,000	19,647	0.610	B	19,687	0.620	B
11	Portola Pkwy	Ridge Valley to Modjeska	4D	32,000	20,292	0.630	B	20,382	0.640	B
12	Irvine Blvd	Jeffrey Rd to Sand Canyon Ave	6D	54,000	38,465	0.710	C	39,265	0.730	C
13	Irvine Blvd	Sand Canyon Ave to SR-133 Fwy	6D	54,000	42,801	0.790	C	44,621	0.830	D
14	Irvine Blvd	SR-133 Fwy to Ridge Valley	6D	54,000	43,156	0.800	C	45,246	0.840	D
15	Irvine Blvd	Ridge Valley to "LY" St	6D	54,000	42,209	0.780	C	44,479	0.820	D
16	Irvine Blvd	"Z" St to "B" St	6D	54,000	54,152	1.000	E	56,822	1.050	F
17	Irvine Blvd	"LQ" St to Alton Pkwy	6D	54,000	57,756	1.070	F	57,976	1.070	F
18	Trabuco Rd	Jeffrey Rd to Sand Canyon Ave	4D	32,000	20,615	0.640	B	21,055	0.660	B
19	"O" St	Portola Pkwy to Irvine Blvd	4D	32,000	13,632	0.430	A	13,762	0.430	A

#	Street Name	Limits	# Lanes	Capacity	2035 NP ADT			2035 WP ADT		
					ADT	V/C	LOS	ADT	V/C	LOS
20	"O" St	Irvine Blvd to "C" St	4D	32,000	10,716	0.330	A	10,756	0.340	A
21	"O" St	"C" St to "LN" St	4D	32,000	9,049	0.280	A	9,089	0.280	A
22	"O" St	"LN" St to "LQ" St	4D	32,000	13,406	0.420	A	13,446	0.420	A
23	"O" St	"LQ" St to Trabuco Rd	4D	32,000	20,615	0.640	B	20,655	0.650	B
24	"O" St	Trabuco Rd to "LV" St	4D	32,000	13,083	0.410	A	13,123	0.410	A
25	"B" St	Irvine Blvd to "LQ" St	2D	13,000	5,165	0.400	A	5,165	0.400	A
26	"B" St	"LQ" St to Marine Wy	2D	13,000	6,891	0.530	A	7,111	0.550	A
27	"LQ" St	"O" St to "C" St	2D	13,000	6,197	0.480	A	6,237	0.480	A
28	"LQ" St	"C" St to "LY" St	2D	13,000	7,499	0.580	A	7,629	0.590	A
29	"LQ" St	"LY" St to "A" St	2D	13,000	7,639	0.590	A	8,039	0.620	B
30	"LQ" St	"A" St to "Z" St	2D	13,000	6,951	0.530	A	7,441	0.570	A

Table 7-10 Year 2035 (2011 Approved Project) With Project Peak Hour Intersection LOS Comparison

Intersection	Control	AM Peak Hour							PM Peak Hour					
		No Project		With Project		Change in V/C	Impact	No Project		With Project		Change in V/C	Impact	
		V/C Delay	LOS	V/C Delay	LOS			V/C Delay	LOS	V/C Delay	LOS			
1	"B" St & Driveway 1	U	n/a	n/a	0.01	A	0.01		n/a	n/a	0.01	A	0.01	
2	"B" St & Driveway 2	U	n/a	n/a	0.09	A	0.09		n/a	n/a	0.03	A	0.03	
3	Driveway 3 & "LQ" St	U	n/a	n/a	0.06	A	0.06		n/a	n/a	0.03	A	0.03	
4	Driveway 4 & "LQ" St	U	n/a	n/a	0.05	A	0.05		n/a	n/a	0.01	A	0.01	
5	"LQ" St & Driveway 5	U	n/a	n/a	0.09	A	0.09		n/a	n/a	0.04	A	0.04	
6	"LQ" St & Driveway 6	U	n/a	n/a	0.60	A	0.60		n/a	n/a	0.32	A	0.32	
7	"LQ" St & Driveway 7	U	n/a	n/a	0.00	A	0.00		n/a	n/a	0.00	A	0.00	
282	Jeffrey Rd & Portola Pkwy	S	0.67	B	0.67	B	0.00		0.64	B	0.64	B	0.00	
283	Jeffrey Rd & Irvine Blvd	S	0.72	C	0.73	C	0.01		0.72	C	0.72	C	0.00	
284	Jeffrey Rd & Bryan Ave	S	0.75	C	0.75	C	0.00		0.77	C	0.77	C	0.00	
285	Jeffrey Rd & Trabuco Rd	S	0.68	B	0.69	B	0.01		0.78	C	0.78	C	0.00	

Intersection		Control	AM Peak Hour						PM Peak Hour					
			No Project		With Project		Change in V/C	Impact	No Project		With Project		Change in V/C	Impact
			V/C Delay	LOS	V/C Delay	LOS			V/C Delay	LOS	V/C Delay	LOS		
300	Sand Canyon Ave & Portola Pkwy	S	0.43	A	0.43	A	0.00		0.59	A	0.59	A	0.00	
301	Sand Canyon Ave & Irvine Blvd	S	0.79	C	0.85	D	0.06		0.80	C	0.81	D	0.01	
302	Sand Canyon Ave & Trabuco Rd	S	0.81	D	0.84	D	0.03		0.83	D	0.83	D	0.01	
303	Sand Canyon Ave & I-5 NB Ramps	S	0.96	E	0.96	E	0.00		1.07	F	1.07	F	0.00	
305	Sand Canyon Ave & I-5 SB Ramps	S	1.01	F	1.02	F	0.01		0.83	D	0.83	D	0.00	
444	Sand Canyon Ave & Burt Rd	S	0.87	D	0.87	D	0.00		0.86	D	0.86	D	0.00	
306	Sand Canyon Ave & Oak Cyn Rd	S	0.91	E	0.91	E	0.00		0.78	C	0.78	C	0.00	
316	SR-133 SB Ramps & Irvine Blvd	S	0.55	A	0.64	B	0.08		0.61	B	0.63	B	0.02	
317	SR-133 NB Ramps & Irvine Blvd	S	0.72	C	0.84	D	0.13		0.80	C	0.83	D	0.03	
338	Alton Pkwy & Irvine Blvd	S	0.90	D	0.91	E	0.01		0.95	E	0.95	E	0.00	
339	Alton Pkwy & Toledo Way	S	0.75	C	0.76	C	0.00		0.65	B	0.66	B	0.00	
340	Alton Pkwy & Jeronimo Rd	S	0.75	C	0.76	C	0.00		0.60	B	0.60	B	0.00	
341	Alton Pkwy & Barranca Pkwy	S	0.64	B	0.64	B	0.01		0.83	D	0.83	D	0.00	
367	Bake Pkwy & I-5 NB Ramps	S	0.89	D	0.89	D	0.00		0.61	B	0.61	B	0.00	
368	Bake Pkwy & I-5/I-405 SB Ramps	S	0.79	C	0.79	C	0.00		0.89	D	0.89	D	0.00	
486	SR-133 SB Ramps & Trabuco Rd	S	0.52	A	0.52	A	0.00		0.53	A	0.53	A	0.00	
487	SR-133 NB Ramps & Trabuco Rd	S	0.49	A	0.49	A	0.00		0.58	A	0.58	A	0.00	
556	Ridge Valley & Portola Pkwy	S	0.56	A	0.56	A	0.00		0.58	A	0.58	A	0.00	
557	"O" St & "C" St	R	0.36	A	0.36	A	0.00		0.24	A	0.24	A	0.00	
558	Ridge Valley/"O" St & Irvine Blvd	S	0.68	B	0.80	C	0.11		0.80	D	0.83	D	0.02	
559	"O" St & Trabuco Rd	S	0.83	D	0.83	D	0.00		0.80	C	0.80	C	0.00	
560	"O" St & Marine Way	S	0.47	A	0.47	A	0.00		0.65	B	0.65	B	0.00	
563	"B" St & Irvine Blvd	S	0.73	C	0.90	D	0.16		0.76	C	0.81	D	0.06	
566	Marine Way & Barranca Pkwy	S	0.71	C	0.71	C	0.00		0.68	B	0.68	B	0.00	
567	Marine Way & Alton Pkwy	S	0.67	B	0.68	B	0.00		0.67	B	0.67	B	0.00	
569	Bake Pkwy & Marine Way	S	0.72	C	0.73	C	0.00		0.70	C	0.70	C	0.00	
571	Portola Springs & Portola Pkwy	S	0.61	B	0.61	B	0.00		0.49	A	0.49	A	0.00	

Intersection		Control	AM Peak Hour						PM Peak Hour					
			No Project		With Project		Change in V/C	Impact	No Project		With Project		Change in V/C	Impact
			V/C Delay	LOS	V/C Delay	LOS			V/C Delay	LOS	V/C Delay	LOS		
572	Modjeska/"A" St & Irvine Blvd	S	0.73	C	0.85	D	0.12		0.78	C	0.81	D	0.03	
603	"O" St & "LN" St	S	0.42	A	0.42	A	0.00		0.35	A	0.35	A	0.00	
605	"O" St & "LQ" St	R	0.46	A	0.46	A	0.00		0.44	A	0.44	A	0.00	
608	"O" St & "LV" St	S	0.37	A	0.37	A	0.00		0.35	A	0.35	A	0.00	
626	"LY" St & "LQ" St	R	0.35	A	0.37	A	0.01		0.33	A	0.33	A	0.00	
627	"LY" St & Irvine Blvd	S	0.58	A	0.68	B	0.10		0.63	B	0.65	B	0.02	
631	"LY" St & Trabuco Rd	U	0.03	A	0.03	A	0.00		0.08	A	0.08	A	0.00	
782	"A" St & "LQ" St	R	0.29	A	0.35	A	0.07		0.32	A	0.32	A	0.01	
787	"Z" St & "LQ" St	U	0.03	A	0.03	A	0.00		0.05	A	0.05	A	0.00	
790	"Z" St & Irvine Blvd	S	0.77	C	0.90	D	0.13		0.75	C	0.78	C	0.03	
798	"B" St & "LQ" St	S	0.53	A	0.59	A	0.06		0.41	A	0.46	A	0.05	
799	"B" St & Marine Way	S	0.52	A	0.53	A	0.00		0.59	A	0.59	A	0.00	
800	"A-02" St/"LQ" St & Irvine Blvd	S	0.87	D	0.94	E	0.07		0.80	C	0.84	D	0.05	

Table 7-11 Year 2035 (2012 Modified Project Option 1) Peak Hour Intersection LOS Comparison

Intersection		Control	AM Peak Hour						PM Peak Hour					
			No Project		With Project		Change in V/C	Impact	No Project		With Project		Change in V/C	Impact
			V/C Delay	LOS	V/C Delay	LOS			V/C Delay	LOS	V/C Delay	LOS		
1	"B" St & Driveway 1	U	n/a	n/a	0.01	A	0.01		n/a	n/a	0.01	A	0.01	
2	"B" St & Driveway 2	U	n/a	n/a	0.08	A	0.08		n/a	n/a	0.02	A	0.02	
3	Driveway 3 & "LQ" St	U	n/a	n/a	0.06	A	0.06		n/a	n/a	0.03	A	0.03	
4	Driveway 4 & "LQ" St	U	n/a	n/a	0.10	A	0.10		n/a	n/a	0.02	A	0.02	
5	"LQ" St & Driveway 5	U	n/a	n/a	0.08	A	0.08		n/a	n/a	0.04	A	0.04	
6	"LQ" St & Driveway 6	U	n/a	n/a	0.47	A	0.47		n/a	n/a	0.14	A	0.14	

Intersection	Control	AM Peak Hour							PM Peak Hour					
		No Project		With Project		Change in V/C	Impact	No Project		With Project		Change in V/C	Impact	
		V/C Delay	LOS	V/C Delay	LOS			V/C Delay	LOS	V/C Delay	LOS			
7	"LQ" St & Driveway 7	U	n/a	n/a	0.00	A	0.00		n/a	n/a	0.00	A	0.00	
282	Jeffrey Rd & Portola Pkwy	S	0.79	C	0.66	B	-0.13		0.76	C	0.76	C	0.00	
283	Jeffrey Rd & Irvine Blvd	S	0.74	C	0.74	C	0.00		0.72	C	0.72	C	0.00	
284	Jeffrey Rd & Bryan Ave	S	0.76	C	0.76	C	0.00		0.70	B	0.70	B	0.00	
285	Jeffrey Rd & Trabuco Rd	S	0.69	B	0.69	B	0.00		0.78	C	0.78	C	0.00	
300	Sand Canyon Ave & Portola Pkwy	S	0.44	A	0.44	A	0.00		0.60	A	0.60	A	0.00	
301	Sand Canyon Ave & Irvine Blvd	S	0.77	C	0.79	C	0.02		0.79	C	0.79	C	0.01	
302	Sand Canyon Ave & Trabuco Rd	S	0.80	D	0.82	D	0.02		0.82	D	0.83	D	0.00	
303	Sand Canyon Ave & I-5 NB Ramps	S	0.88	D	0.89	D	0.00		0.97	E	0.97	E	0.00	
305	Sand Canyon Ave & I-5 SB Ramps	S	1.01	F	1.02	F	0.00		0.86	D	0.86	D	0.00	
444	Sand Canyon Ave & Burt Rd	S	0.89	D	0.89	D	0.00		0.88	D	0.88	D	0.00	
306	Sand Canyon Ave & Oak Cyn Rd	S	0.89	D	0.89	D	0.00		0.79	C	0.79	C	0.00	
316	SR-133 SB Ramps & Irvine Blvd	S	0.49	A	0.53	A	0.04		0.59	A	0.61	B	0.02	
317	SR-133 NB Ramps & Irvine Blvd	S	0.56	A	0.66	B	0.10		0.78	C	0.80	D	0.03	
338	Alton Pkwy & Irvine Blvd	S	0.92	E	0.92	E	0.01		0.94	E	0.94	E	0.00	
339	Alton Pkwy & Toledo Way	S	0.86	D	0.86	D	0.00		0.70	B	0.70	C	0.00	
340	Alton Pkwy & Jeronimo Rd	S	0.75	C	0.75	C	0.00		0.59	A	0.59	A	0.00	
341	Alton Pkwy & Barranca Pkwy	S	0.63	B	0.64	B	0.01		0.79	C	0.79	C	0.00	
367	Bake Pkwy & I-5 NB Ramps	S	0.85	D	0.86	D	0.00		0.62	B	0.62	B	0.00	
368	Bake Pkwy & I-5/I-405 SB Ramps	S	0.80	C	0.80	C	0.00		0.90	E	0.90	E	0.00	
486	SR-133 SB Ramps & Trabuco Rd	S	0.51	A	0.51	A	0.00		0.54	A	0.54	A	0.00	
487	SR-133 NB Ramps & Trabuco Rd	S	0.50	A	0.50	A	0.00		0.59	A	0.59	A	0.00	
556	Ridge Valley & Portola Pkwy	S	0.58	A	0.58	A	0.00		0.56	A	0.56	A	0.00	
557	"O" St & "C" St	S	0.33	A	0.33	A	0.00		0.26	A	0.26	A	0.00	
558	Ridge Valley/"O" St & Irvine Blvd	S	0.59	A	0.67	B	0.08		0.78	C	0.80	D	0.02	
559	"O" St & Trabuco Rd	S	0.89	D	0.89	D	0.00		0.77	C	0.77	C	0.00	
560	"O" St & Marine Way	S	0.55	A	0.55	A	0.00		0.66	B	0.66	B	0.00	

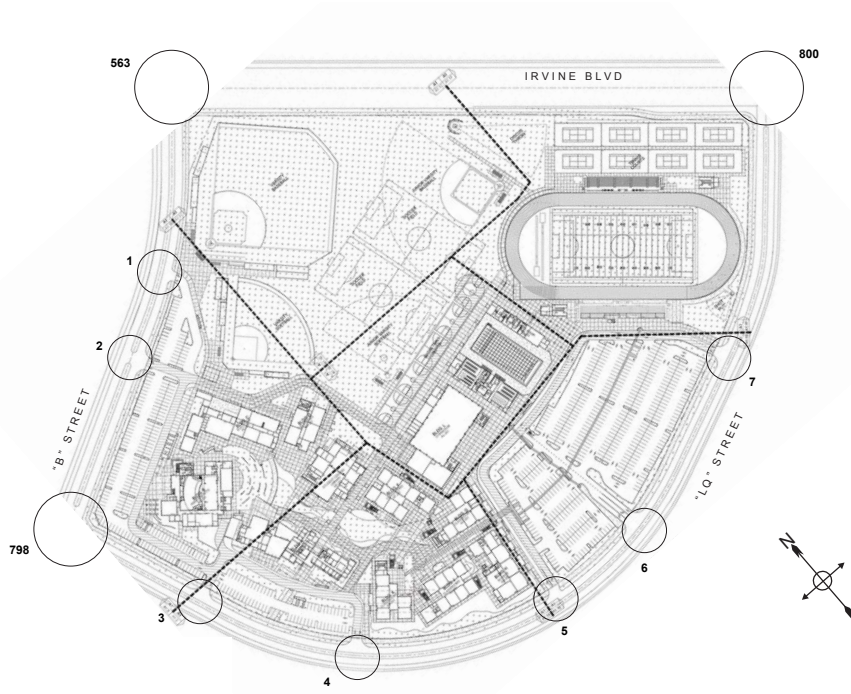
Intersection		Control	AM Peak Hour						PM Peak Hour					
			No Project		With Project		Change in V/C	Impact	No Project		With Project		Change in V/C	Impact
			V/C Delay	LOS	V/C Delay	LOS			V/C Delay	LOS	V/C Delay	LOS		
563	"B" St & Irvine Blvd	S	0.59	A	0.74	C	0.15		0.72	C	0.77	C	0.05	
566	Marine Way & Barranca Pkwy	S	0.68	B	0.68	B	0.00		0.64	B	0.65	B	0.00	
567	Marine Way & Alton Pkwy	S	0.70	C	0.71	C	0.00		0.63	B	0.63	B	0.00	
569	Bake Pkwy & Marine Way	S	0.83	D	0.84	D	0.00		0.76	C	0.76	C	0.00	
571	Portola Springs & Portola Pkwy	S	0.60	A	0.60	B	0.00		0.50	A	0.51	A	0.00	
572	Modjeska/"A" St & Irvine Blvd	S	0.62	B	0.71	C	0.09		0.76	C	0.78	C	0.02	
603	"O" St & "LN" St	S	0.39	A	0.39	A	0.00		0.33	A	0.33	A	0.00	
605	"O" St & "LQ" St	R	0.46	A	0.46	A	0.00		0.40	A	0.41	A	0.00	
608	"O" St & "LV" St	S	0.35	A	0.35	A	0.00		0.34	A	0.34	A	0.00	
626	"LY" St & "LQ" St	R	0.41	A	0.42	A	0.02		0.39	A	0.39	A	0.00	
627	"LY" St & Irvine Blvd	S	0.50	A	0.57	A	0.08		0.62	B	0.63	B	0.02	
631	"LY" St & Trabuco Rd	U	0.03	A	0.03	A	0.00		0.10	A	0.10	A	0.00	
782	"A" St & "LQ" St	R	0.33	A	0.35	A	0.02		0.36	A	0.37	A	0.01	
787	"Z" St & "LQ" St	U	0.01	A	0.02	A	0.01		0.02	A	0.02	A	0.00	
790	"Z" St & Irvine Blvd	S	0.65	B	0.75	C	0.10		0.73	C	0.76	C	0.02	
798	"B" St & "LQ" St	S	0.33	A	0.46	A	0.13		0.40	A	0.41	A	0.01	
799	"B" St & Marine Way	S	0.77	C	0.77	C	0.00		0.70	C	0.71	C	0.00	
800	"A-02" St/"LQ" St & Irvine Blvd	S	0.81	D	0.82	D	0.01		0.74	C	0.74	C	0.00	

Table 7-12 Year 2035 (2012 Modified Project Option 2) Peak Hour Intersection LOS Comparison

Intersection		Control	AM Peak Hour						PM Peak Hour					
			No Project		With Project		Change in V/C	Impact	No Project		With Project		Change in V/C	Impact
			V/C Delay	LOS	V/C Delay	LOS			V/C Delay	LOS	V/C Delay	LOS		
1	"B" St & Driveway 1	U	n/a	n/a	0.01	A	0.01		n/a	n/a	0.01	A	0.01	
2	"B" St & Driveway 2	U	n/a	n/a	0.08	A	0.08		n/a	n/a	0.02	A	0.02	
3	Driveway 3 & "LQ" St	U	n/a	n/a	0.06	A	0.06		n/a	n/a	0.03	A	0.03	
4	Driveway 4 & "LQ" St	U	n/a	n/a	0.10	A	0.10		n/a	n/a	0.02	A	0.02	
5	"LQ" St & Driveway 5	U	n/a	n/a	0.08	A	0.08		n/a	n/a	0.04	A	0.04	
6	"LQ" St & Driveway 6	U	n/a	n/a	0.47	A	0.47		n/a	n/a	0.14	A	0.14	
7	"LQ" St & Driveway 7	U	n/a	n/a	0.00	A	0.00		n/a	n/a	0.00	A	0.00	
282	Jeffrey Rd & Portola Pkwy	S	0.67	B	0.67	B	0.00		0.64	B	0.64	B	0.00	
283	Jeffrey Rd & Irvine Blvd	S	0.74	C	0.74	C	0.00		0.71	C	0.72	C	0.00	
284	Jeffrey Rd & Bryan Ave	S	0.76	C	0.76	C	0.00		0.78	C	0.78	C	0.00	
285	Jeffrey Rd & Trabuco Rd	S	0.66	B	0.66	B	0.00		0.78	C	0.78	C	0.00	
300	Sand Canyon Ave & Portola Pkwy	S	0.44	A	0.44	A	0.00		0.60	A	0.60	A	0.00	
301	Sand Canyon Ave & Irvine Blvd	S	0.77	C	0.79	C	0.02		0.79	C	0.79	C	0.01	
302	Sand Canyon Ave & Trabuco Rd	S	0.80	D	0.82	D	0.02		0.82	D	0.83	D	0.00	
303	Sand Canyon Ave & I-5 NB Ramps	S	0.89	D	0.89	D	0.00		0.96	E	0.96	E	0.00	
305	Sand Canyon Ave & I-5 SB Ramps	S	1.01	F	1.01	F	0.00		0.86	D	0.87	D	0.00	
444	Sand Canyon Ave & Burt Rd	S	0.89	D	0.89	D	0.00		0.88	D	0.88	D	0.00	
306	Sand Canyon Ave & Oak Cyn Rd	S	0.89	D	0.89	D	0.00		0.79	C	0.80	C	0.00	
316	SR-133 SB Ramps & Irvine Blvd	S	0.49	A	0.53	A	0.04		0.59	A	0.61	B	0.02	
317	SR-133 NB Ramps & Irvine Blvd	S	0.56	A	0.66	B	0.10		0.77	C	0.79	C	0.03	
338	Alton Pkwy & Irvine Blvd	S	0.91	E	0.93	E	0.02		0.94	E	0.94	E	0.00	
339	Alton Pkwy & Toledo Way	S	0.86	D	0.86	D	0.00		0.70	B	0.70	B	0.00	
340	Alton Pkwy & Jeronimo Rd	S	0.75	C	0.75	C	0.00		0.59	A	0.59	A	0.00	
341	Alton Pkwy & Barranca Pkwy	S	0.63	B	0.64	B	0.01		0.80	C	0.80	C	0.00	
367	Bake Pkwy & I-5 NB Ramps	S	0.86	D	0.86	D	0.00		0.61	B	0.62	B	0.00	
368	Bake Pkwy & I-5/I-405 SB Ramps	S	0.80	C	0.80	C	0.00		0.90	D	0.90	D	0.00	

Intersection		Control	AM Peak Hour						PM Peak Hour					
			No Project		With Project		Change in V/C	Impact	No Project		With Project		Change in V/C	Impact
			V/C Delay	LOS	V/C Delay	LOS			V/C Delay	LOS	V/C Delay	LOS		
486	SR-133 SB Ramps & Trabuco Rd	S	0.53	A	0.53	A	0.00		0.54	A	0.54	A	0.00	
487	SR-133 NB Ramps & Trabuco Rd	S	0.50	A	0.50	A	0.00		0.60	B	0.60	B	0.00	
556	Ridge Valley & Portola Pkwy	S	0.58	A	0.58	A	0.00		0.56	A	0.56	A	0.00	
557	"O" St & "C" St	R	0.33	A	0.33	A	0.00		0.26	A	0.26	A	0.00	
558	Ridge Valley/"O" St & Irvine Blvd	S	0.59	A	0.67	B	0.08		0.78	C	0.80	D	0.02	
559	"O" St & Trabuco Rd	S	0.89	D	0.89	D	0.00		0.77	C	0.77	C	0.00	
560	"O" St & Marine Way	S	0.55	A	0.55	A	0.00		0.66	B	0.66	B	0.00	
563	"B" St & Irvine Blvd	S	0.59	A	0.74	C	0.15		0.72	C	0.76	C	0.04	
566	Marine Way & Barranca Pkwy	S	0.69	B	0.69	B	0.00		0.64	B	0.65	B	0.00	
567	Marine Way & Alton Pkwy	S	0.70	C	0.70	C	0.00		0.63	B	0.63	B	0.00	
569	Bake Pkwy & Marine Way	S	0.83	D	0.84	D	0.00		0.76	C	0.76	C	0.00	
571	Portola Springs & Portola Pkwy	S	0.60	B	0.60	B	0.00		0.50	A	0.50	A	0.00	
572	Modjeska/"A" St & Irvine Blvd	S	0.62	B	0.71	C	0.09		0.76	C	0.78	C	0.02	
603	"O" St & "LN" St	S	0.39	A	0.39	A	0.00		0.32	A	0.32	A	0.00	
605	"O" St & "LQ" St	R	0.45	A	0.45	A	0.00		0.42	A	0.42	A	0.00	
608	"O" St & "LV" St	S	0.35	A	0.35	A	0.00		0.37	A	0.37	A	0.00	
626	"LY" St & "LQ" St	R	0.41	A	0.42	A	0.01		0.38	A	0.38	A	0.00	
627	"LY" St & Irvine Blvd	S	0.50	A	0.57	A	0.08		0.62	B	0.63	B	0.02	
631	"LY" St & Trabuco Rd	U	0.02	A	0.02	A	0.00		0.10	A	0.10	A	0.00	
782	"A" St & "LQ" St	R	0.34	A	0.36	A	0.02		0.37	A	0.37	A	0.01	
787	"Z" St & "LQ" St	U	0.01	A	0.02	A	0.01		0.03	A	0.03	A	0.00	
790	"Z" St & Irvine Blvd	S	0.65	B	0.75	C	0.10		0.74	C	0.76	C	0.02	
798	"B" St & "LQ" St	S	0.33	A	0.47	A	0.13		0.40	A	0.41	A	0.01	
799	"B" St & Marine Way	S	0.77	C	0.77	C	0.00		0.70	C	0.71	C	0.00	
800	"A-02" St/"LQ" St & Irvine Blvd	S	0.81	D	0.82	D	0.01		0.74	C	0.75	C	0.00	

Figure 7.4 Year 2035 Peak Hour Volumes - 2011 Approved Project - With Project



<p>N/S Street: "B" St E/W Street: Driveway 1</p> <pre> 600/188 0/0 ↓ ↓ 0/0 0/0 ↓ ↓ 2/4 0/0 → ① ← 0/0 0/0 ↓ ↓ 0/0 208/372 </pre>	<p>N/S Street: Sand Canyon Ave E/W Street: Driveway 2</p> <pre> 466/159 0/0 ↓ ↓ 134/29 0/0 ↓ ↓ 42/21 0/0 → ② ← 0/0 0/0 ↓ ↓ 17/9 0/0 ↓ ↓ 0/0 148/329 </pre>	<p>N/S Street: Driveway 3 E/W Street: "LQ" St</p> <pre> 42/21 0/0 45/10 ↓ ↓ 15/3 522/303 → ③ ← 340/364 0/0 ↓ ↓ 0/0 0/0 ↓ ↓ 0/0 0/0 </pre>	<p>N/S Street: Driveway 4 E/W Street: "LQ" St</p> <pre> 10/5 0/0 59/13 ↓ ↓ 3/2 462/291 → ④ ← 344/362 0/0 ↓ ↓ 0/0 0/0 ↓ ↓ 0/0 0/0 </pre>
<p>N/S Street: "LQ" St E/W Street: Driveway 5</p> <pre> 469/384 0/0 ↓ ↓ 0/0 0/0 ↓ ↓ 0/0 0/0 → ⑤ ← 0/0 52/27 ↓ ↓ 0/0 0/0 ↓ ↓ 0/0 466/293 </pre>	<p>N/S Street: "LQ" St E/W Street: Driveway 6</p> <pre> 448/373 171/37 ↓ ↓ 0/0 0/0 ↓ ↓ 0/0 154/79 ↓ ↓ 0/0 0/0 → ⑥ ← 0/0 21/11 ↓ ↓ 0/0 74/13 ↓ ↓ 0/0 321/649 </pre>	<p>N/S Street: "LQ" St E/W Street: Driveway 7</p> <pre> 745/443 223/48 ↓ ↓ 0/0 0/0 ↓ ↓ 0/0 0/0 → ⑦ ← 0/0 0/0 ↓ ↓ 0/0 0/13 ↓ ↓ 0/0 475/728 </pre>	<p>N/S Street: "B" St E/W Street: Irvine Blvd</p> <pre> 0/0 0/0 0/0 ↓ ↓ 0/0 3282/2019 → ⑤63 ← 2163/3222 417/96 ↓ ↓ 183/91 166/224 ↓ ↓ 48/152 0/0 </pre>
<p>N/S Street: "Z" St E/W Street: "LQ" St</p> <pre> 0/0 23/1 ↓ ↓ 11/3 11/55 ↓ ↓ 7/2 526/304 → ⑦87 ← 287/382 0/0 ↓ ↓ 0/0 0/0 ↓ ↓ 0/0 0/0 </pre>	<p>N/S Street: "Z" St E/W Street: Irvine Blvd</p> <pre> 34/20 135/80 ↓ ↓ 219/64 39/82 ↓ ↓ 36/114 3371/1998 → ⑦90 ← 2241/3206 68/70 ↓ ↓ 50/95 54/71 ↓ ↓ 85/55 8/25 </pre>	<p>N/S Street: "B" St E/W Street: "LQ" St</p> <pre> 356/119 17/9 ↓ ↓ 89/19 7/2 ↓ ↓ 101/48 476/286 → ⑦98 ← 270/333 55/19 ↓ ↓ 11/4 8/42 ↓ ↓ 1/8 54/283 </pre>	<p>N/S Street: "A-02" St/"LQ" St E/W Street: Irvine Blvd</p> <pre> 83/31 34/29 ↓ ↓ 137/74 25/38 ↓ ↓ 54/176 2869/2054 → ⑧00 ← 2130/3035 531/168 ↓ ↓ 480/324 196/236 ↓ ↓ 254/411 24/82 </pre>
<p>N/S Street: SR-133 SB Ramps E/W Street: Trabuco Rd</p> <pre> 426/225 0/0 0/0 ↓ ↓ 242/184 856/1162 → ④86 ← 1341/1369 421/374 ↓ ↓ 376/359 0/0 ↓ ↓ 0/0 0/0 </pre>	<p>N/S Street: SR-133 NB Ramps E/W Street: Trabuco Rd</p> <pre> 0/0 0/0 0/0 ↓ ↓ 0/0 856/1162 → ④87 ← 1416/1281 53/214 ↓ ↓ 141/303 297/445 ↓ ↓ 594/557 0/0 </pre>		

LEGEND

- Study Intersection - Signalized
- Study Intersection - Unsignalized
- Study Intersection - Roundabout
- # Study Intersection Number
- ## ↓ Turning Movement Volume
- ##/## AM Peak Hour/PM Peak Hour

Figure 7.4 Year 2035 Peak Hour Volumes - 2011 Approved Project - With Project

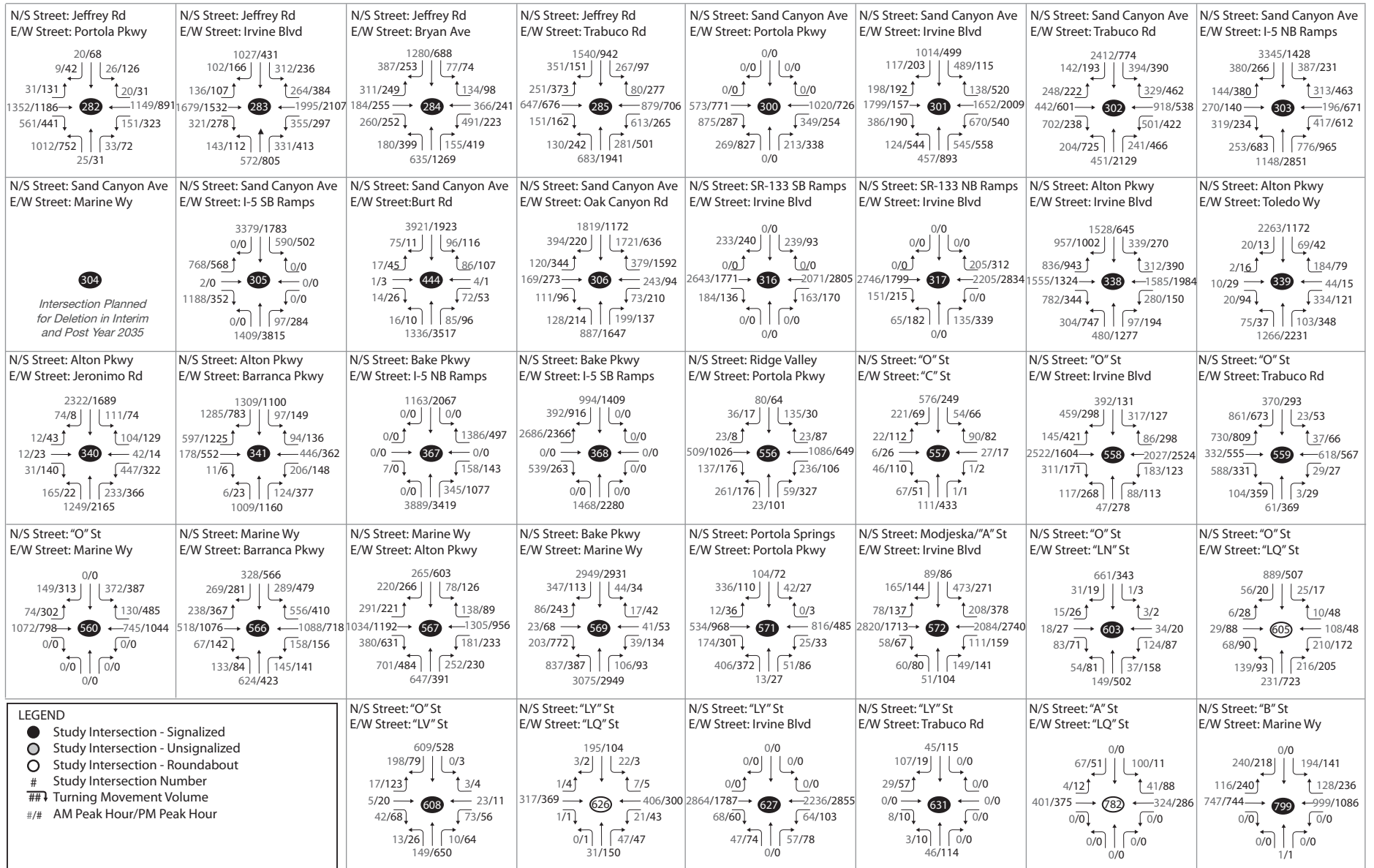
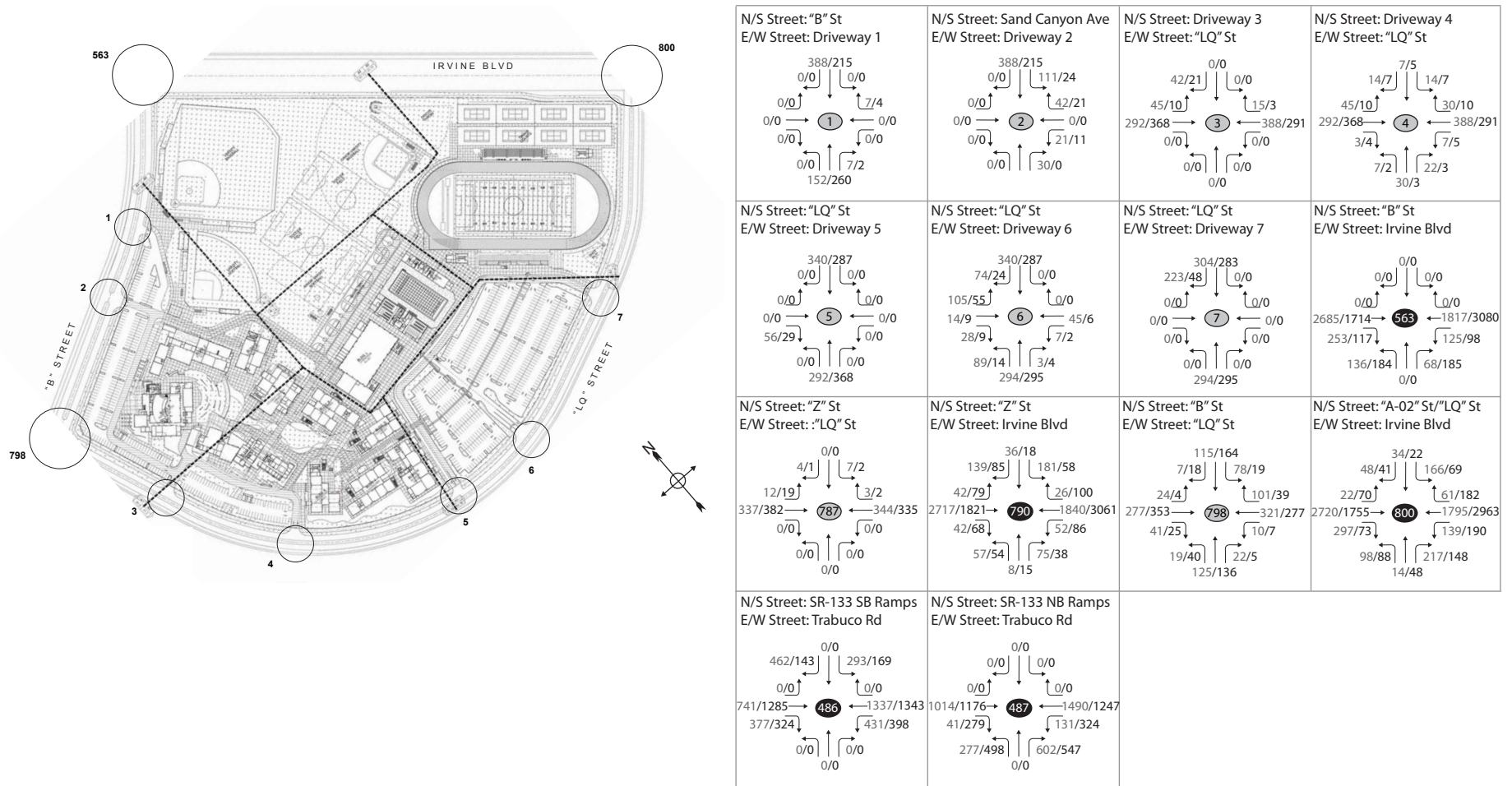


Figure 7.5 Year 2035 Peak Hour Volumes - 2012 Modified Project Option 1 - With Project



LEGEND

- Study Intersection - Signalized
- Study Intersection - Unsignalized
- Study Intersection - Roundabout
- # Study Intersection Number
- ## ↓ Turning Movement Volume
- ##/## AM Peak Hour/PM Peak Hour

Figure 7.5 Year 2035 Peak Hour Volumes - 2012 Modified Project Option 1 - With Project

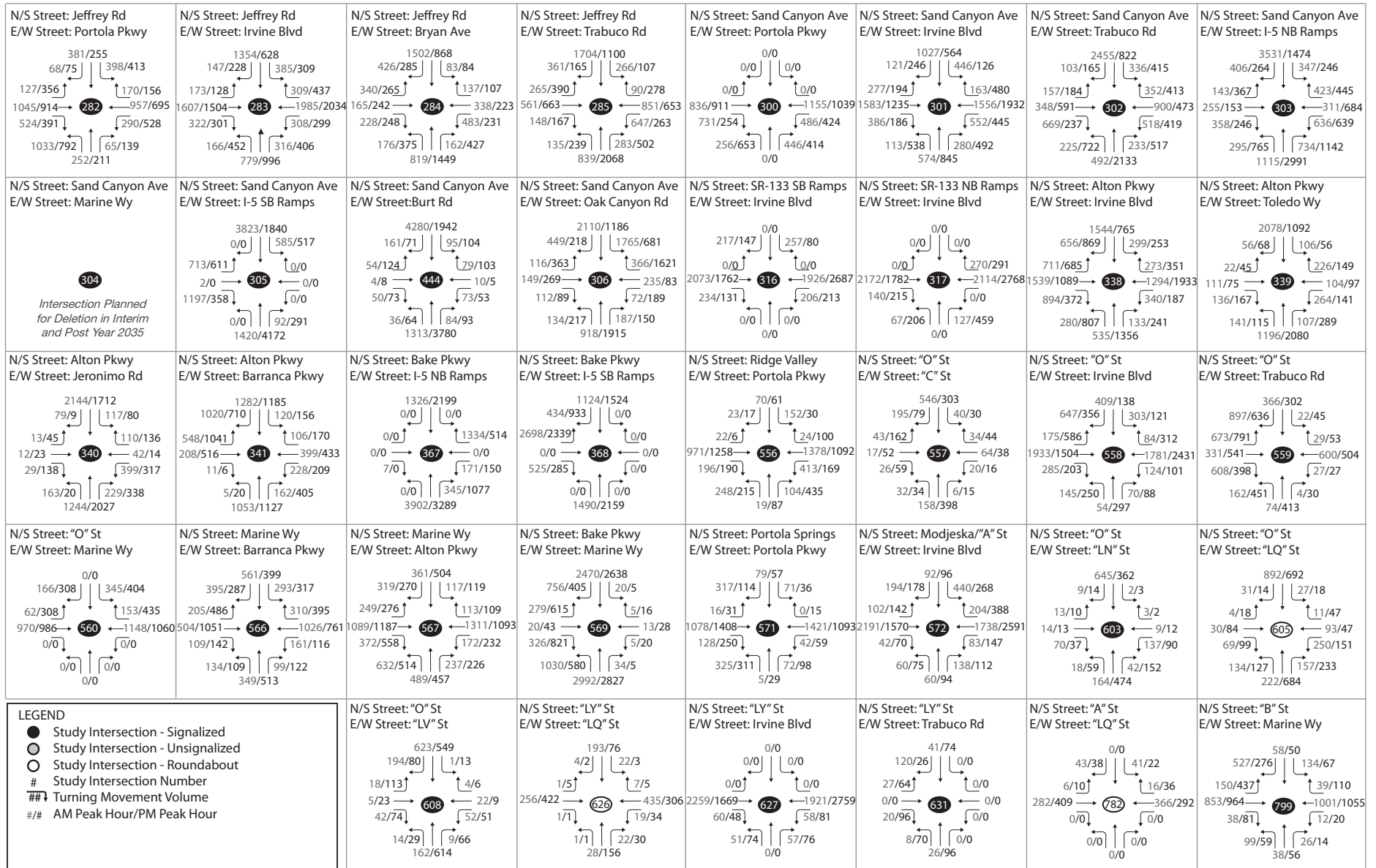
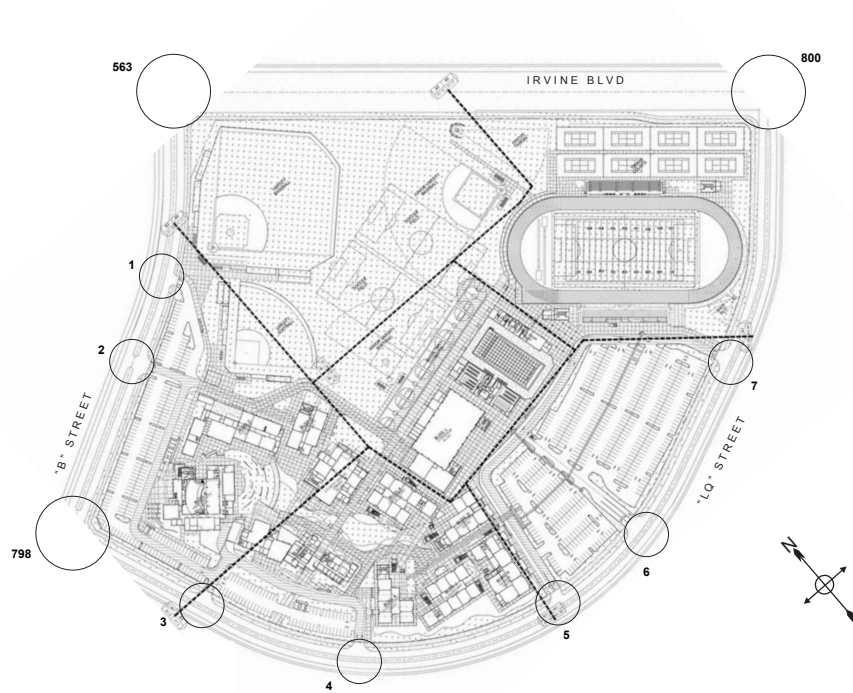


Figure 7.6 Year 2035 Peak Hour Volumes - 2012 Modified Project Option 2 - With Project

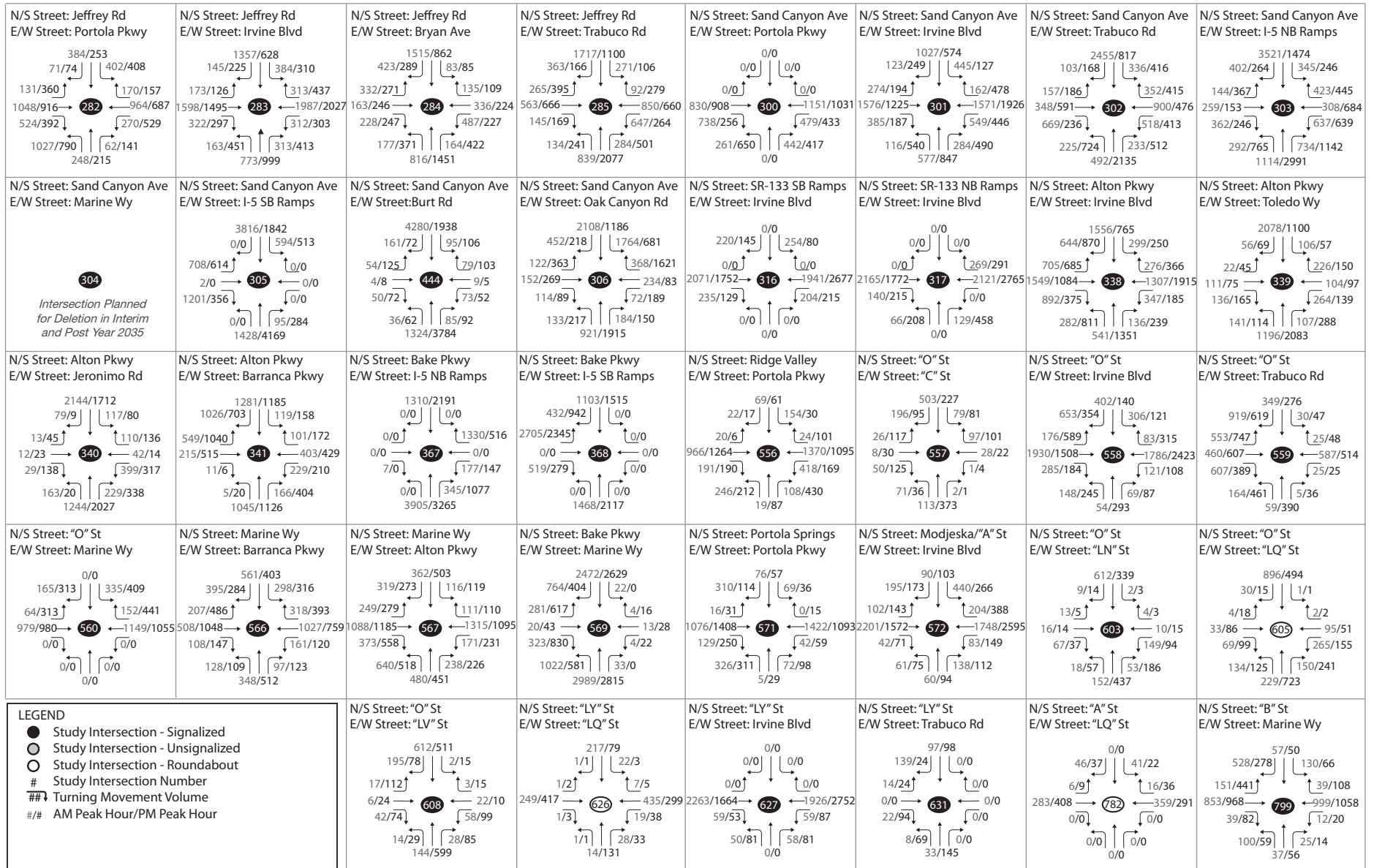


<p>N/S Street: "B" St E/W Street: Driveway 1</p> <p>388/215 0/0 ↓ 0/0 0/0 → 1 ← 0/0 0/0 ↓ 7/2 152/260</p>	<p>N/S Street: Sand Canyon Ave E/W Street: Driveway 2</p> <p>388/215 0/0 ↓ 111/24 0/0 → 2 ← 0/0 0/0 ↓ 21/11 172/158</p>	<p>N/S Street: Driveway 3 E/W Street: "LQ" St</p> <p>42/21 ↓ 0/0 45/10 → 3 ← 388/290 0/0 ↓ 0/0 0/0 ↓ 0/0</p>	<p>N/S Street: Driveway 4 E/W Street: "LQ" St</p> <p>7/5 ↓ 14/7 45/10 → 4 ← 30/10 3/4 ↓ 7/5 7/2 ↓ 22/3 30/3</p>
<p>N/S Street: "LQ" St E/W Street: Driveway 5</p> <p>340/285 0/0 ↓ 0/0 0/0 → 5 ← 0/0 56/29 ↓ 0/0 293/370</p>	<p>N/S Street: "LQ" St E/W Street: Driveway 6</p> <p>340/285 74/24 ↓ 0/0 105/55 → 6 ← 45/6 14/9 ↓ 28/9 89/14 ↓ 3/4 294/294</p>	<p>N/S Street: "LQ" St E/W Street: Driveway 7</p> <p>304/2883 223/48 ↓ 0/0 0/0 → 7 ← 0/0 0/29 ↓ 0/0 0/0 ↓ 0/0 294/370</p>	<p>N/S Street: "B" St E/W Street: Irvine Blvd</p> <p>0/0 ↓ 0/0 0/0 → 563 ← 0/0 2694/2694 → 563 ← 1829/1829 243/243 ↓ 123/123 136/184 ↓ 69/85 0/0</p>
<p>N/S Street: "Z" St E/W Street: "LQ" St</p> <p>0/0 3/1 ↓ 7/2 12/19 → 787 ← 336/334 0/0 ↓ 0/0 0/0 ↓ 0/0</p>	<p>N/S Street: "Z" St E/W Street: Irvine Blvd</p> <p>36/18 139/85 ↓ 181/58 42/79 → 790 ← 26/100 2717/1821 → 790 ← 1851/3061 42/68 ↓ 52/86 57/54 ↓ 75/38 8/15</p>	<p>N/S Street: "B" St E/W Street: "LQ" St</p> <p>115/161 7/18 ↓ 78/19 23/3 → 798 ← 101/39 277/354 → 798 ← 313/277 41/26 ↓ 10/7 19/40 ↓ 22/5 125/136</p>	<p>N/S Street: "A-02" St/"LQ" St E/W Street: Irvine Blvd</p> <p>36/22 50/41 ↓ 165/69 23/70 → 800 ← 60/182 2724/1755 → 800 ← 1802/2963 297/73 ↓ 137/190 98/88 ↓ 213/148 14/48</p>
<p>N/S Street: SR-133 SB Ramps E/W Street: Trabuco Rd</p> <p>455/143 ↓ 0/0 0/0 → 486 ← 299/169 735/1285 → 486 ← 1334/1343 374/324 ↓ 445/398 0/0 ↓ 0/0</p>	<p>N/S Street: SR-133 NB Ramps E/W Street: Trabuco Rd</p> <p>0/0 ↓ 0/0 0/0 → 487 ← 0/0 1014/1181 → 487 ← 1499/1254 41/275 ↓ 131/329 279/491 ↓ 613/554 0/0</p>		

LEGEND

- Study Intersection - Signalized
- Study Intersection - Unsignalized
- Study Intersection - Roundabout
- # Study Intersection Number
- ## ↓ Turning Movement Volume
- ##/## AM Peak Hour/PM Peak Hour

Figure 7.6 Year 2035 Peak Hour Volumes - 2012 Modified Project Option 2 - With Project



7.1.3 Post-2035

Post-2035 with project ADT volumes on study area arterials are listed in Table 7-13. Table 7-14 includes a summary of the Post-2035 (2012 Modified Project Option 1) with project, and Table 7-15 includes the Post-2035 (2012 Modified Project Option 2) with project analysis summary results.

Post-2035 With Project (2011 Approved Project) deficient segment locations includes:

- Sand Canyon Ave: Portola Pkwy to Irvine Blvd - LOS E
- Sand Canyon Ave: Trabuco Rd to Marine Way - LOS E
- Portola Pkwy: Jeffrey Rd to Sand Canyon Ave - LOS E
- Irvine Boulevard: "Z" St to "B" St - LOS E
- Irvine Boulevard: "LQ" St to Alton Parkway - LOS F

Post-2035 With Project (2012 Modified Project Options 1 and 2) deficient segment locations include:

- Sand Canyon Ave: Trabuco Rd to Marine Way - LOS E
- Portola Pkwy: Jeffrey Rd to Sand Canyon Ave - LOS E
- Irvine Boulevard: "Z" St to "B" St - LOS E
- Irvine Boulevard: "LQ" St to Alton Parkway - LOS F

Post-2035 with project intersection volumes are shown in Figure 7.7. Figures 7.8 and 7.9 show the Post-2035 (2012 Modified Project Options 1 and 2), respectively. A summary of the level of service intersection analysis results for the Post-2035 with project condition is included in Table 7-16. Table 7-17 includes a summary of the 2035 (2012 Modified Project Option 1) with project, and Table 7-18 includes the Post-2035 (2012 Modified Project Option 2) with project analysis summary results.

Post-2035 With Project (2011 Approved Project) deficient intersection locations:

- Sand Canyon Avenue and I-5 NB Ramps (#303) - LOS E, AM and LOS F PM
- Sand Canyon Avenue and I-5 SB Ramps (#305) - LOS F, AM
- Sand Canyon Avenue and Burt Road (#444) - LOS E, AM and PM
- Sand Canyon Avenue and Oak Canyon Road (#306) - LOS E, AM
- "A-02" Street/"LQ" Street and Irvine Boulevard (#800) - LOS E, AM

Post-2035 (2012 Modified Project Options 1 and 2) With Project deficient intersection locations:

- Sand Canyon Avenue and I-5 NB Ramps (#303) - LOS E, AM and PM
- Sand Canyon Avenue and I-5 SB Ramps (#305) - LOS F, AM
- Sand Canyon Avenue and Burt Road (#444) - LOS E, AM and PM
- Sand Canyon Avenue and Oak Canyon Road (#306) - LOS E, AM

Table 7-13 Post-2035 (2011 Approved Project) Arterial Level of Service

#	Street Name	Limits	# Lanes	Capacity	Post-2035 NP ADT			Post-2035 WP ADT		
					ADT	V/C	LOS	ADT	V/C	LOS
1	Jeffrey Rd	Irvine Blvd to Bryan Ave	6D	54,000	37,733	0.700	B	37,863	0.700	B
2	Sand Canyon Ave	Portola Pkwy to Irvine Blvd	4D	32,000	28,921	0.900	D	29,141	0.910	E
3	Sand Canyon Ave	Irvine Blvd to Trabuco Rd	6D	54,000	31,009	0.570	A	32,339	0.600	A
4	Sand Canyon Ave	Trabuco Rd to Marine Way	8D	72,000	67,214	0.930	E	67,344	0.940	E
5	Sand Canyon Ave	Marine Way to Oak Canyon Rd	8D	72,000	56,982	0.790	C	57,022	0.790	C
6	Alton Pkwy	Irvine Blvd to Toledo Wy	6D	54,000	34,462	0.640	B	34,682	0.640	B
7	Alton Pkwy	Toledo Wy to Jeronimo Rd	6D	54,000	37,690	0.700	B	37,910	0.700	B
8	Alton Pkwy	Jeronimo Rd to Barranca Pkwy	6D	54,000	45,706	0.850	D	45,926	0.850	D
9	Portola Pkwy	Jeffrey Rd to Sand Canyon Ave	4D	32,000	29,653	0.930	E	29,693	0.930	E
10	Portola Pkwy	Sand Canyon Ave to Ridge Valley	4D	32,000	25,510	0.800	C	25,550	0.800	C
11	Portola Pkwy	Ridge Valley to Modjeska	4D	32,000	28,200	0.880	D	28,290	0.880	D
12	Irvine Blvd	Jeffrey Rd to Sand Canyon Ave	6D	54,000	38,110	0.710	C	39,090	0.720	C
13	Irvine Blvd	Sand Canyon Ave to SR-133 Fwy	6D	54,000	39,369	0.730	C	41,679	0.770	C
14	Irvine Blvd	SR-133 Fwy to Ridge Valley	6D	54,000	42,908	0.790	C	45,528	0.840	D
15	Irvine Blvd	Ridge Valley to "LY" St	6D	54,000	39,067	0.720	C	41,957	0.780	C
16	Irvine Blvd	"Z" St to "B" St	6D	54,000	46,836	0.870	D	50,306	0.930	E
17	Irvine Blvd	"LQ" St to Alton Pkwy	6D	54,000	58,025	1.070	F	58,245	1.080	F
18	Trabuco Rd	Jeffrey Rd to Sand Canyon Ave	4D	32,000	20,034	0.630	B	20,614	0.640	B
19	"O" St	Portola Pkwy to Irvine Blvd	4D	32,000	16,053	0.500	A	16,233	0.510	A
20	"O" St	Irvine Blvd to "C" St	4D	32,000	11,846	0.370	A	11,936	0.370	A
21	"O" St	"C" St to "LN" St	4D	32,000	10,394	0.320	A	10,434	0.330	A
22	"O" St	"LN" St to "LQ" St	4D	32,000	14,159	0.440	A	14,199	0.440	A
23	"O" St	"LQ" St to Trabuco Rd	4D	32,000	21,637	0.680	B	21,677	0.680	B
24	"O" St	Trabuco Rd to "LV" St	4D	32,000	12,976	0.410	A	13,016	0.410	A
25	"B" St	Irvine Blvd to "LQ" St	2D	13,000	4,304	0.330	A	4,304	0.330	A
26	"B" St	"LQ" St to Marine Wy	2D	13,000	6,617	0.510	A	6,617	0.510	A
27	"LQ" St	"O" St to "C" St	2D	13,000	6,316	0.490	A	6,446	0.500	A
28	"LQ" St	"C" St to "LY" St	2D	13,000	7,177	0.550	A	7,307	0.560	A
29	"LQ" St	"LY" St to "A" St	2D	13,000	6,789	0.520	A	7,229	0.560	A

#	Street Name	Limits	# Lanes	Capacity	Post-2035 NP ADT			Post-2035 WP ADT		
					ADT	V/C	LOS	ADT	V/C	LOS
30	"LQ" St	"A" St to "Z" St	2D	13,000	6,434	0.490	A	7,054	0.540	A

Table 7-14 Post-2035 (2012 Modified Project Option 1) Arterial Level of Service

#	Street Name	Limits	# Lanes	Capacity	Post-2035 NP ADT			Post-2035 WP ADT		
					ADT	V/C	LOS	ADT	V/C	LOS
1	Jeffrey Rd	Irvine Blvd to Bryan Ave	6D	54,000	38,637	0.720	C	38,727	0.720	C
2	Sand Canyon Ave	Portola Pkwy to Irvine Blvd	4D	32,000	28,491	0.890	D	28,711	0.900	D
3	Sand Canyon Ave	Irvine Blvd to Trabuco Rd	6D	54,000	31,019	0.570	A	32,039	0.590	A
4	Sand Canyon Ave	Trabuco Rd to Marine Way	8D	72,000	66,568	0.920	E	66,698	0.930	E
5	Sand Canyon Ave	Marine Way to Oak Canyon Rd	8D	72,000	57,358	0.800	C	57,398	0.800	C
6	Alton Pkwy	Irvine Blvd to Toledo Wy	6D	54,000	33,924	0.630	B	34,144	0.630	B
7	Alton Pkwy	Toledo Wy to Jeronimo Rd	6D	54,000	36,829	0.680	B	37,049	0.690	B
8	Alton Pkwy	Jeronimo Rd to Barranca Pkwy	6D	54,000	44,845	0.830	D	45,065	0.830	D
9	Portola Pkwy	Jeffrey Rd to Sand Canyon Ave	4D	32,000	29,760	0.930	E	29,800	0.930	E
10	Portola Pkwy	Sand Canyon Ave to Ridge Valley	4D	32,000	25,726	0.800	C	25,766	0.810	D
11	Portola Pkwy	Ridge Valley to Modjeska	4D	32,000	28,200	0.880	D	28,290	0.880	D
12	Irvine Blvd	Jeffrey Rd to Sand Canyon Ave	6D	54,000	38,680	0.720	C	39,480	0.730	C
13	Irvine Blvd	Sand Canyon Ave to SR-133 Fwy	6D	54,000	40,541	0.750	C	42,361	0.780	C
14	Irvine Blvd	SR-133 Fwy to Ridge Valley	6D	54,000	44,339	0.820	D	46,429	0.860	D
15	Irvine Blvd	Ridge Valley to "LY" St	6D	54,000	40,595	0.750	C	42,865	0.790	C
16	Irvine Blvd	"Z" St to "B" St	6D	54,000	48,772	0.900	D	51,442	0.950	E
17	Irvine Blvd	"LQ" St to Alton Pkwy	6D	54,000	54,206	1.000	E	54,426	1.010	F
18	Trabuco Rd	Jeffrey Rd to Sand Canyon Ave	4D	32,000	20,400	0.640	B	20,840	0.650	B
19	"O" St	Portola Pkwy to Irvine Blvd	4D	32,000	14,134	0.440	A	14,264	0.450	A
20	"O" St	Irvine Blvd to "C" St	4D	32,000	11,362	0.360	A	11,402	0.360	A
21	"O" St	"C" St to "LN" St	4D	32,000	10,286	0.320	A	10,326	0.320	A
22	"O" St	"LN" St to "LQ" St	4D	32,000	14,052	0.440	A	14,092	0.440	A
23	"O" St	"LQ" St to Trabuco Rd	4D	32,000	22,336	0.700	B	22,426	0.700	B
24	"O" St	Trabuco Rd to "LV" St	4D	32,000	13,783	0.430	A	13,823	0.430	A

#	Street Name	Limits	# Lanes	Capacity	Post-2035 NP ADT			Post-2035 WP ADT		
					ADT	V/C	LOS	ADT	V/C	LOS
25	"B" St	Irvine Blvd to "LQ" St	2D	13,000	5,165	0.400	A	5,165	0.400	A
26	"B" St	"LQ" St to Marine Wy	2D	13,000	6,784	0.520	A	7,004	0.540	A
27	"LQ" St	"O" St to "C" St	2D	13,000	6,735	0.520	A	6,825	0.530	A
28	"LQ" St	"C" St to "LY" St	2D	13,000	7,714	0.590	A	7,844	0.600	A
29	"LQ" St	"LY" St to "A" St	2D	13,000	7,478	0.580	A	7,878	0.610	B
30	"LQ" St	"A" St to "Z" St	2D	13,000	6,843	0.530	A	7,333	0.560	A

Table 7-15 Post-2035 (2012 Modified Project Option 2) Arterial Level of Service

#	Street Name	Limits	# Lanes	Capacity	Post-2035 NP ADT			Post-2035 WP ADT		
					ADT	V/C	LOS	ADT	V/C	LOS
1	Jeffrey Rd	Irvine Blvd to Bryan Ave	6D	54,000	38,529	0.710	C	38,619	0.720	C
2	Sand Canyon Ave	Portola Pkwy to Irvine Blvd	4D	32,000	28,598	0.890	D	28,818	0.900	D
3	Sand Canyon Ave	Irvine Blvd to Trabuco Rd	6D	54,000	31,127	0.580	A	32,147	0.600	A
4	Sand Canyon Ave	Trabuco Rd to Marine Way	8D	72,000	66,568	0.920	E	66,698	0.930	E
5	Sand Canyon Ave	Marine Way to Oak Canyon Rd	8D	72,000	57,358	0.800	C	57,398	0.800	C
6	Alton Pkwy	Irvine Blvd to Toledo Wy	6D	54,000	33,924	0.630	B	34,144	0.630	B
7	Alton Pkwy	Toledo Wy to Jeronimo Rd	6D	54,000	36,883	0.680	B	37,103	0.690	B
8	Alton Pkwy	Jeronimo Rd to Barranca Pkwy	6D	54,000	44,953	0.830	D	45,173	0.840	D
9	Portola Pkwy	Jeffrey Rd to Sand Canyon Ave	4D	32,000	29,760	0.930	E	29,800	0.930	E
10	Portola Pkwy	Sand Canyon Ave to Ridge Valley	4D	32,000	25,618	0.800	C	25,658	0.800	C
11	Portola Pkwy	Ridge Valley to Modjeska	4D	32,000	28,147	0.880	D	28,237	0.880	D
12	Irvine Blvd	Jeffrey Rd to Sand Canyon Ave	6D	54,000	38,626	0.720	C	39,426	0.730	C
13	Irvine Blvd	Sand Canyon Ave to SR-133 Fwy	6D	54,000	40,434	0.750	C	42,254	0.780	C
14	Irvine Blvd	SR-133 Fwy to Ridge Valley	6D	54,000	44,124	0.820	D	46,214	0.860	D
15	Irvine Blvd	Ridge Valley to "LY" St	6D	54,000	40,595	0.750	C	42,865	0.790	C
16	Irvine Blvd	"Z" St to "B" St	6D	54,000	48,772	0.900	D	51,442	0.950	E
17	Irvine Blvd	"LQ" St to Alton Pkwy	6D	54,000	54,206	1.000	E	54,426	1.010	F
18	Trabuco Rd	Jeffrey Rd to Sand Canyon Ave	4D	32,000	20,507	0.640	B	20,947	0.650	B
19	"O" St	Portola Pkwy to Irvine Blvd	4D	32,000	14,063	0.440	A	14,193	0.440	A

#	Street Name	Limits	# Lanes	Capacity	Post-2035 NP ADT			Post-2035 WP ADT		
					ADT	V/C	LOS	ADT	V/C	LOS
20	"O" St	Irvine Blvd to "C" St	4D	32,000	11,254	0.350	A	11,294	0.350	A
21	"O" St	"C" St to "LN" St	4D	32,000	9,533	0.300	A	9,573	0.300	A
22	"O" St	"LN" St to "LQ" St	4D	32,000	13,460	0.420	A	13,500	0.420	A
23	"O" St	"LQ" St to Trabuco Rd	4D	32,000	21,637	0.680	B	21,677	0.680	B
24	"O" St	Trabuco Rd to "LV" St	4D	32,000	13,191	0.410	A	13,231	0.410	A
25	"B" St	Irvine Blvd to "LQ" St	2D	13,000	5,165	0.400	A	5,165	0.400	A
26	"B" St	"LQ" St to Marine Wy	2D	13,000	6,784	0.520	A	7,004	0.540	A
27	"LQ" St	"O" St to "C" St	2D	13,000	5,982	0.460	A	6,022	0.460	A
28	"LQ" St	"C" St to "LY" St	2D	13,000	7,499	0.580	A	7,629	0.590	A
29	"LQ" St	"LY" St to "A" St	2D	13,000	7,370	0.570	A	7,770	0.600	A
30	"LQ" St	"A" St to "Z" St	2D	13,000	6,843	0.530	A	7,333	0.560	A

Table 7-16 Post-2035 (2011 Approved Project) Peak Hour Intersection LOS Comparison

Intersection	Control	AM Peak Hour							PM Peak Hour					
		No Project		With Project		Change in V/C	Impact	No Project		With Project		Change in V/C	Impact	
		V/C Delay	LOS	V/C Delay	LOS			V/C Delay	LOS	V/C Delay	LOS			
1	"B" St & Driveway 1	U	n/a	n/a	0.01	A	0.01		n/a	n/a	0.01	A	0.01	
2	"B" St & Driveway 2	U	n/a	n/a	0.09	A	0.09		n/a	n/a	0.03	A	0.03	
3	Driveway 3 & "LQ" St	U	n/a	n/a	0.06	A	0.06		n/a	n/a	0.03	A	0.03	
4	Driveway 4 & "LQ" St	U	n/a	n/a	0.05	A	0.05		n/a	n/a	0.01	A	0.01	
5	"LQ" St & Driveway 5	U	n/a	n/a	0.08	A	0.08		n/a	n/a	0.04	A	0.04	
6	"LQ" St & Driveway 6	U	n/a	n/a	0.58	A	0.58		n/a	n/a	0.33	A	0.33	
7	"LQ" St & Driveway 7	U	n/a	n/a	0.00	A	0.00		n/a	n/a	0.00	A	0.00	
282	Jeffrey Rd & Portola Pkwy	S	0.73	C	0.73	C	0.00		0.68	B	0.68	B	0.00	
283	Jeffrey Rd & Irvine Blvd	S	0.79	C	0.80	C	0.00		0.77	C	0.77	C	0.00	
284	Jeffrey Rd & Bryan Ave	S	0.78	C	0.79	C	0.00		0.79	C	0.79	C	0.00	
285	Jeffrey Rd & Trabuco Rd	S	0.70	B	0.70	B	0.00		0.80	D	0.80	D	0.00	

Intersection		Control	AM Peak Hour						PM Peak Hour					
			No Project		With Project		Change in V/C	Impact	No Project		With Project		Change in V/C	Impact
			V/C Delay	LOS	V/C Delay	LOS			V/C Delay	LOS	V/C Delay	LOS		
300	Sand Canyon Ave & Portola Pkwy	S	0.65	B	0.52	A	-0.13		0.64	B	0.64	B	0.00	
301	Sand Canyon Ave & Irvine Blvd	S	0.79	C	0.85	D	0.05		0.82	D	0.83	D	0.01	
302	Sand Canyon Ave & Trabuco Rd	S	0.81	D	0.84	D	0.02		0.83	D	0.83	D	0.00	
303	Sand Canyon Ave & I-5 NB Ramps	S	0.98	E	0.98	E	0.00		1.08	F	1.08	F	0.00	
305	Sand Canyon Ave & I-5 SB Ramps	S	1.07	F	1.07	F	0.00		0.87	D	0.87	D	0.00	
444	Sand Canyon Ave & Burt Rd	S	0.94	E	0.94	E	0.00		0.95	E	0.95	E	0.00	
306	Sand Canyon Ave & Oak Cyn Rd	S	0.94	E	0.94	E	0.00		0.82	D	0.83	D	0.00	
316	SR-133 SB Ramps & Irvine Blvd	S	0.61	B	0.69	B	0.08		0.57	A	0.59	A	0.02	
317	SR-133 NB Ramps & Irvine Blvd	S	0.74	C	0.86	D	0.13		0.88	D	0.91	E	0.03	
338	Alton Pkwy & Irvine Blvd	S	1.00	E	1.00	E	0.00		0.98	E	0.98	E	0.00	
339	Alton Pkwy & Toledo Way	S	0.73	C	0.74	C	0.00		0.68	B	0.74	C	0.06	
340	Alton Pkwy & Jeronimo Rd	S	0.71	C	0.71	C	0.00		0.58	A	0.59	A	0.00	
341	Alton Pkwy & Barranca Pkwy	S	0.82	D	0.83	D	0.01		0.79	C	0.80	C	0.00	
367	Bake Pkwy & I-5 NB Ramps	S	0.91	E	0.91	E	0.00		0.59	A	0.59	A	0.00	
368	Bake Pkwy & I-5/I-405 SB Ramps	S	0.79	C	0.79	C	0.00		0.85	D	0.85	D	0.00	
486	SR-133 SB Ramps & Trabuco Rd	S	0.54	A	0.54	A	0.00		0.55	A	0.55	A	0.00	
487	SR-133 NB Ramps & Trabuco Rd	S	0.50	A	0.50	A	0.00		0.59	A	0.59	A	0.00	
556	Ridge Valley & Portola Pkwy	S	0.75	C	0.76	C	0.00		0.73	C	0.73	C	0.00	
557	"O" St & "C" St	R	0.37	A	0.37	A	0.00		0.25	A	0.25	A	0.00	
558	Ridge Valley/"O" St & Irvine Blvd	S	0.79	C	0.88	D	0.09		0.86	D	0.88	D	0.02	
559	"O" St & Trabuco Rd	S	0.82	D	0.82	D	0.00		0.80	C	0.80	C	0.00	
560	"O" St & Marine Way	S	0.46	A	0.46	A	0.00		0.59	A	0.59	A	0.00	
563	"B" St & Irvine Blvd	S	0.73	C	0.89	D	0.16		0.75	C	0.81	D	0.06	
566	Marine Way & Barranca Pkwy	S	0.67	B	0.67	B	0.00		0.66	B	0.66	B	0.00	
567	Marine Way & Alton Pkwy	S	0.67	B	0.67	B	0.00		0.71	C	0.71	C	0.00	
569	Bake Pkwy & Marine Way	S	0.73	C	0.74	C	0.00		0.70	B	0.70	B	0.00	
571	Portola Springs & Portola Pkwy	S	0.75	C	0.75	C	0.00		0.63	B	0.63	B	0.00	

Intersection		Control	AM Peak Hour						PM Peak Hour					
			No Project		With Project		Change in V/C	Impact	No Project		With Project		Change in V/C	Impact
			V/C Delay	LOS	V/C Delay	LOS			V/C Delay	LOS	V/C Delay	LOS		
572	Modjeska/"A" St & Irvine Blvd	S	0.75	C	0.86	D	0.12		0.79	C	0.82	D	0.03	
603	"O" St & "LN" St	S	0.42	A	0.42	A	0.00		0.38	A	0.38	A	0.00	
605	"O" St & "LQ" St	R	0.45	A	0.45	A	0.00		0.41	A	0.41	A	0.00	
608	"O" St & "LV" St	S	0.38	A	0.38	A	0.00		0.34	A	0.34	A	0.00	
626	"LY" St & "LQ" St	R	0.45	A	0.47	A	0.03		0.31	A	0.33	A	0.01	
627	"LY" St & Irvine Blvd	S	0.67	B	0.77	C	0.10		0.68	B	0.70	B	0.02	
631	"LY" St & Trabuco Rd	U	0.08	A	0.08	A	0.00		0.14	A	0.14	A	0.00	
782	"A" St & "LQ" St	R	0.33	A	0.40	A	0.07		0.32	A	0.34	A	0.02	
787	"Z" St & "LQ" St	U	0.06	A	0.09	A	0.03		0.08	A	0.09	A	0.01	
790	"Z" St & Irvine Blvd	S	0.77	C	0.90	D	0.13		0.75	C	0.78	C	0.03	
798	"B" St & "LQ" St	S	0.50	A	0.56	A	0.06		0.34	A	0.38	A	0.04	
799	"B" St & Marine Way	S	0.46	A	0.46	A	0.00		0.58	A	0.58	A	0.00	
800	"A-02" St/"LQ" St & Irvine Blvd	S	0.87	D	0.93	E	0.05	YES	0.76	C	0.81	D	0.05	

Table 7-17 Post-2035 (2012 Modified Project Option 1) Peak Hour Intersection LOS Comparison

Intersection		Control	AM Peak Hour						PM Peak Hour					
			No Project		With Project		Change in V/C	Impact	No Project		With Project		Change in V/C	Impact
			V/C Delay	LOS	V/C Delay	LOS			V/C Delay	LOS	V/C Delay	LOS		
1	"B" St & Driveway 1	U	n/a	n/a	0.01	A	0.01		n/a	n/a	0.01	A	0.01	
2	"B" St & Driveway 2	U	n/a	n/a	0.08	A	0.08		n/a	n/a	0.02	A	0.02	
3	Driveway 3 & "LQ" St	U	n/a	n/a	0.06	A	0.06		n/a	n/a	0.03	A	0.03	
4	Driveway 4 & "LQ" St	U	n/a	n/a	0.09	A	0.09		n/a	n/a	0.02	A	0.02	
5	"LQ" St & Driveway 5	U	n/a	n/a	0.08	A	0.08		n/a	n/a	0.04	A	0.04	
6	"LQ" St & Driveway 6	U	n/a	n/a	0.44	A	0.44		n/a	n/a	0.14	A	0.14	

Intersection	Control	AM Peak Hour							PM Peak Hour					
		No Project		With Project		Change in V/C	Impact	No Project		With Project		Change in V/C	Impact	
		V/C Delay	LOS	V/C Delay	LOS			V/C Delay	LOS	V/C Delay	LOS			
7	"LQ" St & Driveway 7	U	n/a	n/a	0.00	A	0.00		n/a	n/a	0.00	A	0.00	
282	Jeffrey Rd & Portola Pkwy	S	0.73	C	0.73	C	0.00		0.68	B	0.68	B	0.00	
283	Jeffrey Rd & Irvine Blvd	S	0.80	C	0.80	C	0.00		0.77	C	0.77	C	0.00	
284	Jeffrey Rd & Bryan Ave	S	0.79	C	0.80	C	0.00		0.79	C	0.80	C	0.00	
285	Jeffrey Rd & Trabuco Rd	S	0.69	B	0.70	B	0.00		0.79	C	0.79	C	0.00	
300	Sand Canyon Ave & Portola Pkwy	S	0.51	A	0.51	A	0.00		0.63	B	0.63	B	0.00	
301	Sand Canyon Ave & Irvine Blvd	S	0.76	C	0.78	C	0.02		0.80	D	0.81	D	0.01	
302	Sand Canyon Ave & Trabuco Rd	S	0.81	D	0.82	D	0.01		0.83	D	0.83	D	0.00	
303	Sand Canyon Ave & I-5 NB Ramps	S	0.91	E	0.91	E	0.00		0.96	E	0.96	E	0.00	
305	Sand Canyon Ave & I-5 SB Ramps	S	1.07	F	1.07	F	0.00		0.89	D	0.89	D	0.00	
444	Sand Canyon Ave & Burt Rd	S	0.96	E	0.97	E	0.01		0.96	E	0.96	E	0.00	
306	Sand Canyon Ave & Oak Cyn Rd	S	0.92	E	0.92	E	0.00		0.84	D	0.84	D	0.00	
316	SR-133 SB Ramps & Irvine Blvd	S	0.53	A	0.60	A	0.07		0.56	A	0.57	A	0.01	
317	SR-133 NB Ramps & Irvine Blvd	S	0.58	A	0.68	B	0.10		0.86	D	0.88	D	0.03	
338	Alton Pkwy & Irvine Blvd	S	0.98	E	1.00	E	0.02		0.93	E	0.93	E	0.00	
339	Alton Pkwy & Toledo Way	S	0.85	D	0.85	D	0.00		0.71	C	0.72	C	0.00	
340	Alton Pkwy & Jeronimo Rd	S	0.70	C	0.71	C	0.00		0.58	A	0.58	A	0.00	
341	Alton Pkwy & Barranca Pkwy	S	0.61	B	0.61	B	0.01		0.80	C	0.80	D	0.00	
367	Bake Pkwy & I-5 NB Ramps	S	0.88	D	0.88	D	0.00		0.60	A	0.60	A	0.00	
368	Bake Pkwy & I-5/I-405 SB Ramps	S	0.80	D	0.80	D	0.00		0.86	D	0.86	D	0.00	
486	SR-133 SB Ramps & Trabuco Rd	S	0.53	A	0.53	A	0.00		0.56	A	0.56	A	0.00	
487	SR-133 NB Ramps & Trabuco Rd	S	0.50	A	0.50	A	0.00		0.60	A	0.60	A	0.00	
556	Ridge Valley & Portola Pkwy	S	0.74	C	0.75	C	0.00		0.72	C	0.72	C	0.00	
557	"O" St & "C" St	R	0.33	A	0.33	A	0.00		0.27	A	0.27	A	0.00	
558	Ridge Valley/"O" St & Irvine Blvd	S	0.58	A	0.66	B	0.08		0.84	D	0.86	D	0.02	
559	"O" St & Trabuco Rd	S	0.86	D	0.86	D	0.00		0.78	C	0.78	C	0.00	
560	"O" St & Marine Way	S	0.53	A	0.53	A	0.00		0.66	B	0.66	B	0.00	

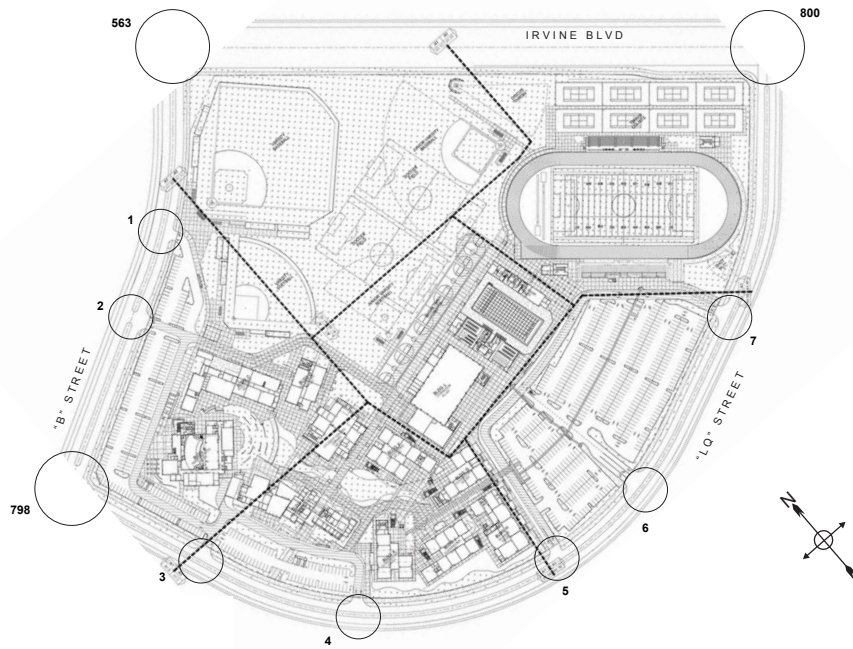
Intersection		Control	AM Peak Hour						PM Peak Hour					
			No Project		With Project		Change in V/C	Impact	No Project		With Project		Change in V/C	Impact
			V/C Delay	LOS	V/C Delay	LOS			V/C Delay	LOS	V/C Delay	LOS		
563	"B" St & Irvine Blvd	S	0.58	A	0.73	C	0.15		0.72	C	0.76	C	0.05	
566	Marine Way & Barranca Pkwy	S	0.68	B	0.68	B	0.00		0.66	B	0.66	B	0.00	
567	Marine Way & Alton Pkwy	S	0.70	B	0.70	B	0.00		0.65	B	0.65	B	0.00	
569	Bake Pkwy & Marine Way	S	0.82	D	0.82	D	0.00		0.77	C	0.77	C	0.00	
571	Portola Springs & Portola Pkwy	S	0.75	C	0.75	C	0.00		0.62	B	0.62	B	0.00	
572	Modjeska/"A" St & Irvine Blvd	S	0.61	B	0.70	C	0.09		0.76	C	0.78	C	0.02	
603	"O" St & "LN" St	S	0.38	A	0.38	A	0.00		0.32	A	0.32	A	0.00	
605	"O" St & "LQ" St	R	0.46	A	0.46	A	0.00		0.45	A	0.45	A	0.00	
608	"O" St & "LV" St	S	0.36	A	0.36	A	0.00		0.34	A	0.34	A	0.00	
626	"LY" St & "LQ" St	R	0.38	A	0.39	A	0.01		0.38	A	0.38	A	0.00	
627	"LY" St & Irvine Blvd	S	0.48	A	0.56	A	0.08		0.62	B	0.63	B	0.02	
631	"LY" St & Trabuco Rd	U	0.03	A	0.03	A	0.00		0.10	A	0.10	A	0.00	
782	"A" St & "LQ" St	R	0.30	A	0.32	A	0.02		0.35	A	0.35	A	0.01	
787	"Z" St & "LQ" St	U	0.01	A	0.02	A	0.01		0.02	A	0.02	A	0.00	
790	"Z" St & Irvine Blvd	S	0.64	B	0.74	C	0.10		0.72	C	0.74	C	0.02	
798	"B" St & "LQ" St	S	0.30	A	0.44	A	0.14		0.39	A	0.41	A	0.01	
799	"B" St & Marine Way	S	0.73	C	0.73	C	0.00		0.70	B	0.70	B	0.00	
800	"A-02" St/"LQ" St & Irvine Blvd	S	0.81	D	0.82	D	0.01		0.74	C	0.74	C	0.00	

Table 7-18 Post-2035 (2012 Modified Project Option 2) Peak Hour Intersection LOS Comparison

Intersection	Control	AM Peak Hour							PM Peak Hour					
		No Project		With Project		Change in V/C	Impact	No Project		With Project		Change in V/C	Impact	
		V/C Delay	LOS	V/C Delay	LOS			V/C Delay	LOS	V/C Delay	LOS			
1	"B" St & Driveway 1	U	n/a	n/a	0.01	A	0.01		n/a	n/a	0.01	A	0.01	
2	"B" St & Driveway 2	U	n/a	n/a	0.08	A	0.08		n/a	n/a	0.02	A	0.02	
3	Driveway 3 & "LQ" St	U	n/a	n/a	0.06	A	0.06		n/a	n/a	0.03	A	0.03	
4	Driveway 4 & "LQ" St	U	n/a	n/a	0.09	A	0.09		n/a	n/a	0.02	A	0.02	
5	"LQ" St & Driveway 5	U	n/a	n/a	0.08	A	0.08		n/a	n/a	0.04	A	0.04	
6	"LQ" St & Driveway 6	U	n/a	n/a	0.44	A	0.44		n/a	n/a	0.14	A	0.14	
7	"LQ" St & Driveway 7	U	n/a	n/a	0.00	A	0.00		n/a	n/a	0.00	A	0.00	
282	Jeffrey Rd & Portola Pkwy	S	0.73	C	0.73	C	0.00		0.68	B	0.68	B	0.00	
283	Jeffrey Rd & Irvine Blvd	S	0.80	D	0.80	D	0.00		0.77	C	0.77	C	0.00	
284	Jeffrey Rd & Bryan Ave	S	0.79	C	0.79	C	0.00		0.80	C	0.80	C	0.00	
285	Jeffrey Rd & Trabuco Rd	S	0.70	B	0.70	B	0.00		0.80	C	0.80	C	0.00	
300	Sand Canyon Ave & Portola Pkwy	S	0.51	A	0.51	A	0.00		0.64	B	0.64	B	0.00	
301	Sand Canyon Ave & Irvine Blvd	S	0.76	C	0.78	C	0.02		0.81	D	0.81	D	0.01	
302	Sand Canyon Ave & Trabuco Rd	S	0.81	D	0.82	D	0.01		0.83	D	0.83	D	0.00	
303	Sand Canyon Ave & I-5 NB Ramps	S	0.91	E	0.91	E	0.00		0.96	E	0.96	E	0.00	
305	Sand Canyon Ave & I-5 SB Ramps	S	1.07	F	1.07	F	0.00		0.89	D	0.89	D	0.00	
444	Sand Canyon Ave & Burt Rd	S	0.96	E	0.97	E	0.01		0.96	E	0.96	E	0.00	
306	Sand Canyon Ave & Oak Cyn Rd	S	0.92	E	0.92	E	0.00		0.84	D	0.84	D	0.00	
316	SR-133 SB Ramps & Irvine Blvd	S	0.53	A	0.59	A	0.07		0.55	A	0.57	A	0.01	
317	SR-133 NB Ramps & Irvine Blvd	S	0.58	A	0.68	B	0.10		0.86	D	0.88	D	0.03	
338	Alton Pkwy & Irvine Blvd	S	0.99	E	1.00	E	0.01		0.90	D	0.90	D	0.00	
339	Alton Pkwy & Toledo Way	S	0.85	D	0.85	D	0.00		0.71	C	0.71	C	0.00	
340	Alton Pkwy & Jeronimo Rd	S	0.70	C	0.71	C	0.00		0.58	A	0.58	A	0.00	
341	Alton Pkwy & Barranca Pkwy	S	0.61	B	0.61	B	0.01		0.80	C	0.80	C	0.00	
367	Bake Pkwy & I-5 NB Ramps	S	0.88	D	0.88	D	0.00		0.59	A	0.59	A	0.00	
368	Bake Pkwy & I-5/I-405 SB Ramps	S	0.80	C	0.80	C	0.00		0.86	D	0.86	D	0.00	

Intersection		Control	AM Peak Hour						PM Peak Hour					
			No Project		With Project		Change in V/C	Impact	No Project		With Project		Change in V/C	Impact
			V/C Delay	LOS	V/C Delay	LOS			V/C Delay	LOS	V/C Delay	LOS		
486	SR-133 SB Ramps & Trabuco Rd	S	0.54	A	0.54	A	0.00		0.56	A	0.56	A	0.00	
487	SR-133 NB Ramps & Trabuco Rd	S	0.51	A	0.51	A	0.00		0.61	B	0.61	B	0.00	
556	Ridge Valley & Portola Pkwy	S	0.74	C	0.75	C	0.00		0.72	C	0.72	C	0.00	
557	"O" St & "C" St	R	0.33	A	0.33	A	0.00		0.26	A	0.26	A	0.00	
558	Ridge Valley/"O" St & Irvine Blvd	S	0.58	A	0.66	B	0.08		0.84	D	0.86	D	0.02	
559	"O" St & Trabuco Rd	S	0.86	D	0.86	D	0.00		0.77	C	0.77	C	0.00	
560	"O" St & Marine Way	S	0.52	A	0.52	A	0.00		0.66	B	0.66	B	0.00	
563	"B" St & Irvine Blvd	S	0.58	A	0.73	C	0.15		0.71	C	0.76	C	0.05	
566	Marine Way & Barranca Pkwy	S	0.67	B	0.67	B	0.00		0.66	B	0.66	B	0.00	
567	Marine Way & Alton Pkwy	S	0.70	B	0.70	C	0.00		0.65	B	0.65	B	0.00	
569	Bake Pkwy & Marine Way	S	0.82	D	0.82	D	0.00		0.77	C	0.77	C	0.00	
571	Portola Springs & Portola Pkwy	S	0.75	C	0.75	C	0.00		0.62	B	0.62	B	0.00	
572	Modjeska/"A" St & Irvine Blvd	S	0.61	B	0.70	C	0.09		0.76	C	0.78	C	0.02	
603	"O" St & "LN" St	S	0.38	A	0.38	A	0.00		0.32	A	0.32	A	0.00	
605	"O" St & "LQ" St	R	0.45	A	0.45	A	0.00		0.46	A	0.46	A	0.00	
608	"O" St & "LV" St	S	0.36	A	0.36	A	0.00		0.38	A	0.38	A	0.00	
626	"LY" St & "LQ" St	R	0.37	A	0.38	A	0.01		0.37	A	0.37	A	0.00	
627	"LY" St & Irvine Blvd	S	0.48	A	0.56	A	0.08		0.62	B	0.64	B	0.02	
631	"LY" St & Trabuco Rd	U	0.02	A	0.02	A	0.00		0.10	A	0.10	A	0.00	
782	"A" St & "LQ" St	R	0.29	A	0.31	A	0.02		0.34	A	0.35	A	0.01	
787	"Z" St & "LQ" St	U	0.01	A	0.02	A	0.01		0.02	A	0.02	A	0.00	
790	"Z" St & Irvine Blvd	S	0.64	B	0.74	C	0.10		0.72	C	0.74	C	0.02	
798	"B" St & "LQ" St	S	0.30	A	0.44	A	0.14		0.39	A	0.41	A	0.01	
799	"B" St & Marine Way	S	0.74	C	0.74	C	0.00		0.70	B	0.70	C	0.00	
800	"A-02" St/"LQ" St & Irvine Blvd	S	0.80	D	0.82	D	0.01		0.74	C	0.74	C	0.00	

Figure 7.7 Post Year 2035 Peak Hour Volumes – 2011 Approved Project – With Project



<p>N/S Street: "B" St E/W Street: Driveway 1</p> <p>568/188 0/0 ↓ 0/0 0/0 → 1 ← 0/0 0/0 ↓ 0/0 218/381</p>	<p>N/S Street: Sand Canyon Ave E/W Street: Driveway 2</p> <p>434/159 0/0 ↓ 134/29 0/0 → 2 ← 0/0 0/0 ↓ 0/0 161/195</p>	<p>N/S Street: Driveway 3 E/W Street: "LQ" St</p> <p>42/21 0/0 45/10 ↓ 15/3 509/300 → 3 ← 312/367 0/0 ↓ 0/0 0/0</p>	<p>N/S Street: Driveway 4 E/W Street: "LQ" St</p> <p>0/0 10/5 ↓ 3/2 59/13 → 4 ← 316/365 0/0 ↓ 0/0 0/0</p>
<p>N/S Street: "LQ" St E/W Street: Driveway 5</p> <p>447/399 0/0 ↓ 0/0 0/0 → 5 ← 0/0 52/27 ↓ 0/0 453/390</p>	<p>N/S Street: "LQ" St E/W Street: Driveway 6</p> <p>426/388 171/37 ↓ 0/0 154/79 → 6 ← 0/0 21/11 ↓ 0/0 308/662</p>	<p>N/S Street: "LQ" St E/W Street: Driveway 7</p> <p>729/466 223/48 ↓ 0/0 0/0 → 7 ← 0/0 0/0 ↓ 0/0 462/741</p>	<p>N/S Street: "B" St E/W Street: Irvine Blvd</p> <p>0/0 0/0 ↓ 0/0 3312/1709 → 563 ← 1798/3166 404/94 ↓ 164/93 168/237 → 57/148 0/0</p>
<p>N/S Street: "Z" St E/W Street: "LQ" St</p> <p>0/0 48/28 ↓ 29/32 33/40 → 787 ← 32/19 509/296 ↓ 0/0 0/0</p>	<p>N/S Street: "Z" St E/W Street: Irvine Blvd</p> <p>34/23 127/87 ↓ 218/56 46/87 → 790 ← 27/106 3389/1671 ↓ 1749/3225 45/64 ↓ 39/100 47/56 ↓ 80/34 5/16</p>	<p>N/S Street: "B" St E/W Street: "LQ" St</p> <p>320/121 22/14 ↓ 94/24 12/7 → 798 ← 106/53 453/280 ↓ 239/327 60/19 ↓ 8/7 5/40 ↓ 5/5 57/138</p>	<p>N/S Street: "A-02" St/"LQ" St E/W Street: Irvine Blvd</p> <p>87/33 29/28 ↓ 148/73 20/42 → 800 ← 61/169 2858/1785 ↓ 1817/2854 533/162 ↓ 464/360 184/235 → 255/412 22/94</p>
<p>N/S Street: SR-133 SB Ramps E/W Street: Trabuco Rd</p> <p>0/0 447/143 ↓ 307/158 792/1264 → 486 ← 1255/1376 392/333 ↓ 427/400 0/0</p>	<p>N/S Street: SR-133 NB Ramps E/W Street: Trabuco Rd</p> <p>0/0 0/0 ↓ 0/0 1082/1144 → 487 ← 1399/1278 38/282 ↓ 113/332 281/500 ↓ 642/526 0/0</p>		

LEGEND

- Study Intersection - Signalized
- Study Intersection - Unsignalized
- Study Intersection - Roundabout
- # Study Intersection Number
- ## ↘ Turning Movement Volume
- ##/## AM Peak Hour/PM Peak Hour

Figure 7.7 Post Year 2035 Peak Hour Volumes – 2011 Approved Project – With Project

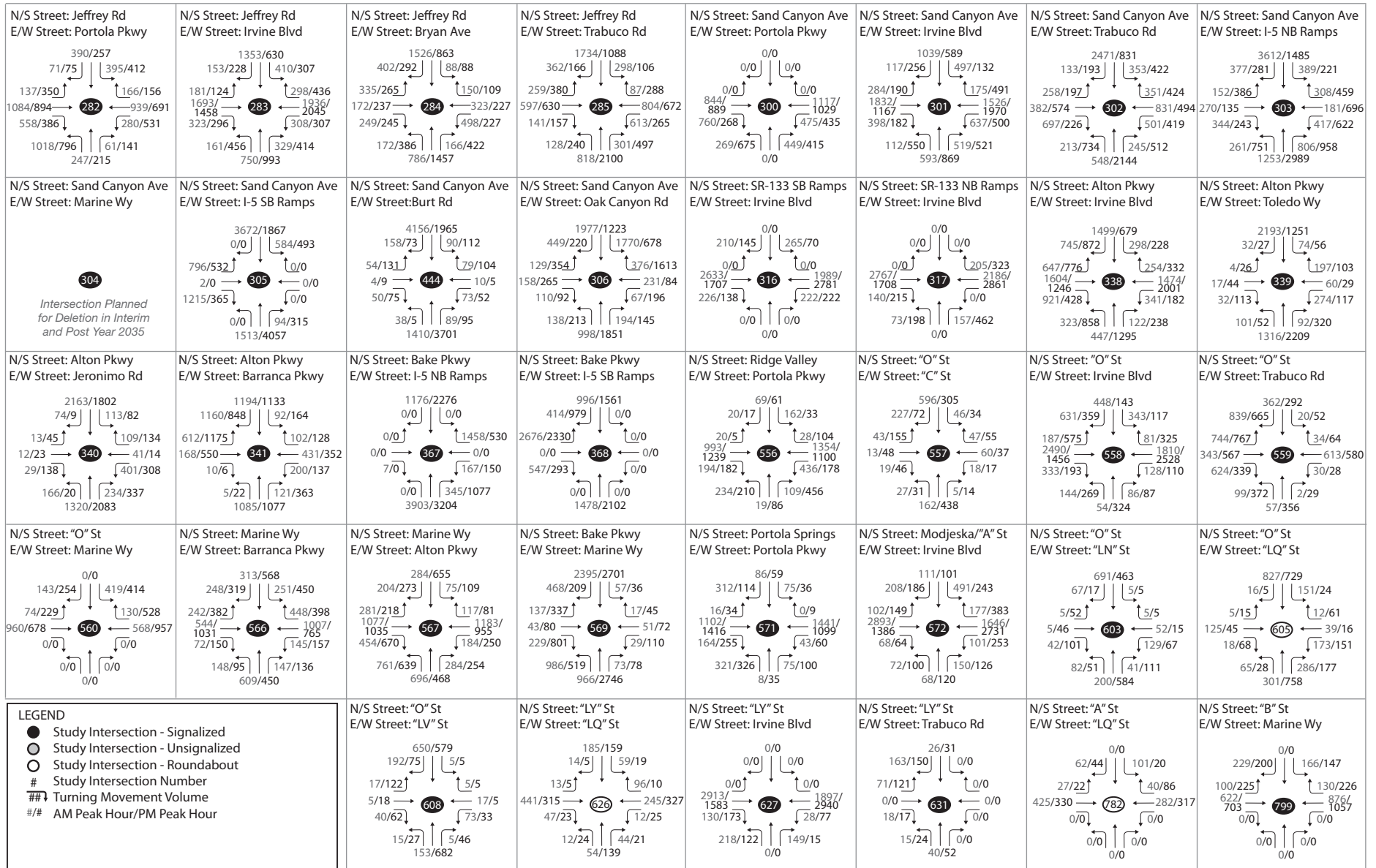
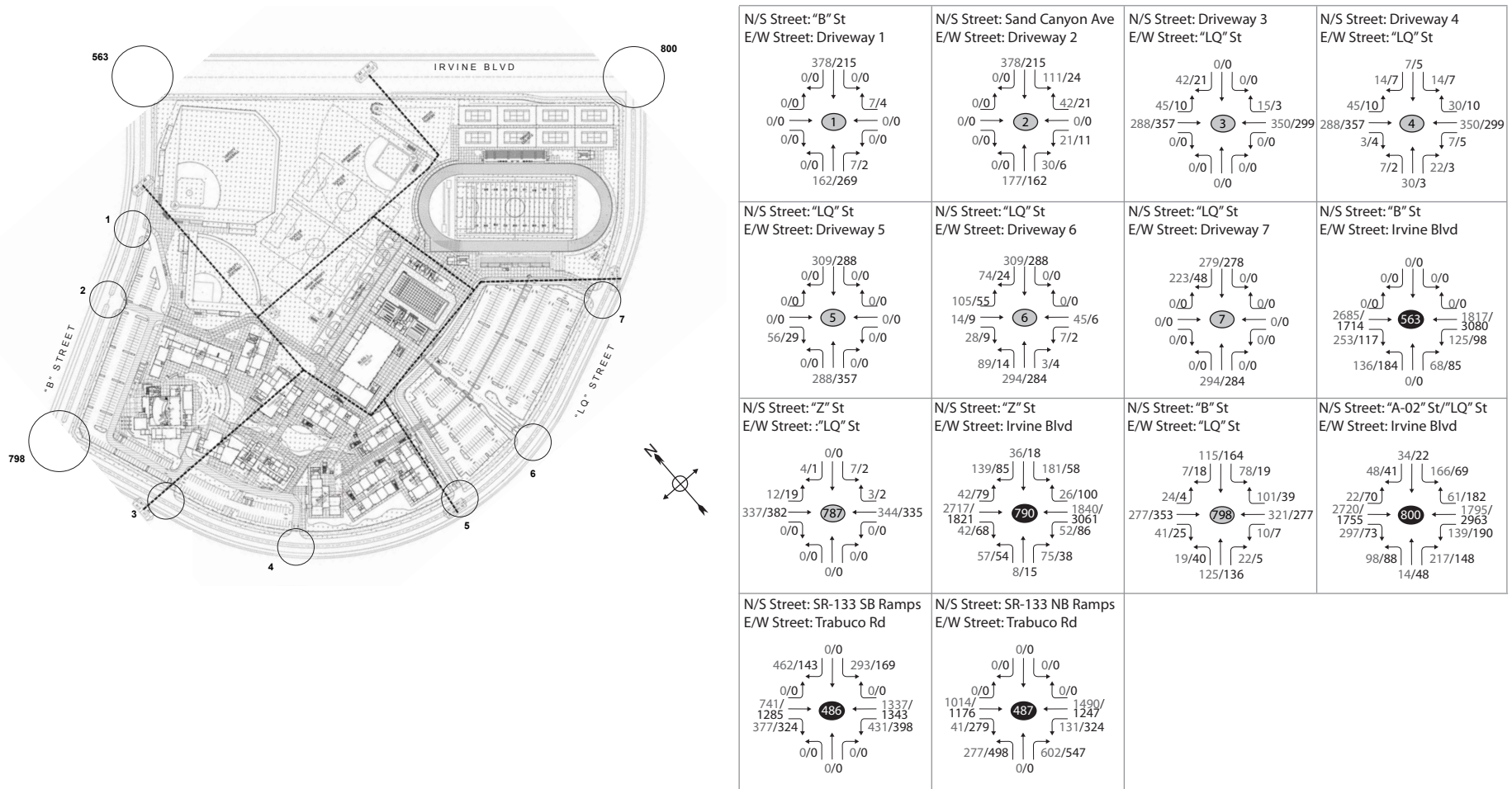


Figure 7.8 Post Year 2035 Peak Hour Volumes – 2012 Modified Project Option 1 – With Project



LEGEND

- Study Intersection - Signalized
- Study Intersection - Unsignalized
- Study Intersection - Roundabout
- # Study Intersection Number
- ## ↘ Turning Movement Volume
- ##/## AM Peak Hour/PM Peak Hour

Figure 7.8 Post Year 2035 Peak Hour Volumes – 2012 Modified Project Option 1 – With Project

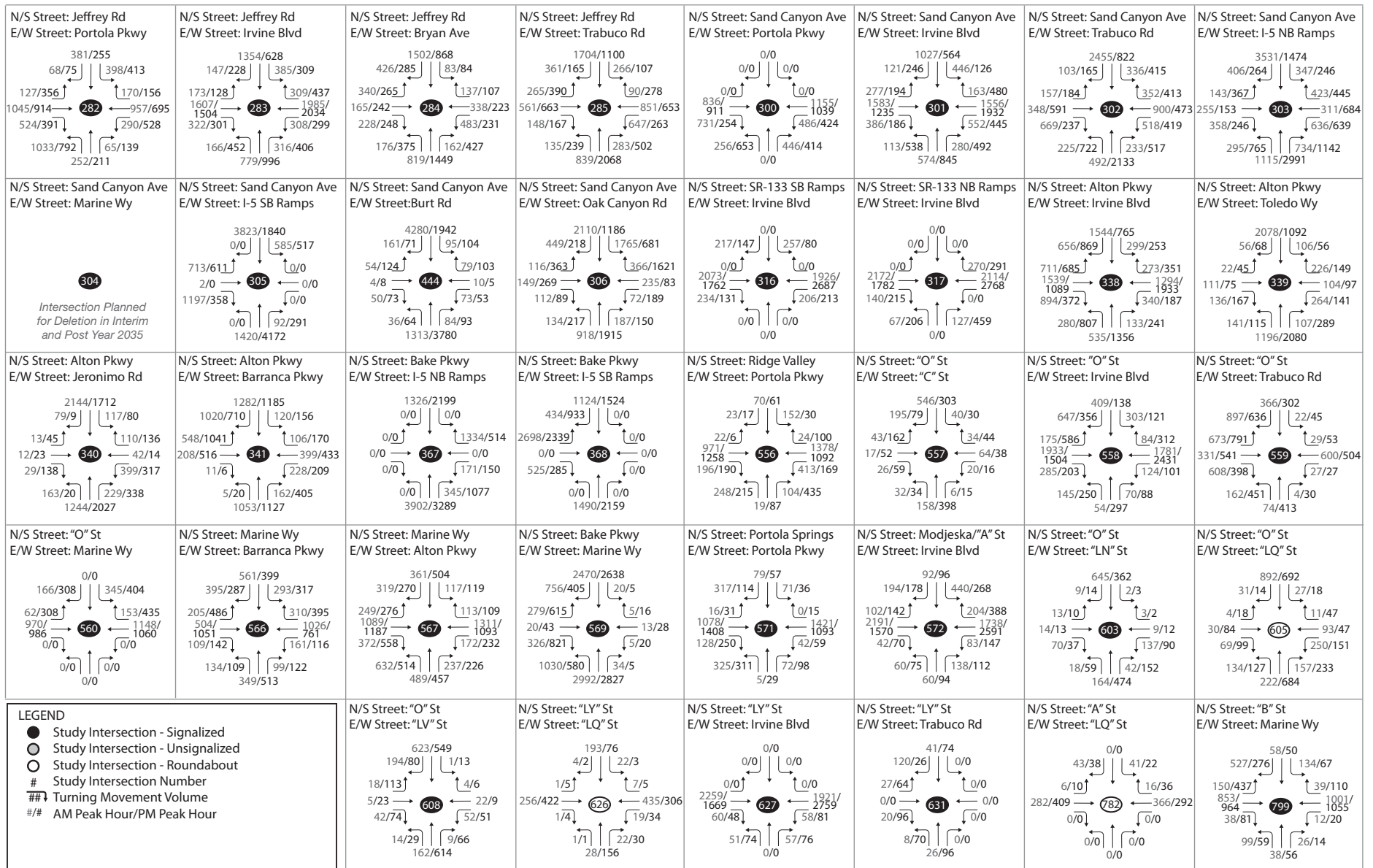
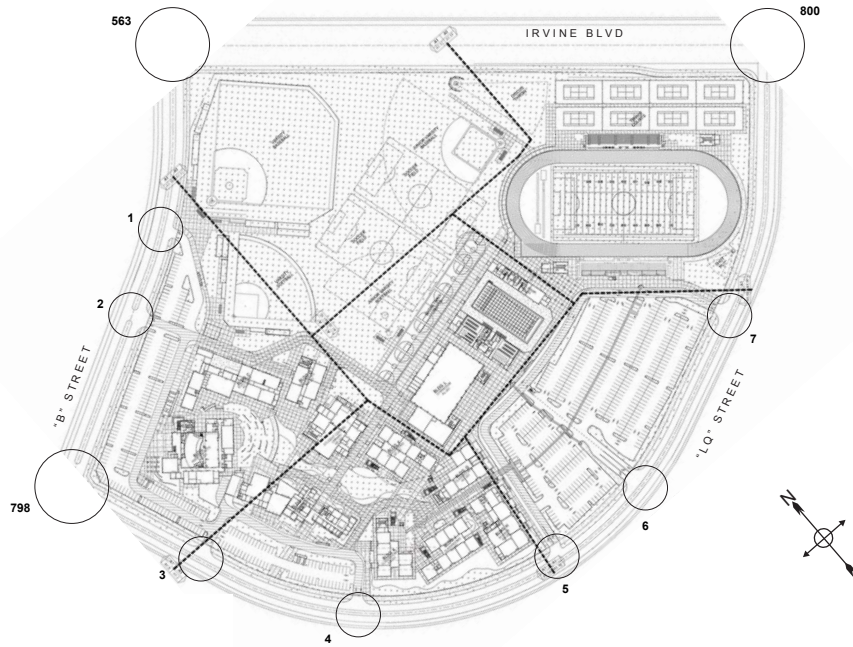


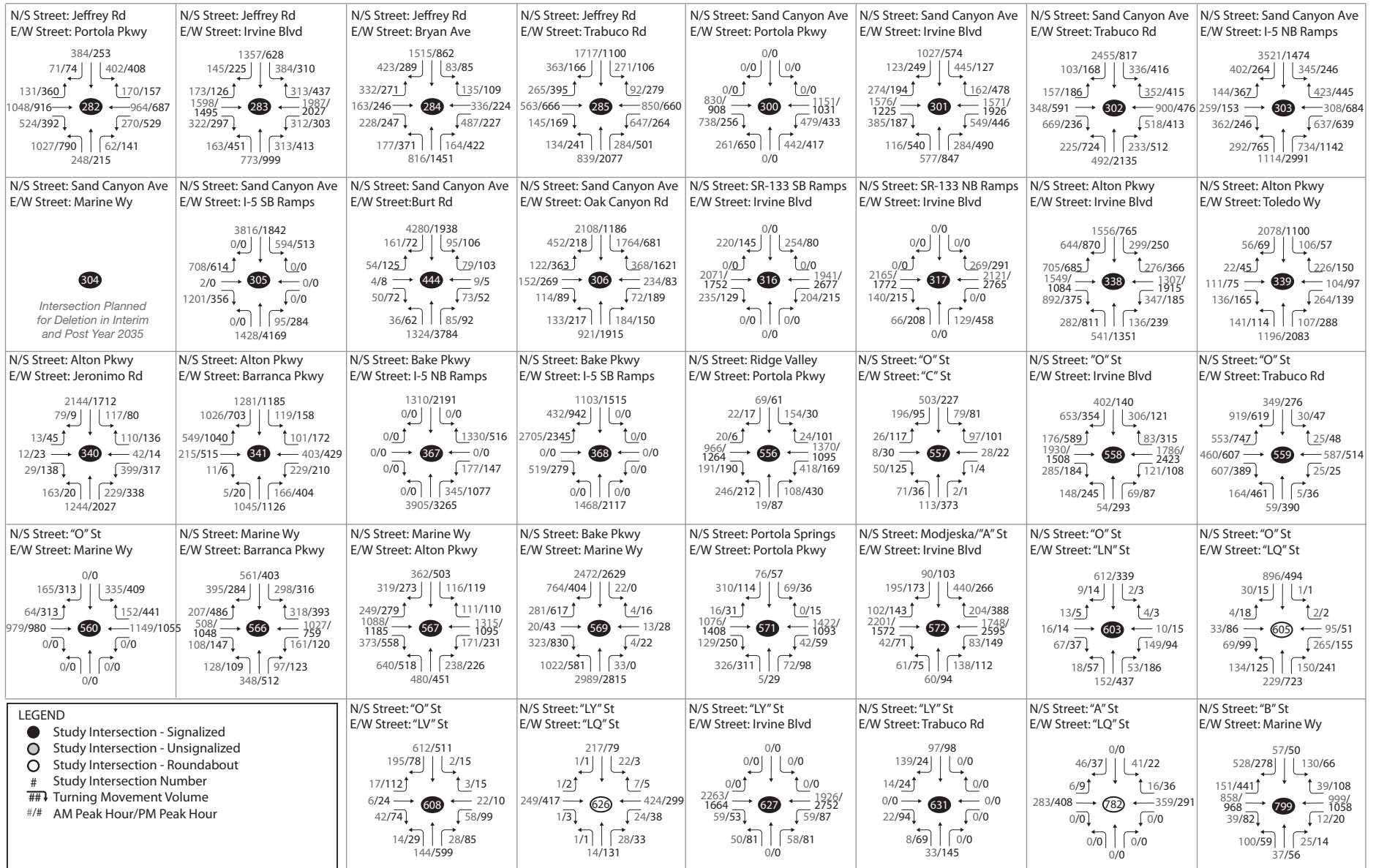
Figure 7.9 Post Year 2035 Peak Hour Volumes – 2012 Modified Project Option 2 – With Project



N/S Street: "B" St E/W Street: Driveway 1 	N/S Street: Sand Canyon Ave E/W Street: Driveway 2 	N/S Street: Driveway 3 E/W Street: "LQ" St 	N/S Street: Driveway 4 E/W Street: "LQ" St
N/S Street: "LQ" St E/W Street: Driveway 5 	N/S Street: "LQ" St E/W Street: Driveway 6 	N/S Street: "LQ" St E/W Street: Driveway 7 	N/S Street: "B" St E/W Street: Irvine Blvd
N/S Street: "Z" St E/W Street: "LQ" St 	N/S Street: "Z" St E/W Street: Irvine Blvd 	N/S Street: "B" St E/W Street: "LQ" St 	N/S Street: "A-02" St/"LQ" St E/W Street: Irvine Blvd
N/S Street: SR-133 SB Ramps E/W Street: Trabuco Rd 	N/S Street: SR-133 NB Ramps E/W Street: Trabuco Rd 		

LEGEND	
●	Study Intersection - Signalized
○	Study Intersection - Unsignalized
○	Study Intersection - Roundabout
#	Study Intersection Number
## ↘	Turning Movement Volume
##/##	AM Peak Hour/PM Peak Hour

Figure 7.9 Post Year 2035 Peak Hour Volumes – 2012 Modified Project Option 2 – With Project



8. Special Analyses

The analyses for site access, parking, pedestrian and bicycle circulation and access, and stadium traffic are included in this section.

8.1 SITE ACCESS ANALYSIS

The Irvine High School #5 site has seven unsignalized access driveways located along "B" Street and "LQ" Street. Three additional signalized intersections are proposed along Irvine Boulevard at "B" Street and "LQ" Street, and at the intersection of "B" Street and "LQ" Street. These access points are proposed to serve a maximum capacity of 2,600 students and school employees that will utilize the facility during the school year. Tables 8-1 to 8-4 show the average delay for all seven access driveways for each scenario.

Table 8-1: Site Access Analysis – Year 2013

Intersection		2011 AP				2012 MP1				2012 MP2			
		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	"B" St & Driveway 1	9.1	A	8.7	A	9.1	A	9.1	A	9.1	A	8.7	A
2	"B" St & Driveway 2	9.0	A	8.6	A	9.0	A	8.6	A	9.0	A	8.6	A
3	Driveway 3 & "LQ" St	9.0	A	8.6	A	9.0	A	8.6	A	9.0	A	8.6	A
4	Driveway 4 & "LQ" St	9.8	A	8.8	A	9.8	A	8.8	A	9.8	A	8.8	A
5	"LQ" St & Driveway 5	9.0	A	8.5	A	9.0	A	8.5	A	9.0	A	8.5	A
6	"LQ" St & Driveway 6	10.4	B	9.0	A	10.4	B	9.0	A	10.4	B	9.0	A
7	"LQ" St & Driveway 7	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A

Table 8-2: Site Access Analysis – Year 2017

Intersection		2011 AP				2012 MP1				2012 MP2			
		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	"B" St & Driveway 1	9.1	A	8.7	A	9.1	A	8.7	A	9.1	A	8.7	A
2	"B" St & Driveway 2	9.0	A	8.6	A	9.0	A	8.6	A	9.0	A	8.6	A
3	Driveway 3 & "LQ" St	9.0	A	8.6	A	9.0	A	8.6	A	9.0	A	8.6	A
4	Driveway 4 & "LQ" St	9.8	A	8.8	A	9.8	A	8.8	A	9.8	A	8.8	A
5	"LQ" St & Driveway 5	9.0	A	8.5	A	9.0	A	8.5	A	9.0	A	8.5	A
6	"LQ" St & Driveway 6	10.4	B	9.0	A	10.4	B	9.0	A	10.4	B	9.0	A
7	"LQ" St & Driveway 7	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A

Table 8-3: Site Access Analysis – Year 2035

Intersection		2011 AP				2012 MP1				2012 MP2			
		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	"B" St & Driveway 1	9.3	A	10.3	B	9.1	A	9.6	A	9.1	A	9.6	A
2	"B" St & Driveway 2	12.1	B	11.0	B	12.2	B	10.0	A	12.2	B	10.0	A
3	Driveway 3 & "LQ" St	10.5	B	10.4	B	10.8	B	9.9	A	10.8	B	9.9	A
4	Driveway 4 & "LQ" St	12.0	B	11.3	B	16.4	C	13.5	B	16.4	C	13.6	B
5	"LQ" St & Driveway 5	11.6	B	10.6	B	10.5	B	9.9	A	10.5	B	9.9	A
6	"LQ" St & Driveway 6	35.3	E	24.5	C	28.7	D	14.8	B	28.7	D	14.8	B
7	"LQ" St & Driveway 7	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A

Table 8-4: Site Access Analysis – Post Year 2035

Intersection		2011 AP				2012 MP1				2012 MP2			
		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	"B" St & Driveway 1	9.4	A	10.4	B	9.1	A	9.7	A	9.1	A	9.7	A
2	"B" St & Driveway 2	12.0	B	10.0	A	12.1	B	10.0	B	12.1	B	10.5	B
3	Driveway 3 & "LQ" St	10.3	B	10.5	B	10.5	B	10.0	A	10.5	B	10.0	A
4	Driveway 4 & "LQ" St	11.7	B	11.3	B	15.6	C	13.5	B	15.4	C	13.5	B
5	"LQ" St & Driveway 5	11.4	B	10.7	B	10.3	B	10.3	A	10.3	B	9.9	A
6	"LQ" St & Driveway 6	32.3	D	25.6	D	26.6	D	14.7	B	26.3	D	14.7	B
7	"LQ" St & Driveway 7	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A

All access intersections are forecast to operate at an acceptable level of service during all analysis scenarios and both peak hour periods, with the exception of Driveway 6 on "LQ" Street (Intersection #6). This intersection is forecast to have an LOS E in the Year 2035 2011 Approved Project Scenario during the AM peak hour. The delay is caused by traffic coming out of the school parking lot, and can be mitigated by signaling the intersection..

8.1.1 Signal Warrant Analysis

A signal warrant analysis was conducted at all unsignalized study intersections per the Manual on Uniform Traffic Control Devices (MUTCD). Chapter 4 of the MUTCD includes criteria to determine if a traffic signal may be warranted at a stop-controlled or uncontrolled intersection. Traffic control may be needed if the criteria for one or more of the traffic signal warrants listed in Table 8-5 are met. If none of the warrants are satisfied, then a traffic signal should not be installed. However, the satisfaction of a traffic signal warrant or warrants does not in itself require the installation of traffic control signal. A signal should not be installed if it will seriously disrupt progressive traffic flow or if it will not improve overall safety or operation of the intersection.

Table 8-5: MUTCD Signal Warrants

Warrant		Intended Application	Based On
1	Eight-Hour Vehicular Volume	Where a large volume of intersecting traffic occurs throughout the day	Approach volumes over an 8-hour period
2	Four-Hour Vehicular Volume	Where both the major and minor streets experience high volumes during any 4 hours during the day	Volumes during the 4 highest hours
3	Peak Hour	Where the minor-street traffic suffers undue delay for a minimum of 1 hour of an average day	Peak hour approach volumes
4	Pedestrian Volume	Where traffic is so heavy that pedestrians experience excessive delay when crossing the major street	Pedestrian and major street volumes, traffic gaps
5	School Crossing	Where the fact that school children cross the major street is the main reason to consider a traffic signal	Distance to nearest signal, volumes
6	Coordinated Signal System	To maintain progressive movement and properly platoon vehicles in a coordinated signal system	Distance between signals, platooning
7	Crash Experience	Where the severity and frequency of crashes are the principal reason to consider installing a signal	Crash history, 8-hour volumes, speed limit
8	Roadway Network	To encourage concentration and organization of traffic flow on a roadway network	Peak hour and forecast volumes

Source: Manual on Uniform Traffic Control (MUTCD) Chapter 4C

The peak hour signal warrant calculations are provided in the Appendix. Based on the forecast volumes, traffic signals are not warranted at all unsignalized study intersections and site access driveways for all analysis scenarios. However, Driveway 6 should be monitored and re-evaluated in when the Great Park Neighborhoods development occurs to the south of the project site. The intersection is forecast to operate at LOS E in the 2011 Approved Project and LOS D in the Modified Project Options 1 and 2 scenarios in the Year 2035. The signal warrants conducted in this study account for vehicle volumes, but not pedestrian volume. The intersection should be reevaluated for a signal warrant as part of the development and implementation of the roadway extension to the south.

8.1.2 Sight Distance Analysis

Sight distance is the continuous length of highway ahead, visible to the highway user. There are four types of sight distance to consider, including passing, stopping, decision, and corner. Passing sight distance is used where use of an opposing lane can provide passing opportunities. Stopping sight distance is the minimum sight distance for a given design speed to be provided on multilane highways and on 2-lane roads when passing sight distance is not obtainable. Stopping sight distance also is to be provided for all users, including motorists and bicyclists, at all elements of intersections at grade, including private road connections. Decision sight distance is used at major decision points, and corner sight distance is used at intersections. Sight distance analysis involve establishing the needed sight triangle in each quadrant by determining the legs of the triangle on the two crossing roadways.

Within this clear sight triangle, the objective is to remove or lower any object that obstructs the driver's view, if practical. Sight obstructions may include buildings, landscaping, fences, retaining walls, or the actual ground line. Table 8-6 shows the minimum standards for stopping

and passing sight distance related to design speed for motorists per Caltrans Highway Design Manual.

Table 8-6 Sight Distance Minimum Standards

Design Speed (mph)	Stopping (ft)	Passing (ft)
20	125	800
25	150	950
30	200	1,100
35	250	1,300
40	300	1,500
45	360	1,650
50	430	1,800
55	500	1,950
60	580	2,100
65	660	2,300
70	750	2,500
75	840	2,600
80	930	2,700

Source: Caltrans

Table 8-7 shows the sight distance for the access roadways leading to the high school. It is recommended that a clear line of sight be maintained at Intersections #563, #800, and #798.

Table 8-7 Sight Distance Minimum Standards – Project Intersections

Street	Design Speed (mph)	Stopping (ft)	Passing (ft)
Irvine Blvd	55	500	1,950
"B" St	35	250	1,300
"LQ" St	35	250	1,300

8.2 PARKING ANALYSIS

Irvine High School #5 is proposing to provide 784 surface parking spaces per the most current site plan. Parking spaces allocated to staff and performing arts would be accessible from Driveways 1 and 2 along "B" Street, visitor parking spaces would be accessible from Driveways 3 and 4 along "LQ" Street, and student, stadium event, and additional staff parking would be accessible from Driveways 5, 6, and 7 along "LQ" Street. The design of the surface parking spaces is still on-going, and the final number of parking spaces may change. Forecast peak period parking generation per the Institute of Transportation Engineers (ITE) Parking Generation Manual is 598 parking spaces. Table 8-8 summarizes the peak period forecast parking demand for the project.

Table 8-8 ITE Parking Generation – High School

Use Classification	Unit	Quantity	ITE Rate (Spaces/Unit)	Peak Parking Generation
High School - Suburban	Students	2,600	0.23	598

Source: Institute of Transportation Engineers Parking Generation Manual, 4th Edition

Based on the forecast parking generation and proposed parking supply, the proposed parking supply exceeds forecast peak period parking demand.

8.3 PEDESTRIAN AND BICYCLE CIRCULATION

The preliminary site plan for Irvine High School #5 shows landscaped pedestrian pathways throughout the school, with connections to the various surface parking facilities. There are currently Class II bike lanes along Irvine Boulevard, Alton Parkway, and Sand Canyon Avenue. It is recommended that the school provide bicycle lockers or racks on site, as well as signage to increase awareness and safety of bicyclists and pedestrians. No pedestrian or bicycle circulation issues are identified at this time, and no mitigation measures are required.

8.4 STADIUM TRAFFIC

The Irvine Unified School District is proposing to build a 2,940-seat athletic stadium as part of the High School #5 campus. The stadium would serve as a venue for special events such as graduation ceremonies and sports activities, and is not expected to generate a significant number of trips on a daily basis throughout the year. The proposed stadium would likely host one varsity football game per week for about ten to twelve weeks per year.

The proposed stadium is not expected to generate a significant number of trips during the AM peak hour, so the PM peak hour is the only time period selected for analysis. Any of the other High School No. 5 facilities (the performing arts center, tennis courts, softball/baseball fields, etc.) may be available for public or non-enrollment population use on a very limited basis during special events, and this activity would not contribute to peak hour trip generation.

8.4.1 Stadium Trip Generation

The stadium land use category is not currently listed in the Institute of Transportation Engineers (ITE) Trip Generation Manual, and there is limited local or national survey data available for this type of use. High school stadiums typically do not generate a significant number of vehicle trips during the peak hours of adjacent street traffic, but volumes may vary depending on the type of event and the scheduled start time. Stadium uses that would not attract large numbers of spectators are not expected to generate any additional trips. Vehicle trips generated by sports team practices and activities that take place on the track and football field are already captured in the standard trip generation for the high school. The only additional trips that are expected to be generated by the stadium would be for events with a significant volume of spectators seated in the bleachers.

High school stadium activities that attract large numbers of spectators tend to be seasonal, and include football games, graduation ceremonies, and occasional community events. Varsity football games are typically scheduled for Thursday, Friday, or Saturday evenings between late August and early December.

It is expected that the daily and peak hour trip generation for the proposed High School No. 5 will be similar to the trip generation at Irvine Stadium. Driveway counts were made at Irvine Stadium in an attempt to identify the number of vehicle trips that enter and exit the stadium site during a typical stadium event. Varsity football games with attendance at stadium capacity are forecast to generate a total of 605 evening peak hour trips (430 inbound and 175 outbound). This value is based on driveway volumes observed at Irvine Stadium and Institute of Transportation Engineers (ITE) *Trip Generation* rates for Heritage Park.

Evening peak hour trips are not expected to occur on typical weekdays. As a worst case scenario, the number of forecast project-related trips for a stadium event where every bleacher seat is filled is added to the weekday PM peak hour volumes for each intersection in the level of service analysis. This would be representative of a sold out varsity football game held on a Thursday night.

8.4.2 Average Daily Trips

The daily traffic volume for a stadium spectator event at High School No. 5 is forecast to be 2,176 trips, which includes 1,088 inbound trips and 1,088 outbound trips throughout the day. Daily trip generation for a special event land use like a high school stadium is highly variable, and depends on a number of local factors including demographics, weather patterns, team performance, and other site-specific criteria. The high school stadium is not one of the land use categories included in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, so two other sources were used to estimate the daily trip rate for the High School No. 5: 1) The San Diego Municipal Code Land Development Code Trip Generation Manual³, and 2) the Estancia High School Stadium Traffic and Parking Impact Analysis⁴.

The City of San Diego Traffic and Engineering Division recommended trip generation rate for a Sports Facility land use is 1 trip per attendee. A spectator sport facility is defined as a specially designed land use where people gather to watch a team sport or other attraction, such as the San Diego Qualcomm Stadium, the Sports Arena, or the Del Mar Race Track. This type of land use generally attracts more regional trips than a local high school football stadium, and would be expected to have a higher daily trip generation rate. The Newport-Mesa Unified School District proposed to build a stadium at Estancia High School in 2001. Estancia High is another local Orange County school located in the City of Costa Mesa. The Estancia High School Traffic and Parking Impact Analysis utilized a daily trip generation rate of 0.47 trips per seat, and forecast a total of 1,186 trips for a 2,523-seat stadium.

The daily trip generation rate of 0.74 trips per seat used for the High School No. 5 is based on an average of the City of San Diego Traffic and Engineering Division trip rate for a Sports Facility (1 trip per attendee) and the rate used for the Estancia High School stadium (0.47 trips per seat). This rate represents a conservative estimate for capacity events at High School No. 5.

The stadium trips would not be generated on typical weekdays throughout the year. Total driveway trips of 2,176 are only expected to occur on days when a varsity football game, graduation ceremony, or other special event that fills the stadium would occur. Varsity football games are scheduled for Friday evenings between late August and early December, and

³ San Diego Municipal Code, Land Development Code, Trip Generation Manual (May 2003)

<http://www.sandiego.gov/planning/pdf/tripmanual.pdf>

⁴ Estancia High School Stadium Traffic and Parking Impact Analysis (RK Engineering Group, Inc. February 2001)

graduation ceremonies occur in the month of June. This traffic would have the characteristics of a special event, and would not contribute to the typical daily traffic volumes year round.

8.4.3 Stadium Trip Distribution

The stadium trip distribution for each analysis scenario has been developed based on the following assumptions:

- 68% of the trips generated for stadium events would originate within the High School No. 5 attendance area boundary, and follow a distribution similar to typical weekday traffic.
- 32% of the trips generated for stadium events would originate outside of the High School No. 5 attendance area boundary, with 3% coming from the east, 8% coming from the south, and 21% coming from the west. Trip distribution percentages on local arterials are proportional to 2011 daily traffic volumes published by the City of Irvine.

The inbound and outbound trip distribution through the study area during the PM peak time period for all analysis scenarios are provided in the Appendix. The intersection level of service results are shown in Tables 8-9 to 8-18.

Table 8-9 Year 2013 Peak Hour Intersection LOS Comparison

Intersection	Control	PM Peak Hour						Impact
		No Project		With Stadium		Change in V/C		
		V/C Delay	LOS	V/C Delay	LOS			
1	"B" St & Driveway 1	U	n/a	n/a	0.01	A	0.01	
2	"B" St & Driveway 2	U	n/a	n/a	0.03	A	0.03	
3	Driveway 3 & "LQ" St	U	n/a	n/a	0.01	A	0.01	
4	Driveway 4 & "LQ" St	U	n/a	n/a	0.02	A	0.02	
5	"LQ" St & Driveway 5	U	n/a	n/a	0.03	A	0.03	
6	"LQ" St & Driveway 6	U	n/a	n/a	0.07	A	0.07	
7	"LQ" St & Driveway 7	U	n/a	n/a	0.00	A	0.00	
282	Jeffrey Rd & Portola Pkwy	S	0.35	A	0.35	A	0.00	
283	Jeffrey Rd & Irvine Blvd	S	0.55	A	0.55	A	0.00	
284	Jeffrey Rd & Bryan Ave	S	0.38	A	0.38	A	0.00	
285	Jeffrey Rd & Trabuco Rd	S	0.43	A	0.43	A	0.00	
300	Sand Canyon Ave & Portola Pkwy	S	0.29	A	0.29	A	0.00	
301	Sand Canyon Ave & Irvine Blvd	S	0.50	A	0.51	A	0.01	
302	Sand Canyon Ave & Trabuco Rd	S	0.38	A	0.39	A	0.01	
303	Sand Canyon Ave & I-5 NB Ramps	S	0.43	A	0.73	C	0.30	
304	Sand Canyon Ave & Marine Way	S	0.61	B	0.62	B	0.01	
305	Sand Canyon Ave & I-5 SB Ramps	S	0.73	C	0.74	C	0.01	
444	Sand Canyon Ave & Burt Rd	S	0.57	A	0.57	A	0.00	
306	Sand Canyon Ave & Oak Cyn Rd	S	0.29	A	0.29	A	0.00	
316	SR-133 SB Ramps & Irvine Blvd	S	0.41	A	0.41	A	0.00	
317	SR-133 NB Ramps & Irvine Blvd	S	0.44	A	0.46	A	0.02	
338	Alton Pkwy & Irvine Blvd	S	0.49	A	0.50	A	0.01	
339	Alton Pkwy & Toledo Way	S	0.36	A	0.37	A	0.01	

Intersection		Control	PM Peak Hour					Change in V/C	Impact
			No Project		With Stadium				
			V/C Delay	LOS	V/C Delay	LOS			
340	Alton Pkwy & Jeronimo Rd	S	0.35	A	0.35	A	0.00		
341	Alton Pkwy & Barranca Pkwy	S	0.57	A	0.58	A	0.01		
367	Bake Pkwy & I-5 NB Ramps	S	1.01	F	1.02	F	0.00		
368	Bake Pkwy & I-5/I-405 SB Ramps	S	0.67	B	0.67	B	0.00		
556	Ridge Valley & Portola Pkwy	S	0.25	A	0.25	A	0.00		
563	"B" St & Irvine Blvd	U	0.00	A	0.14	A	0.14		
571	Portola Springs & Portola Pkwy	S	0.15	A	0.15	A	0.00		
572	Modjeska/"A" St & Irvine Blvd	S	0.44	A	0.61	B	0.17		
800	"A-02" St/"LQ" St & Irvine Blvd	U	0.00	A	0.07	A	0.07		

Table 8-10 Year 2017 Intersection LOS Comparison – 2011 Approved Project

Intersection		Control	PM Peak Hour				Change in V/C	Impact
			No Project		With Stadium			
			V/C Delay	LOS	V/C Delay	LOS		
1	"B" St & Driveway 1	U	n/a	n/a	0.01	A	0.01	
2	"B" St & Driveway 2	U	n/a	n/a	0.03	A	0.03	
3	Driveway 3 & "LQ" St	U	n/a	n/a	0.01	A	0.01	
4	Driveway 4 & "LQ" St	U	n/a	n/a	0.02	A	0.02	
5	"LQ" St & Driveway 5	U	n/a	n/a	0.03	A	0.03	
6	"LQ" St & Driveway 6	U	n/a	n/a	0.07	A	0.07	
7	"LQ" St & Driveway 7	U	n/a	n/a	0.00	A	0.00	
282	Jeffrey Rd & Portola Pkwy	S	0.64	B	0.64	B	0.00	
283	Jeffrey Rd & Irvine Blvd	S	0.68	B	0.68	B	0.00	
284	Jeffrey Rd & Bryan Ave	S	0.50	A	0.51	A	0.01	
285	Jeffrey Rd & Trabuco Rd	S	0.64	B	0.64	B	0.00	
300	Sand Canyon Ave & Portola Pkwy	S	0.36	A	0.48	A	0.12	
301	Sand Canyon Ave & Irvine Blvd	S	0.62	B	0.63	B	0.01	
302	Sand Canyon Ave & Trabuco Rd	S	0.67	B	0.68	B	0.01	
303	Sand Canyon Ave & I-5 NB Ramps	S	0.72	C	0.72	C	0.00	
304	Sand Canyon Ave & Marine Way	S	0.76	C	0.76	C	0.00	
305	Sand Canyon Ave & I-5 SB Ramps	S	0.76	C	0.77	C	0.00	
444	Sand Canyon Ave & Burt Rd	S	0.62	B	0.62	B	0.00	
306	Sand Canyon Ave & Oak Cyn Rd	S	0.99	E	0.99	E	0.00	
316	SR-133 SB Ramps & Irvine Blvd	S	0.49	A	0.51	A	0.02	
317	SR-133 NB Ramps & Irvine Blvd	S	0.77	C	0.81	D	0.04	
338	Alton Pkwy & Irvine Blvd	S	0.81	D	0.81	D	0.00	
339	Alton Pkwy & Toledo Way	S	0.60	A	0.60	B	0.00	
340	Alton Pkwy & Jeronimo Rd	S	0.55	A	0.55	A	0.00	
341	Alton Pkwy & Barranca Pkwy	S	0.70	B	0.70	C	0.00	
367	Bake Pkwy & I-5 NB Ramps	S	0.89	D	0.66	B	-0.23	
368	Bake Pkwy & I-5/I-405 SB Ramps	S	0.84	D	0.84	D	-0.01	

	Intersection	Control	PM Peak Hour					Change in V/C	Impact
			No Project		With Stadium				
			V/C Delay	LOS	V/C Delay	LOS			
556	Ridge Valley & Portola Pkwy	S	0.63	B	0.63	B	0.00		
557	"O" St & "C" St	R	0.23	A	0.23	A	0.00		
558	Ridge Valley/"O" St & Irvine Blvd	S	0.84	D	0.87	D	0.03		
559	"O" St & Trabuco Rd	S	0.45	A	0.45	A	0.00		
560	"O" St & Marine Way	S	0.34	A	0.34	A	0.00		
563	"B" St & Irvine Blvd	S	0.00	A	0.14	A	0.14		
571	Portola Springs & Portola Pkwy	S	0.15	A	0.16	A	0.01		
572	Modjeska/"A" St & Irvine Blvd	S	0.60	B	0.63	B	0.03		
603	"O" St & "LN" St	U	0.07	A	0.08	A	0.00		
605	"O" St & "LQ" St	R	0.22	A	0.22	A	0.00		
608	"O" St & "LV" St	U	0.01	A	0.01	A	0.00		
626	"LY" St & "LQ" St	R	0.25	A	0.25	A	0.00		
627	"LY" St & Irvine Blvd	S	0.70	C	0.73	C	0.03		
631	"LY" St & Trabuco Rd	U	0.01	A	0.01	A	0.00		
782	"A" St & "LQ" St	R	0.26	A	0.26	A	0.00		
790	"Z" St & Irvine Blvd	S	0.59	A	0.62	B	0.03		
800	"A-02" St/"LQ" St & Irvine Blvd	S	0.85	D	0.85	D	0.00		

Table 8-11 Year 2017 Intersection LOS Comparison – 2012 Modified Project Option 1

	Intersection	Control	PM Peak Hour				Change in V/C	Impact
			No Project		With Stadium			
			V/C Delay	LOS	V/C Delay	LOS		
1	"B" St & Driveway 1	U	n/a	n/a	0.01	A	0.01	
2	"B" St & Driveway 2	U	n/a	n/a	0.03	A	0.03	
3	Driveway 3 & "LQ" St	U	n/a	n/a	0.01	A	0.01	
4	Driveway 4 & "LQ" St	U	n/a	n/a	0.02	A	0.02	
5	"LQ" St & Driveway 5	U	n/a	n/a	0.03	A	0.03	
6	"LQ" St & Driveway 6	U	n/a	n/a	0.07	A	0.07	
7	"LQ" St & Driveway 7	U	n/a	n/a	0.00	A	0.00	
282	Jeffrey Rd & Portola Pkwy	S	0.63	B	0.64	B	0.01	
283	Jeffrey Rd & Irvine Blvd	S	0.67	B	0.67	B	0.00	
284	Jeffrey Rd & Bryan Ave	S	0.58	A	0.58	A	0.00	
285	Jeffrey Rd & Trabuco Rd	S	0.64	B	0.65	B	0.00	
300	Sand Canyon Ave & Portola Pkwy	S	0.48	A	0.48	A	0.00	
301	Sand Canyon Ave & Irvine Blvd	S	0.53	A	0.54	A	0.01	
302	Sand Canyon Ave & Trabuco Rd	S	0.72	C	0.72	C	0.00	
303	Sand Canyon Ave & I-5 NB Ramps	S	0.71	C	0.71	C	0.00	
304	Sand Canyon Ave & Marine Way	S	0.89	D	0.89	D	0.00	
305	Sand Canyon Ave & I-5 SB Ramps	S	0.78	C	0.79	C	0.00	
444	Sand Canyon Ave & Burt Rd	S	0.80	C	0.80	C	0.00	

	Intersection	Control	PM Peak Hour					Change in V/C	Impact
			No Project		With Stadium				
			V/C Delay	LOS	V/C Delay	LOS			
306	Sand Canyon Ave & Oak Cyn Rd	S	1.00	F	1.00	F	0.00		
316	SR-133 SB Ramps & Irvine Blvd	S	0.45	A	0.47	A	0.02		
317	SR-133 NB Ramps & Irvine Blvd	S	0.68	B	0.72	C	0.04		
338	Alton Pkwy & Irvine Blvd	S	0.81	D	0.81	D	0.00		
339	Alton Pkwy & Toledo Way	S	0.59	A	0.60	A	0.01		
340	Alton Pkwy & Jeronimo Rd	S	0.54	A	0.55	A	0.01		
341	Alton Pkwy & Barranca Pkwy	S	0.70	C	0.71	C	0.01		
367	Bake Pkwy & I-5 NB Ramps	S	0.66	B	0.66	B	0.00		
368	Bake Pkwy & I-5/I-405 SB Ramps	S	0.83	D	0.83	D	0.00		
556	Ridge Valley & Portola Pkwy	S	0.65	B	0.65	B	0.00		
557	"O" St & "C" St	R	0.38	A	0.38	A	0.00		
558	Ridge Valley/"O" St & Irvine Blvd	S	0.67	B	0.70	B	0.03		
559	"O" St & Trabuco Rd	S	0.64	B	0.64	B	0.00		
560	"O" St & Marine Way	S	0.49	A	0.49	A	0.00		
563	"B" St & Irvine Blvd	S	0.00	A	0.15	A	0.15		
571	Portola Springs & Portola Pkwy	S	0.48	A	0.48	A	0.00		
572	Modjeska/"A" St & Irvine Blvd	S	0.55	A	0.58	A	0.03		
603	"O" St & "LN" St	U	0.18	A	0.18	A	0.00		
605	"O" St & "LQ" St	R	0.24	A	0.24	A	0.00		
608	"O" St & "LV" St	U	0.22	A	0.35	A	0.13		
626	"LY" St & "LQ" St	R	0.29	A	0.29	A	0.00		
627	"LY" St & Irvine Blvd	S	0.64	B	0.67	B	0.03		
631	"LY" St & Trabuco Rd	U	0.02	A	0.02	A	0.00		
782	"A" St & "LQ" St	R	0.24	A	0.25	A	0.00		
790	"Z" St & Irvine Blvd	S	0.53	A	0.58	A	0.05		
800	"A-02" St/"LQ" St & Irvine Blvd	S	0.86	D	0.86	D	0.00		

Table 8-12 Year 2017 Intersection LOS Comparison – 2012 Modified Project Option 2

	Intersection	Control	PM Peak Hour					Change in V/C	Impact
			No Project		With Stadium				
			V/C Delay	LOS	V/C Delay	LOS			
1	"B" St & Driveway 1	U	n/a	n/a	0.01	A	0.01		
2	"B" St & Driveway 2	U	n/a	n/a	0.02	A	0.02		
3	Driveway 3 & "LQ" St	U	n/a	n/a	0.02	A	0.02		
4	Driveway 4 & "LQ" St	U	n/a	n/a	0.01	A	0.01		
5	"LQ" St & Driveway 5	U	n/a	n/a	0.03	A	0.03		
6	"LQ" St & Driveway 6	U	n/a	n/a	0.08	A	0.08		
7	"LQ" St & Driveway 7	U	n/a	n/a	0.00	A	0.00		
282	Jeffrey Rd & Portola Pkwy	S	0.64	B	0.64	B	0.00		
283	Jeffrey Rd & Irvine Blvd	S	0.67	B	0.67	B	0.00		
284	Jeffrey Rd & Bryan Ave	S	0.58	A	0.59	A	0.01		

	Intersection	Control	PM Peak Hour					Change in V/C	Impact
			No Project		With Stadium				
			V/C Delay	LOS	V/C Delay	LOS			
285	Jeffrey Rd & Trabuco Rd	S	0.64	B	0.65	B	0.01		
300	Sand Canyon Ave & Portola Pkwy	S	0.48	A	0.48	A	0.00		
301	Sand Canyon Ave & Irvine Blvd	S	0.60	A	0.60	B	0.01		
302	Sand Canyon Ave & Trabuco Rd	S	0.72	C	0.72	C	0.00		
303	Sand Canyon Ave & I-5 NB Ramps	S	0.70	C	0.71	C	0.00		
304	Sand Canyon Ave & Marine Way	S	0.89	D	0.89	D	0.00		
305	Sand Canyon Ave & I-5 SB Ramps	S	0.79	C	0.79	C	0.00		
444	Sand Canyon Ave & Burt Rd	S	0.80	C	0.80	D	0.00		
306	Sand Canyon Ave & Oak Cyn Rd	S	1.00	F	1.00	F	0.00		
316	SR-133 SB Ramps & Irvine Blvd	S	0.45	A	0.47	A	0.02		
317	SR-133 NB Ramps & Irvine Blvd	S	0.68	B	0.72	C	0.03		
338	Alton Pkwy & Irvine Blvd	S	0.81	D	0.81	D	0.00		
339	Alton Pkwy & Toledo Way	S	0.59	A	0.60	A	0.01		
340	Alton Pkwy & Jeronimo Rd	S	0.54	A	0.55	A	0.01		
341	Alton Pkwy & Barranca Pkwy	S	0.70	C	0.71	C	0.01		
367	Bake Pkwy & I-5 NB Ramps	S	0.66	B	0.66	B	0.00		
368	Bake Pkwy & I-5/I-405 SB Ramps	S	0.83	D	0.83	D	0.00		
556	Ridge Valley & Portola Pkwy	S	0.65	B	0.65	B	0.00		
557	"O" St & "C" St	R	0.38	A	0.38	A	0.00		
558	Ridge Valley/"O" St & Irvine Blvd	S	0.76	C	0.79	C	0.03		
559	"O" St & Trabuco Rd	S	0.63	B	0.63	B	0.00		
560	"O" St & Marine Way	S	0.50	A	0.50	A	0.00		
563	"B" St & Irvine Blvd	S	0.00	A	0.15	A	0.15		
571	Portola Springs & Portola Pkwy	S	0.48	A	0.48	A	0.00		
572	Modjeska/"A" St & Irvine Blvd	S	0.55	A	0.58	A	0.03		
603	"O" St & "LN" St	U	0.15	A	0.15	A	0.00		
605	"O" St & "LQ" St	R	0.24	A	0.24	A	0.00		
608	"O" St & "LV" St	U	0.29	A	0.36	A	0.08		
626	"LY" St & "LQ" St	R	0.28	A	0.28	A	0.00		
627	"LY" St & Irvine Blvd	S	0.64	B	0.67	B	0.03		
631	"LY" St & Trabuco Rd	U	0.02	A	0.02	A	0.00		
782	"A" St & "LQ" St	R	0.23	A	0.23	A	0.00		
790	"Z" St & Irvine Blvd	S	0.56	A	0.58	A	0.02		
800	"A-02" St/"LQ" St & Irvine Blvd	S	0.86	D	0.87	D	0.01		

Table 8-13 Year 2035 Intersection LOS Comparison – 2011 Approved Project

	Intersection	Control	PM Peak Hour					Change in V/C	Impact
			No Project		With Stadium				
			V/C Delay	LOS	V/C Delay	LOS			
1	"B" St & Driveway 1	U	n/a	n/a	0.00	A	0.00		
2	"B" St & Driveway 2	U	n/a	n/a	0.05	A	0.05		
3	Driveway 3 & "LQ" St	U	n/a	n/a	0.03	A	0.03		
4	Driveway 4 & "LQ" St	U	n/a	n/a	0.02	A	0.02		
5	"LQ" St & Driveway 5	U	n/a	n/a	0.04	A	0.04		
6	"LQ" St & Driveway 6	U	n/a	n/a	0.26	A	0.26		
7	"LQ" St & Driveway 7	U	n/a	n/a	0.00	A	0.00		
282	Jeffrey Rd & Portola Pkwy	S	0.64	B	0.64	B	0.00		
283	Jeffrey Rd & Irvine Blvd	S	0.72	C	0.72	C	0.00		
284	Jeffrey Rd & Bryan Ave	S	0.77	C	0.77	C	0.00		
285	Jeffrey Rd & Trabuco Rd	S	0.78	C	0.78	C	0.00		
300	Sand Canyon Ave & Portola Pkwy	S	0.59	A	0.60	A	0.01		
301	Sand Canyon Ave & Irvine Blvd	S	0.80	C	0.80	D	0.01		
302	Sand Canyon Ave & Trabuco Rd	S	0.83	D	0.84	D	0.01		
303	Sand Canyon Ave & I-5 NB Ramps	S	1.07	F	1.07	F	0.00		
305	Sand Canyon Ave & I-5 SB Ramps	S	0.83	D	0.83	D	0.00		
444	Sand Canyon Ave & Burt Rd	S	0.86	D	0.87	D	0.01		
306	Sand Canyon Ave & Oak Cyn Rd	S	0.78	C	0.78	C	0.00		
316	SR-133 SB Ramps & Irvine Blvd	S	0.61	B	0.62	B	0.01		
317	SR-133 NB Ramps & Irvine Blvd	S	0.80	C	0.83	D	0.04		
338	Alton Pkwy & Irvine Blvd	S	0.95	E	0.95	E	0.00		
339	Alton Pkwy & Toledo Way	S	0.65	B	0.66	B	0.01		
340	Alton Pkwy & Jeronimo Rd	S	0.60	B	0.61	B	0.01		
341	Alton Pkwy & Barranca Pkwy	S	0.83	D	0.83	D	0.01		
367	Bake Pkwy & I-5 NB Ramps	S	0.61	B	0.61	B	0.00		
368	Bake Pkwy & I-5/I-405 SB Ramps	S	0.89	D	0.89	D	0.00		
486	SR-133 SB Ramps & Trabuco Rd	S	0.53	A	0.53	A	0.00		
487	SR-133 NB Ramps & Trabuco Rd	S	0.58	A	0.58	A	0.00		
556	Ridge Valley & Portola Pkwy	S	0.58	A	0.58	A	0.00		
557	"O" St & "C" St	R	0.24	A	0.24	A	0.00		
558	Ridge Valley/"O" St & Irvine Blvd	S	0.80	C	0.83	D	0.03		
559	"O" St & Trabuco Rd	S	0.80	C	0.80	C	0.00		
560	"O" St & Marine Way	S	0.65	B	0.65	B	0.00		
563	"B" St & Irvine Blvd	S	0.76	C	0.80	C	0.04		
566	Marine Way & Barranca Pkwy	S	0.68	B	0.68	B	0.00		
567	Marine Way & Alton Pkwy	S	0.67	B	0.67	B	0.00		
569	Bake Pkwy & Marine Way	S	0.70	B	0.70	B	0.00		
571	Portola Springs & Portola Pkwy	S	0.49	A	0.49	A	0.00		
572	Modjeska/"A" St & Irvine Blvd	S	0.78	C	0.81	D	0.03		
603	"O" St & "LN" St	S	0.35	A	0.36	A	0.01		
605	"O" St & "LQ" St	R	0.44	A	0.44	A	0.00		
608	"O" St & "LV" St	S	0.35	A	0.35	A	0.00		

	Intersection	Control	PM Peak Hour					Change in V/C	Impact
			No Project		With Stadium				
			V/C Delay	LOS	V/C Delay	LOS			
626	"LY" St & "LQ" St	R	0.33	A	0.34	A	0.01		
627	"LY" St & Irvine Blvd	S	0.63	B	0.65	B	0.02		
631	"LY" St & Trabuco Rd	U	0.08	A	0.08	A	0.00		
782	"A" St & "LQ" St	R	0.32	A	0.34	A	0.03		
787	"Z" St & "LQ" St	U	0.05	A	0.05	A	0.00		
790	"Z" St & Irvine Blvd	S	0.75	C	0.78	C	0.03		
798	"B" St & "LQ" St	S	0.41	A	0.47	A	0.06		
799	"B" St & Marine Way	S	0.59	A	0.59	A	0.00		
800	"A-02" St/"LQ" St & Irvine Blvd	S	0.80	C	0.83	D	0.03		

Table 8-14 Year 2035 Intersection LOS Comparison – 2012 Modified Project Option 1

	Intersection	Control	PM Peak Hour					Change in V/C	Impact
			No Project		With Stadium				
			V/C Delay	LOS	V/C Delay	LOS			
1	"B" St & Driveway 1	U	n/a	n/a	0.00	A	0.00		
2	"B" St & Driveway 2	U	n/a	n/a	0.04	A	0.04		
3	Driveway 3 & "LQ" St	U	n/a	n/a	0.02	A	0.02		
4	Driveway 4 & "LQ" St	U	n/a	n/a	0.03	A	0.03		
5	"LQ" St & Driveway 5	U	n/a	n/a	0.04	A	0.04		
6	"LQ" St & Driveway 6	U	n/a	n/a	0.11	A	0.11		
7	"LQ" St & Driveway 7	U	n/a	n/a	0.00	A	0.00		
282	Jeffrey Rd & Portola Pkwy	S	0.76	C	0.76	C	0.00		
283	Jeffrey Rd & Irvine Blvd	S	0.72	C	0.72	C	0.00		
284	Jeffrey Rd & Bryan Ave	S	0.70	B	0.70	C	0.01		
285	Jeffrey Rd & Trabuco Rd	S	0.78	C	0.78	C	0.00		
300	Sand Canyon Ave & Portola Pkwy	S	0.60	A	0.60	A	0.00		
301	Sand Canyon Ave & Irvine Blvd	S	0.79	C	0.79	C	0.00		
302	Sand Canyon Ave & Trabuco Rd	S	0.82	D	0.83	D	0.00		
303	Sand Canyon Ave & I-5 NB Ramps	S	0.97	E	0.97	E	0.00		
305	Sand Canyon Ave & I-5 SB Ramps	S	0.86	D	0.87	D	0.00		
444	Sand Canyon Ave & Burt Rd	S	0.88	D	0.88	D	0.00		
306	Sand Canyon Ave & Oak Cyn Rd	S	0.79	C	0.79	C	0.00		
316	SR-133 SB Ramps & Irvine Blvd	S	0.59	A	0.61	B	0.01		
317	SR-133 NB Ramps & Irvine Blvd	S	0.78	C	0.81	D	0.04		
338	Alton Pkwy & Irvine Blvd	S	0.94	E	0.94	E	0.00		
339	Alton Pkwy & Toledo Way	S	0.70	B	0.70	C	0.00		
340	Alton Pkwy & Jeronimo Rd	S	0.59	A	0.60	A	0.01		
341	Alton Pkwy & Barranca Pkwy	S	0.79	C	0.80	C	0.01		
367	Bake Pkwy & I-5 NB Ramps	S	0.62	B	0.62	B	0.00		
368	Bake Pkwy & I-5/I-405 SB Ramps	S	0.90	E	0.90	E	0.00		
486	SR-133 SB Ramps & Trabuco Rd	S	0.54	A	0.54	A	0.00		

	Intersection	Control	PM Peak Hour					Change in V/C	Impact
			No Project		With Stadium				
			V/C Delay	LOS	V/C Delay	LOS			
487	SR-133 NB Ramps & Trabuco Rd	S	0.59	A	0.59	A	0.00		
556	Ridge Valley & Portola Pkwy	S	0.56	A	0.56	A	0.00		
557	"O" St & "C" St	R	0.26	A	0.26	A	0.00		
558	Ridge Valley/"O" St & Irvine Blvd	S	0.78	C	0.80	D	0.02		
559	"O" St & Trabuco Rd	S	0.77	C	0.77	C	0.00		
560	"O" St & Marine Way	S	0.66	B	0.66	B	0.00		
563	"B" St & Irvine Blvd	S	0.72	C	0.76	C	0.04		
566	Marine Way & Barranca Pkwy	S	0.64	B	0.65	B	0.01		
567	Marine Way & Alton Pkwy	S	0.63	B	0.64	B	0.01		
569	Bake Pkwy & Marine Way	S	0.76	C	0.76	C	0.00		
571	Portola Springs & Portola Pkwy	S	0.50	A	0.50	A	0.00		
572	Modjeska/"A" St & Irvine Blvd	S	0.76	C	0.78	C	0.02		
603	"O" St & "LN" St	S	0.33	A	0.33	A	0.00		
605	"O" St & "LQ" St	R	0.40	A	0.41	A	0.00		
608	"O" St & "LV" St	S	0.34	A	0.34	A	0.00		
626	"LY" St & "LQ" St	R	0.39	A	0.40	A	0.01		
627	"LY" St & Irvine Blvd	S	0.62	B	0.63	B	0.01		
631	"LY" St & Trabuco Rd	U	0.10	A	0.10	A	0.00		
782	"A" St & "LQ" St	R	0.36	A	0.38	A	0.02		
787	"Z" St & "LQ" St	U	0.02	A	0.02	A	0.00		
790	"Z" St & Irvine Blvd	S	0.73	C	0.75	C	0.02		
798	"B" St & "LQ" St	S	0.40	A	0.42	A	0.02		
799	"B" St & Marine Way	S	0.70	C	0.70	C	0.00		
800	"A-02" St/"LQ" St & Irvine Blvd	S	0.74	C	0.74	C	0.00		

Table 8-15 Year 2035 Intersection LOS Comparison – 2012 Modified Project Option 2

	Intersection	Control	PM Peak Hour					Change in V/C	Impact
			No Project		With Stadium				
			V/C Delay	LOS	V/C Delay	LOS			
1	"B" St & Driveway 1	U	n/a	n/a	0.00	A	0.00		
2	"B" St & Driveway 2	U	n/a	n/a	0.04	A	0.04		
3	Driveway 3 & "LQ" St	U	n/a	n/a	0.02	A	0.02		
4	Driveway 4 & "LQ" St	U	n/a	n/a	0.03	A	0.03		
5	"LQ" St & Driveway 5	U	n/a	n/a	0.04	A	0.04		
6	"LQ" St & Driveway 6	U	n/a	n/a	0.11	A	0.11		
7	"LQ" St & Driveway 7	U	n/a	n/a	0.00	A	0.00		
282	Jeffrey Rd & Portola Pkwy	S	0.64	B	0.64	B	0.00		
283	Jeffrey Rd & Irvine Blvd	S	0.71	C	0.72	C	0.01		
284	Jeffrey Rd & Bryan Ave	S	0.78	C	0.79	C	0.01		
285	Jeffrey Rd & Trabuco Rd	S	0.78	C	0.78	C	0.00		
300	Sand Canyon Ave & Portola Pkwy	S	0.60	A	0.60	A	0.00		

Intersection		Control	PM Peak Hour					Change in V/C	Impact
			No Project		With Stadium				
			V/C Delay	LOS	V/C Delay	LOS			
301	Sand Canyon Ave & Irvine Blvd	S	0.79	C	0.79	C	0.00		
302	Sand Canyon Ave & Trabuco Rd	S	0.82	D	0.83	D	0.01		
303	Sand Canyon Ave & I-5 NB Ramps	S	0.96	E	0.96	E	0.00		
305	Sand Canyon Ave & I-5 SB Ramps	S	0.86	D	0.87	D	0.00		
444	Sand Canyon Ave & Burt Rd	S	0.88	D	0.88	D	0.00		
306	Sand Canyon Ave & Oak Cyn Rd	S	0.79	C	0.80	C	0.01		
316	SR-133 SB Ramps & Irvine Blvd	S	0.59	A	0.60	B	0.01		
317	SR-133 NB Ramps & Irvine Blvd	S	0.77	C	0.80	D	0.04		
338	Alton Pkwy & Irvine Blvd	S	0.94	E	0.94	E	0.00		
339	Alton Pkwy & Toledo Way	S	0.70	B	0.70	C	0.00		
340	Alton Pkwy & Jeronimo Rd	S	0.59	A	0.60	A	0.01		
341	Alton Pkwy & Barranca Pkwy	S	0.80	C	0.80	D	0.01		
367	Bake Pkwy & I-5 NB Ramps	S	0.61	B	0.62	B	0.00		
368	Bake Pkwy & I-5/I-405 SB Ramps	S	0.90	D	0.90	E	0.00		
486	SR-133 SB Ramps & Trabuco Rd	S	0.54	A	0.54	A	0.00		
487	SR-133 NB Ramps & Trabuco Rd	S	0.60	B	0.60	B	0.00		
556	Ridge Valley & Portola Pkwy	S	0.56	A	0.56	A	0.00		
557	"O" St & "C" St	R	0.26	A	0.26	A	0.00		
558	Ridge Valley/"O" St & Irvine Blvd	S	0.78	C	0.80	D	0.02		
559	"O" St & Trabuco Rd	S	0.77	C	0.77	C	0.00		
560	"O" St & Marine Way	S	0.66	B	0.66	B	0.00		
563	"B" St & Irvine Blvd	S	0.72	C	0.76	C	0.04		
566	Marine Way & Barranca Pkwy	S	0.64	B	0.65	B	0.01		
567	Marine Way & Alton Pkwy	S	0.63	B	0.63	B	0.00		
569	Bake Pkwy & Marine Way	S	0.76	C	0.76	C	0.00		
571	Portola Springs & Portola Pkwy	S	0.50	A	0.50	A	0.00		
572	Modjeska/"A" St & Irvine Blvd	S	0.76	C	0.78	C	0.02		
603	"O" St & "LN" St	S	0.32	A	0.32	A	0.00		
605	"O" St & "LQ" St	R	0.42	A	0.42	A	0.00		
608	"O" St & "LV" St	S	0.37	A	0.37	A	0.00		
626	"LY" St & "LQ" St	R	0.38	A	0.39	A	0.01		
627	"LY" St & Irvine Blvd	S	0.62	B	0.63	B	0.01		
631	"LY" St & Trabuco Rd	U	0.10	A	0.10	A	0.00		
782	"A" St & "LQ" St	R	0.37	A	0.38	A	0.02		
787	"Z" St & "LQ" St	U	0.03	A	0.03	A	0.00		
790	"Z" St & Irvine Blvd	S	0.74	C	0.75	C	0.01		
798	"B" St & "LQ" St	S	0.40	A	0.42	A	0.02		
799	"B" St & Marine Way	S	0.70	C	0.70	C	0.00		
800	"A-02" St/"LQ" St & Irvine Blvd	S	0.74	C	0.74	C	0.00		

Table 8-16 Post Year 2035 Intersection LOS Comparison – 2011 Approved Project

	Intersection	Control	PM Peak Hour					Change in V/C	Impact
			No Project		With Stadium				
			V/C Delay	LOS	V/C Delay	LOS			
1	"B" St & Driveway 1	U	n/a	n/a	0.00	A	0.00		
2	"B" St & Driveway 2	U	n/a	n/a	0.05	A	0.05		
3	Driveway 3 & "LQ" St	U	n/a	n/a	0.03	A	0.03		
4	Driveway 4 & "LQ" St	U	n/a	n/a	0.02	A	0.02		
5	"LQ" St & Driveway 5	U	n/a	n/a	0.04	A	0.04		
6	"LQ" St & Driveway 6	U	n/a	n/a	0.27	A	0.27		
7	"LQ" St & Driveway 7	U	n/a	n/a	0.00	A	0.00		
282	Jeffrey Rd & Portola Pkwy	S	0.68	B	0.68	B	0.00		
283	Jeffrey Rd & Irvine Blvd	S	0.77	C	0.77	C	0.00		
284	Jeffrey Rd & Bryan Ave	S	0.79	C	0.79	C	0.00		
285	Jeffrey Rd & Trabuco Rd	S	0.80	D	0.80	D	0.00		
300	Sand Canyon Ave & Portola Pkwy	S	0.64	B	0.64	B	0.00		
301	Sand Canyon Ave & Irvine Blvd	S	0.82	D	0.82	D	0.00		
302	Sand Canyon Ave & Trabuco Rd	S	0.83	D	0.83	D	0.00		
303	Sand Canyon Ave & I-5 NB Ramps	S	1.08	F	1.09	F	0.00		
305	Sand Canyon Ave & I-5 SB Ramps	S	0.87	D	0.87	D	0.00		
444	Sand Canyon Ave & Burt Rd	S	0.95	E	0.95	E	0.00		
306	Sand Canyon Ave & Oak Cyn Rd	S	0.82	D	0.83	D	0.01		
316	SR-133 SB Ramps & Irvine Blvd	S	0.57	A	0.58	A	0.01		
317	SR-133 NB Ramps & Irvine Blvd	S	0.88	D	0.92	E	0.04		
338	Alton Pkwy & Irvine Blvd	S	0.98	E	0.99	E	0.01		
339	Alton Pkwy & Toledo Way	S	0.68	B	0.68	B	0.00		
340	Alton Pkwy & Jeronimo Rd	S	0.58	A	0.59	A	0.01		
341	Alton Pkwy & Barranca Pkwy	S	0.79	C	0.80	C	0.01		
367	Bake Pkwy & I-5 NB Ramps	S	0.59	A	0.59	A	0.00		
368	Bake Pkwy & I-5/I-405 SB Ramps	S	0.85	D	0.85	D	0.00		
486	SR-133 SB Ramps & Trabuco Rd	S	0.55	A	0.55	A	0.00		
487	SR-133 NB Ramps & Trabuco Rd	S	0.59	A	0.59	A	0.00		
556	Ridge Valley & Portola Pkwy	S	0.73	C	0.73	C	0.00		
557	"O" St & "C" St	R	0.25	A	0.25	A	0.00		
558	Ridge Valley/"O" St & Irvine Blvd	S	0.86	D	0.88	D	0.02		
559	"O" St & Trabuco Rd	S	0.80	C	0.80	C	0.00		
560	"O" St & Marine Way	S	0.59	A	0.59	A	0.00		
563	"B" St & Irvine Blvd	S	0.75	C	0.80	C	0.05		
566	Marine Way & Barranca Pkwy	S	0.66	B	0.66	B	0.00		
567	Marine Way & Alton Pkwy	S	0.71	C	0.71	C	0.00		
569	Bake Pkwy & Marine Way	S	0.70	B	0.70	B	0.00		
571	Portola Springs & Portola Pkwy	S	0.63	B	0.63	B	0.00		
572	Modjeska/"A" St & Irvine Blvd	S	0.79	C	0.81	D	0.02		
603	"O" St & "LN" St	S	0.38	A	0.38	A	0.00		
605	"O" St & "LQ" St	R	0.41	A	0.41	A	0.00		
608	"O" St & "LV" St	S	0.34	A	0.35	A	0.01		

Intersection		Control	PM Peak Hour					Change in V/C	Impact
			No Project		With Stadium				
			V/C Delay	LOS	V/C Delay	LOS			
626	"LY" St & "LQ" St	R	0.31	A	0.32	A	0.01		
627	"LY" St & Irvine Blvd	S	0.68	B	0.69	B	0.01		
631	"LY" St & Trabuco Rd	U	0.14	A	0.14	A	0.00		
782	"A" St & "LQ" St	R	0.32	A	0.34	A	0.02		
787	"Z" St & "LQ" St	U	0.08	A	0.09	A	0.02		
790	"Z" St & Irvine Blvd	S	0.75	C	0.77	C	0.02		
798	"B" St & "LQ" St	S	0.34	A	0.38	A	0.04		
799	"B" St & Marine Way	S	0.58	A	0.58	A	0.00		
800	"A-02" St/"LQ" St & Irvine Blvd	S	0.76	C	0.80	C	0.04		

Table 8-17 Post Year 2035 Intersection LOS Comparison – 2012 Modified Project Option 1

Intersection		Control	PM Peak Hour				Change in V/C	Impact
			No Project		With Stadium			
			V/C Delay	LOS	V/C Delay	LOS		
1	"B" St & Driveway 1	U	n/a	n/a	0.00	A	0.00	
2	"B" St & Driveway 2	U	n/a	n/a	0.04	A	0.04	
3	Driveway 3 & "LQ" St	U	n/a	n/a	0.02	A	0.02	
4	Driveway 4 & "LQ" St	U	n/a	n/a	0.03	A	0.03	
5	"LQ" St & Driveway 5	U	n/a	n/a	0.04	A	0.04	
6	"LQ" St & Driveway 6	U	n/a	n/a	0.11	A	0.11	
7	"LQ" St & Driveway 7	U	n/a	n/a	0.00	A	0.00	
282	Jeffrey Rd & Portola Pkwy	S	0.68	B	0.68	B	0.00	
283	Jeffrey Rd & Irvine Blvd	S	0.77	C	0.77	C	0.00	
284	Jeffrey Rd & Bryan Ave	S	0.79	C	0.80	C	0.01	
285	Jeffrey Rd & Trabuco Rd	S	0.79	C	0.80	C	0.01	
300	Sand Canyon Ave & Portola Pkwy	S	0.63	B	0.64	B	0.01	
301	Sand Canyon Ave & Irvine Blvd	S	0.80	D	0.81	D	0.01	
302	Sand Canyon Ave & Trabuco Rd	S	0.83	D	0.83	D	0.00	
303	Sand Canyon Ave & I-5 NB Ramps	S	0.96	E	0.96	E	0.00	
305	Sand Canyon Ave & I-5 SB Ramps	S	0.89	D	0.90	D	0.00	
444	Sand Canyon Ave & Burt Rd	S	0.96	E	0.96	E	0.00	
306	Sand Canyon Ave & Oak Cyn Rd	S	0.84	D	0.84	D	0.00	
316	SR-133 SB Ramps & Irvine Blvd	S	0.56	A	0.57	A	0.01	
317	SR-133 NB Ramps & Irvine Blvd	S	0.86	D	0.89	D	0.04	
338	Alton Pkwy & Irvine Blvd	S	0.93	E	0.93	E	0.00	
339	Alton Pkwy & Toledo Way	S	0.71	C	0.72	C	0.01	
340	Alton Pkwy & Jeronimo Rd	S	0.58	A	0.58	A	0.00	
341	Alton Pkwy & Barranca Pkwy	S	0.80	C	0.80	D	0.01	
367	Bake Pkwy & I-5 NB Ramps	S	0.60	A	0.60	A	0.00	
368	Bake Pkwy & I-5/I-405 SB Ramps	S	0.86	D	0.86	D	0.00	
486	SR-133 SB Ramps & Trabuco Rd	S	0.56	A	0.56	A	0.00	

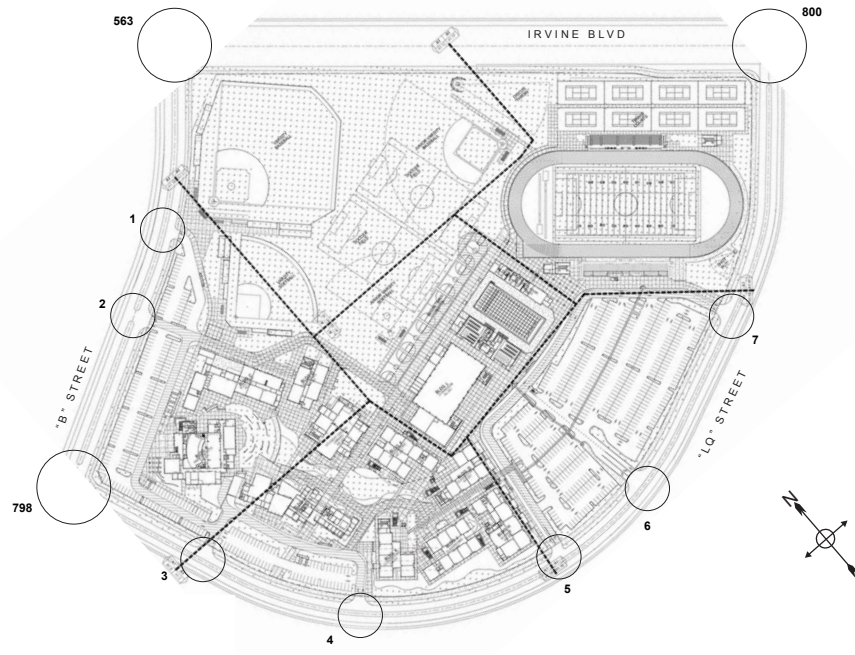
	Intersection	Control	PM Peak Hour					Change in V/C	Impact
			No Project		With Stadium				
			V/C Delay	LOS	V/C Delay	LOS			
487	SR-133 NB Ramps & Trabuco Rd	S	0.60	A	0.60	A	0.00		
556	Ridge Valley & Portola Pkwy	S	0.72	C	0.72	C	0.00		
557	"O" St & "C" St	R	0.27	A	0.27	A	0.00		
558	Ridge Valley/"O" St & Irvine Blvd	S	0.84	D	0.86	D	0.02		
559	"O" St & Trabuco Rd	S	0.78	C	0.78	C	0.00		
560	"O" St & Marine Way	S	0.66	B	0.66	B	0.00		
563	"B" St & Irvine Blvd	S	0.72	C	0.76	C	0.04		
566	Marine Way & Barranca Pkwy	S	0.66	B	0.66	B	0.00		
567	Marine Way & Alton Pkwy	S	0.65	B	0.65	B	0.00		
569	Bake Pkwy & Marine Way	S	0.77	C	0.77	C	0.00		
571	Portola Springs & Portola Pkwy	S	0.62	B	0.62	B	0.00		
572	Modjeska/"A" St & Irvine Blvd	S	0.76	C	0.77	C	0.01		
603	"O" St & "LN" St	S	0.32	A	0.32	A	0.00		
605	"O" St & "LQ" St	R	0.45	A	0.45	A	0.00		
608	"O" St & "LV" St	S	0.34	A	0.34	A	0.00		
626	"LY" St & "LQ" St	R	0.38	A	0.38	A	0.01		
627	"LY" St & Irvine Blvd	S	0.62	B	0.63	B	0.01		
631	"LY" St & Trabuco Rd	U	0.10	A	0.10	A	0.00		
782	"A" St & "LQ" St	R	0.35	A	0.36	A	0.02		
787	"Z" St & "LQ" St	U	0.02	A	0.02	A	0.00		
790	"Z" St & Irvine Blvd	S	0.72	C	0.74	C	0.02		
798	"B" St & "LQ" St	S	0.39	A	0.41	A	0.02		
799	"B" St & Marine Way	S	0.70	B	0.70	B	0.00		
800	"A-02" St/"LQ" St & Irvine Blvd	S	0.74	C	0.74	C	0.00		

Table 8-18 Post Year 2035 Intersection LOS Comparison – 2012 Modified Project Option 2

	Intersection	Control	PM Peak Hour					Change in V/C	Impact
			No Project		With Stadium				
			V/C Delay	LOS	V/C Delay	LOS			
1	"B" St & Driveway 1	U	n/a	n/a	0.00	A	0.00		
2	"B" St & Driveway 2	U	n/a	n/a	0.04	A	0.04		
3	Driveway 3 & "LQ" St	U	n/a	n/a	0.02	A	0.02		
4	Driveway 4 & "LQ" St	U	n/a	n/a	0.03	A	0.03		
5	"LQ" St & Driveway 5	U	n/a	n/a	0.04	A	0.04		
6	"LQ" St & Driveway 6	U	n/a	n/a	0.11	A	0.11		
7	"LQ" St & Driveway 7	U	n/a	n/a	0.00	A	0.00		
282	Jeffrey Rd & Portola Pkwy	S	0.68	B	0.68	B	0.00		
283	Jeffrey Rd & Irvine Blvd	S	0.77	C	0.77	C	0.00		
284	Jeffrey Rd & Bryan Ave	S	0.80	C	0.80	C	0.00		
285	Jeffrey Rd & Trabuco Rd	S	0.80	C	0.80	D	0.00		
300	Sand Canyon Ave & Portola Pkwy	S	0.64	B	0.64	B	0.00		

Intersection	Control	PM Peak Hour						
		No Project		With Stadium		Change in V/C	Impact	
		V/C Delay	LOS	V/C Delay	LOS			
301	Sand Canyon Ave & Irvine Blvd	S	0.81	D	0.81	D	0.00	
302	Sand Canyon Ave & Trabuco Rd	S	0.83	D	0.83	D	0.00	
303	Sand Canyon Ave & I-5 NB Ramps	S	0.96	E	0.96	E	0.00	
305	Sand Canyon Ave & I-5 SB Ramps	S	0.89	D	0.90	D	0.00	
444	Sand Canyon Ave & Burt Rd	S	0.96	E	0.96	E	0.00	
306	Sand Canyon Ave & Oak Cyn Rd	S	0.84	D	0.84	D	0.00	
316	SR-133 SB Ramps & Irvine Blvd	S	0.55	A	0.56	A	0.01	
317	SR-133 NB Ramps & Irvine Blvd	S	0.86	D	0.89	D	0.04	
338	Alton Pkwy & Irvine Blvd	S	0.90	D	0.90	D	0.00	
339	Alton Pkwy & Toledo Way	S	0.71	C	0.72	C	0.01	
340	Alton Pkwy & Jeronimo Rd	S	0.58	A	0.58	A	0.00	
341	Alton Pkwy & Barranca Pkwy	S	0.80	C	0.80	D	0.01	
367	Bake Pkwy & I-5 NB Ramps	S	0.59	A	0.59	A	0.00	
368	Bake Pkwy & I-5/I-405 SB Ramps	S	0.86	D	0.86	D	0.00	
486	SR-133 SB Ramps & Trabuco Rd	S	0.56	A	0.56	A	0.00	
487	SR-133 NB Ramps & Trabuco Rd	S	0.61	B	0.61	B	0.00	
556	Ridge Valley & Portola Pkwy	S	0.72	C	0.72	C	0.00	
557	"O" St & "C" St	R	0.26	A	0.26	A	0.00	
558	Ridge Valley/"O" St & Irvine Blvd	S	0.84	D	0.86	D	0.02	
559	"O" St & Trabuco Rd	S	0.77	C	0.77	C	0.00	
560	"O" St & Marine Way	S	0.66	B	0.66	B	0.00	
563	"B" St & Irvine Blvd	S	0.71	C	0.77	C	0.06	
566	Marine Way & Barranca Pkwy	S	0.66	B	0.66	B	0.00	
567	Marine Way & Alton Pkwy	S	0.65	B	0.65	B	0.00	
569	Bake Pkwy & Marine Way	S	0.77	C	0.77	C	0.00	
571	Portola Springs & Portola Pkwy	S	0.62	B	0.62	B	0.00	
572	Modjeska/"A" St & Irvine Blvd	S	0.76	C	0.78	C	0.02	
603	"O" St & "LN" St	S	0.32	A	0.32	A	0.00	
605	"O" St & "LQ" St	R	0.46	A	0.47	A	0.00	
608	"O" St & "LV" St	S	0.38	A	0.38	A	0.00	
626	"LY" St & "LQ" St	R	0.37	A	0.38	A	0.01	
627	"LY" St & Irvine Blvd	S	0.62	B	0.63	B	0.01	
631	"LY" St & Trabuco Rd	U	0.10	A	0.10	A	0.00	
782	"A" St & "LQ" St	R	0.34	A	0.36	A	0.02	
787	"Z" St & "LQ" St	U	0.02	A	0.02	A	0.00	
790	"Z" St & Irvine Blvd	S	0.72	C	0.74	C	0.02	
798	"B" St & "LQ" St	S	0.39	A	0.41	A	0.02	
799	"B" St & Marine Way	S	0.70	B	0.70	B	0.00	
800	"A-02" St/"LQ" St & Irvine Blvd	S	0.74	C	0.74	C	0.00	

Figure 8.1 Year 2017 Peak Hour Volumes - 2011 Approved Project - With Stadium



<p>N/S Street: "B" St E/W Street: Driveway 1</p>	<p>N/S Street: Sand Canyon Ave E/W Street: Driveway 2</p>	<p>N/S Street: Driveway 3 E/W Street: "LQ" St</p>	<p>N/S Street: Driveway 4 E/W Street: "LQ" St</p>
<p>N/S Street: "LQ" St E/W Street: Driveway 5</p>	<p>N/S Street: "LQ" St E/W Street: Driveway 6</p>	<p>N/S Street: "LQ" St E/W Street: Driveway 7</p>	<p>N/S Street: "B" St E/W Street: Irvine Blvd</p>
<p>N/S Street: "Z" St E/W Street: "LQ" St</p> <p style="text-align: center;">787</p> <p style="text-align: center;"><i>HF/GPN Proposed Future Intersection</i></p>	<p>N/S Street: "Z" St E/W Street: Irvine Blvd</p> <p style="text-align: center;">790</p>	<p>N/S Street: "B" St E/W Street: "LQ" St</p> <p style="text-align: center;">798</p> <p style="text-align: center;"><i>HF/GPN Proposed Future Intersection</i></p>	<p>N/S Street: "A-02" St/"LQ" St E/W Street: Irvine Blvd</p> <p style="text-align: center;">800</p>
<p>N/S Street: SR-133 SB Ramps E/W Street: Trabuco Rd</p> <p style="text-align: center;">486</p> <p style="text-align: center;"><i>HF/GPN Proposed Future Intersection</i></p>	<p>N/S Street: SR-133 NB Ramps E/W Street: Trabuco Rd</p> <p style="text-align: center;">487</p> <p style="text-align: center;"><i>HF/GPN Proposed Future Intersection</i></p>		

LEGEND

- Study Intersection - Signalized
- Study Intersection - Unsignalized
- Study Intersection - Roundabout
- # Study Intersection Number
- ## Turning Movement Volume

Figure 8.1 Year 2017 Peak Hour Volumes - 2011 Approved Project - With Stadium

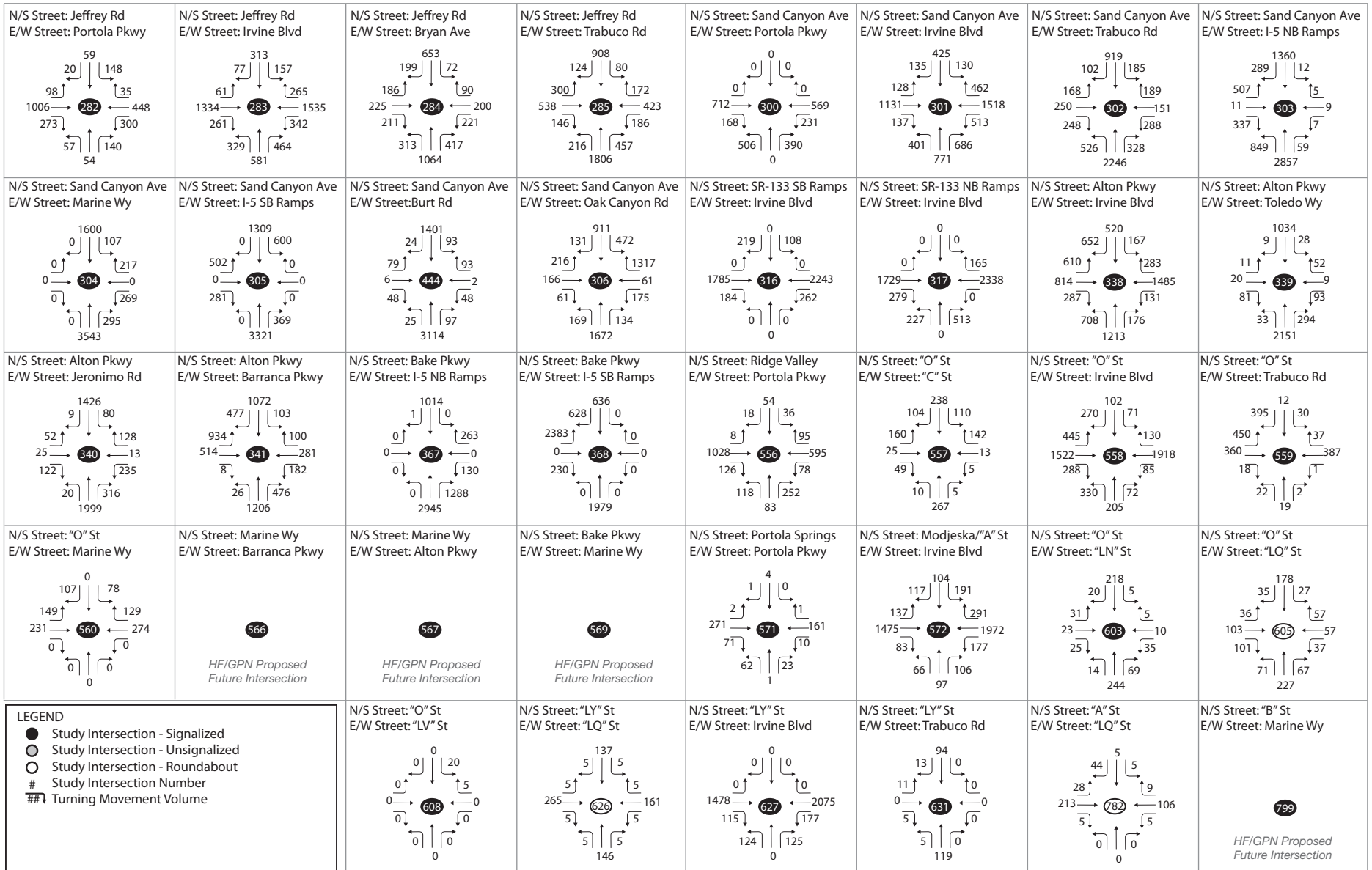
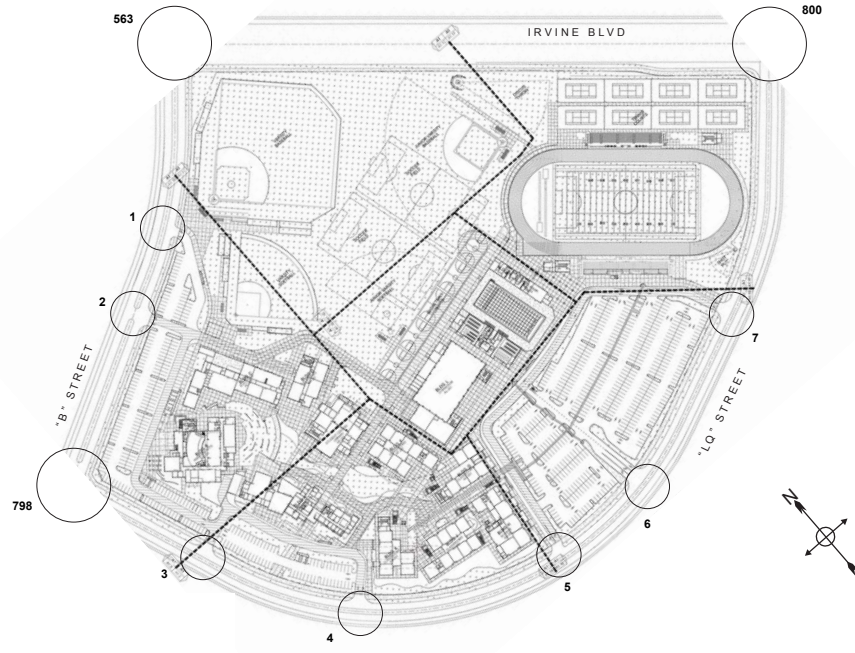


Figure 8.2 Year 2017 Peak Hour Volumes - 2012 Modified Project Option 1 - With Stadium



<p>N/S Street: "B" St E/W Street: Driveway 1</p>	<p>N/S Street: Sand Canyon Ave E/W Street: Driveway 2</p>	<p>N/S Street: Driveway 3 E/W Street: "LQ" St</p>	<p>N/S Street: Driveway 4 E/W Street: "LQ" St</p>
<p>N/S Street: "LQ" St E/W Street: Driveway 5</p>	<p>N/S Street: "LQ" St E/W Street: Driveway 6</p>	<p>N/S Street: "LQ" St E/W Street: Driveway 7</p>	<p>N/S Street: "B" St E/W Street: Irvine Blvd</p>
<p>N/S Street: "Z" St E/W Street: "LQ" St</p> <p style="text-align: center;">● 787</p> <p style="text-align: center;"><i>HF/GPN Proposed Future Intersection</i></p>	<p>N/S Street: "Z" St E/W Street: Irvine Blvd</p> <p style="text-align: center;">● 790</p>	<p>N/S Street: "B" St E/W Street: "LQ" St</p> <p style="text-align: center;">● 798</p> <p style="text-align: center;"><i>HF/GPN Proposed Future Intersection</i></p>	<p>N/S Street: "A-02" St/"LQ" St E/W Street: Irvine Blvd</p> <p style="text-align: center;">● 800</p>
<p>N/S Street: SR-133 SB Ramps E/W Street: Trabuco Rd</p> <p style="text-align: center;">● 486</p> <p style="text-align: center;"><i>HF/GPN Proposed Future Intersection</i></p>	<p>N/S Street: SR-133 NB Ramps E/W Street: Trabuco Rd</p> <p style="text-align: center;">● 487</p> <p style="text-align: center;"><i>HF/GPN Proposed Future Intersection</i></p>		

LEGEND

- Study Intersection - Signalized
- Study Intersection - Unsignalized
- Study Intersection - Roundabout
- # Study Intersection Number
- ## Turning Movement Volume

Figure 8.2 Year 2017 Peak Hour Volumes - 2012 Modified Project Option 1 - With Stadium

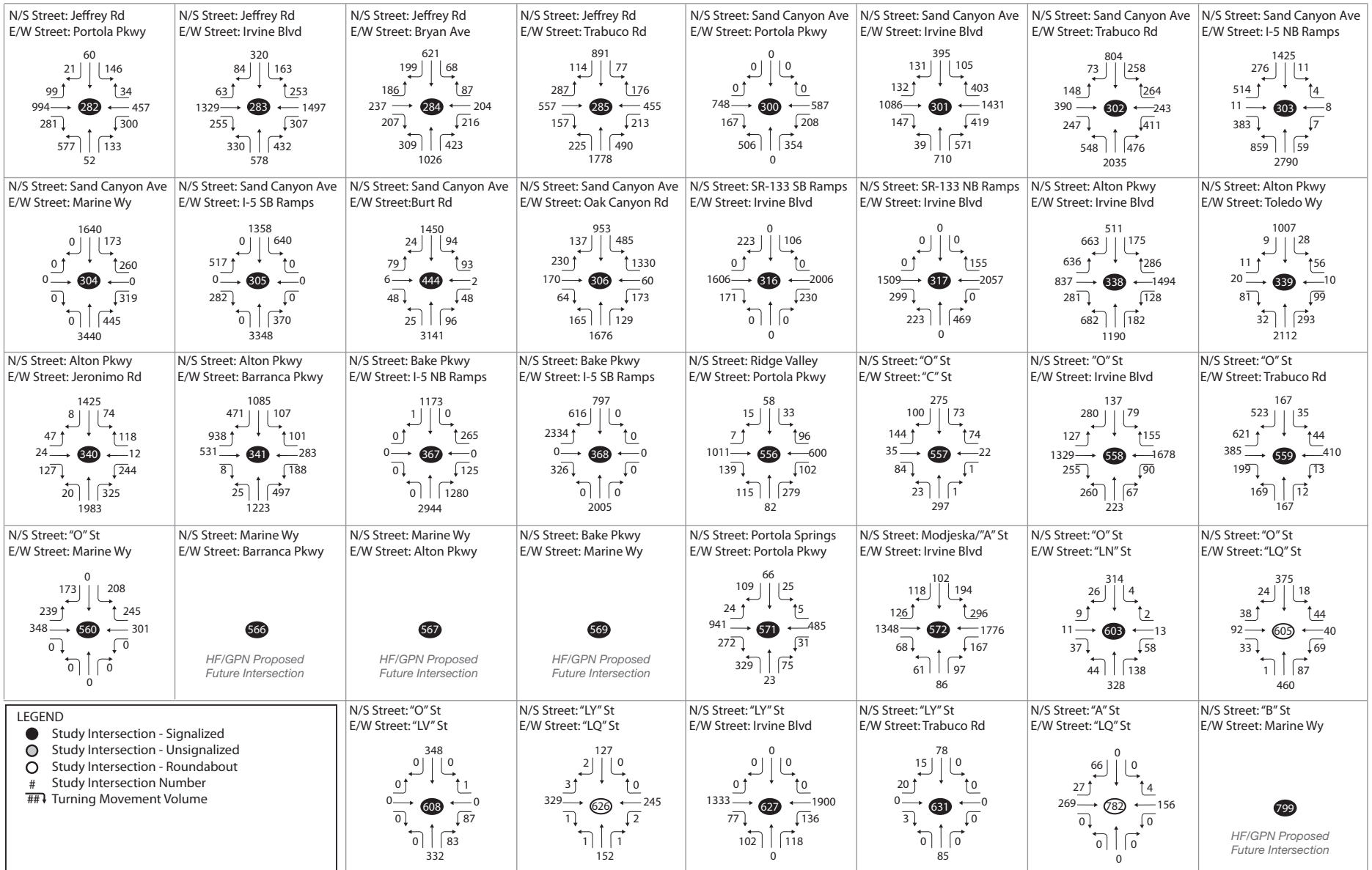
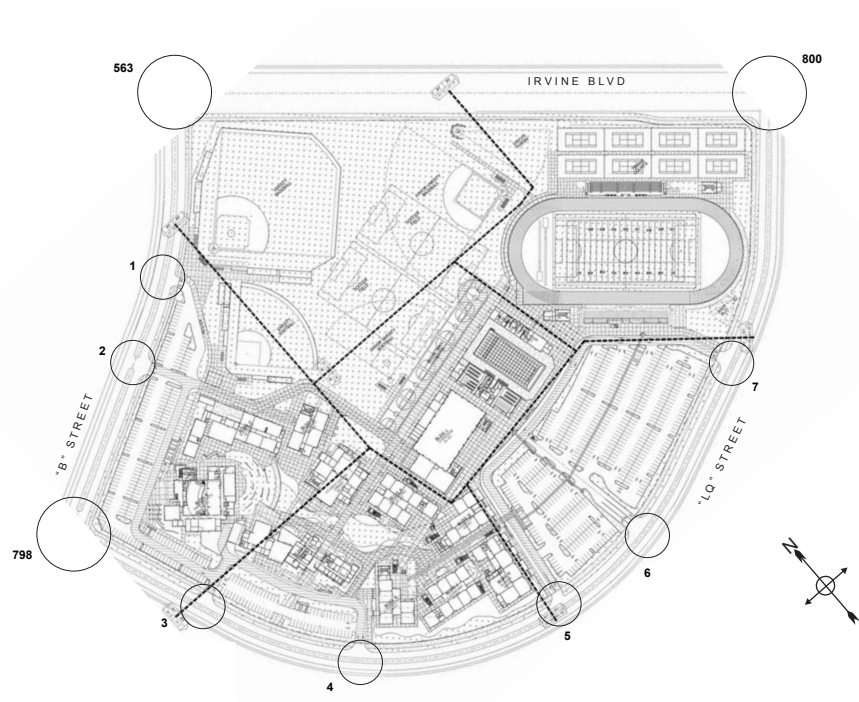


Figure 8.3 Year 2017 Peak Hour Volumes - 2012 Modified Project Option 2 - With Stadium



<p>N/S Street: "B" St E/W Street: Driveway 1</p>	<p>N/S Street: Sand Canyon Ave E/W Street: Driveway 2</p>	<p>N/S Street: Driveway 3 E/W Street: "LQ" St</p>	<p>N/S Street: Driveway 4 E/W Street: "LQ" St</p>
<p>N/S Street: "LQ" St E/W Street: Driveway 5</p>	<p>N/S Street: "LQ" St E/W Street: Driveway 6</p>	<p>N/S Street: "LQ" St E/W Street: Driveway 7</p>	<p>N/S Street: "B" St E/W Street: Irvine Blvd</p>
<p>N/S Street: "Z" St E/W Street: "LQ" St</p> <p style="text-align: center;">787</p> <p style="text-align: center;"><i>HF/GPN Proposed Future Intersection</i></p>	<p>N/S Street: "Z" St E/W Street: Irvine Blvd</p> <p style="text-align: center;">790</p>	<p>N/S Street: "B" St E/W Street: "LQ" St</p> <p style="text-align: center;">798</p> <p style="text-align: center;"><i>HF/GPN Proposed Future Intersection</i></p>	<p>N/S Street: "A-02" St/"LQ" St E/W Street: Irvine Blvd</p> <p style="text-align: center;">800</p>
<p>N/S Street: SR-133 SB Ramps E/W Street: Trabuco Rd</p> <p style="text-align: center;">486</p> <p style="text-align: center;"><i>HF/GPN Proposed Future Intersection</i></p>	<p>N/S Street: SR-133 NB Ramps E/W Street: Trabuco Rd</p> <p style="text-align: center;">487</p> <p style="text-align: center;"><i>HF/GPN Proposed Future Intersection</i></p>		

LEGEND

- Study Intersection - Signalized
- Study Intersection - Unsignalized
- Study Intersection - Roundabout
- # Study Intersection Number
- ## Turning Movement Volume

Figure 8.3 Year 2017 Peak Hour Volumes - 2012 Modified Project Option 2 - With Stadium

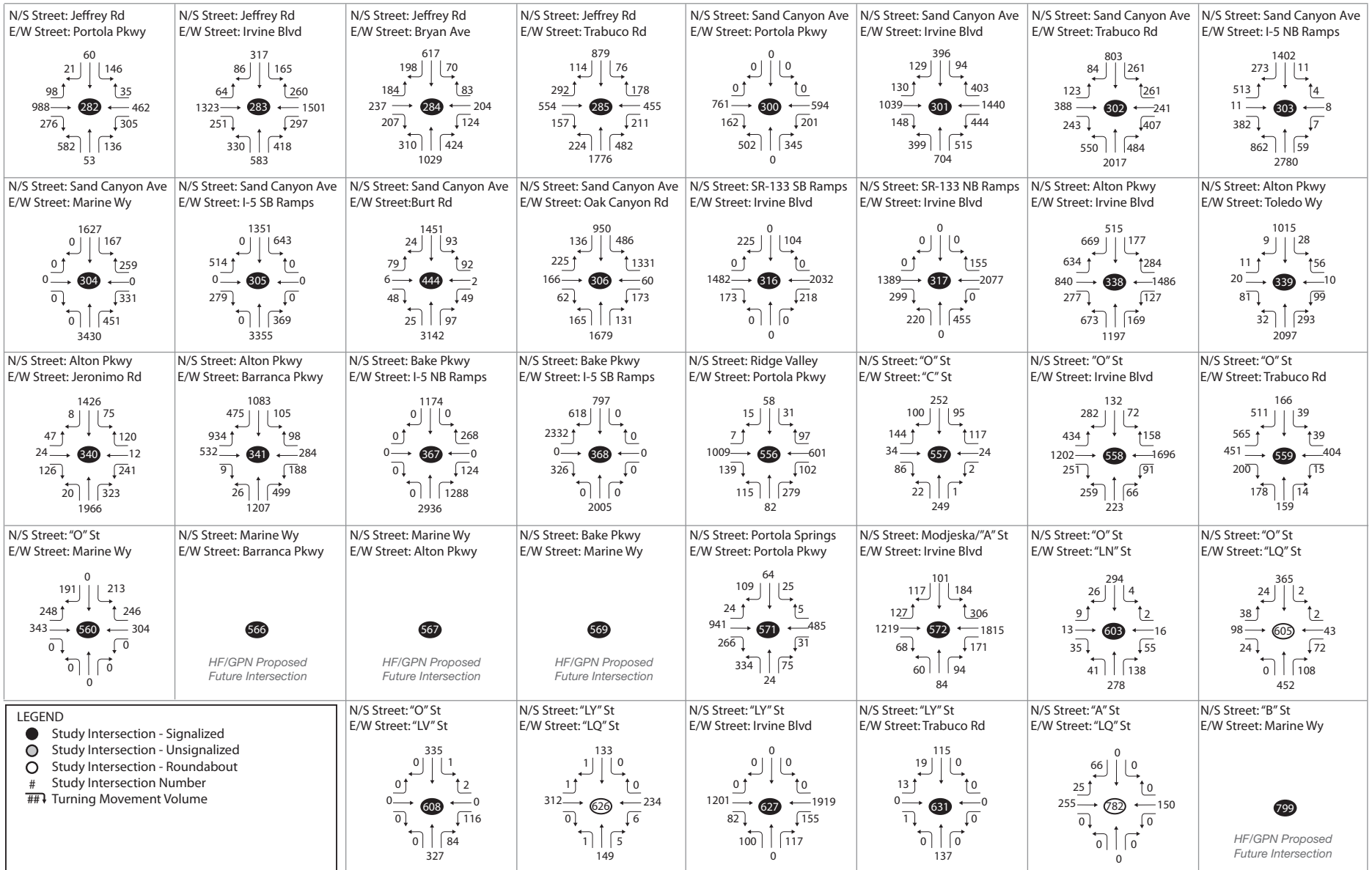
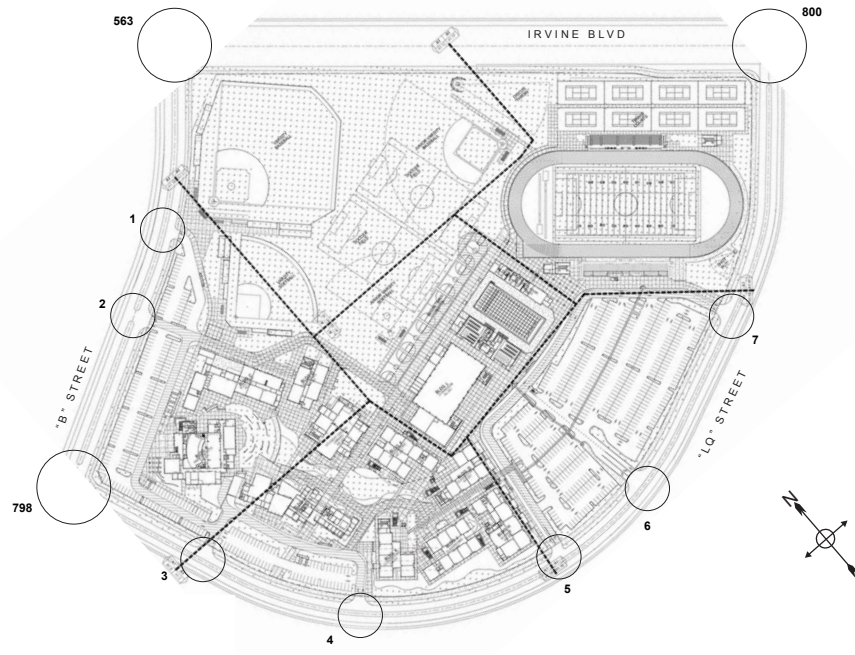


Figure 8.4 Year 2035 Peak Hour Volumes - 2011 Approved Project - With Stadium



<p>N/S Street: "B" St E/W Street: Driveway 1</p>	<p>N/S Street: Sand Canyon Ave E/W Street: Driveway 2</p>	<p>N/S Street: Driveway 3 E/W Street: "LQ" St</p>	<p>N/S Street: Driveway 4 E/W Street: "LQ" St</p>
<p>N/S Street: "LQ" St E/W Street: Driveway 5</p>	<p>N/S Street: "LQ" St E/W Street: Driveway 6</p>	<p>N/S Street: "LQ" St E/W Street: Driveway 7</p>	<p>N/S Street: "B" St E/W Street: Irvine Blvd</p>
<p>N/S Street: "Z" St E/W Street: "LQ" St</p>	<p>N/S Street: "Z" St E/W Street: Irvine Blvd</p>	<p>N/S Street: "B" St E/W Street: "LQ" St</p>	<p>N/S Street: "A-02" St/"LQ" St E/W Street: Irvine Blvd</p>
<p>N/S Street: SR-133 SB Ramps E/W Street: Trabuco Rd</p>	<p>N/S Street: SR-133 NB Ramps E/W Street: Trabuco Rd</p>		

LEGEND

- Study Intersection - Signalized
- Study Intersection - Unsignalized
- Study Intersection - Roundabout
- # Study Intersection Number
- ## Turning Movement Volume

Figure 8.4 Year 2035 Peak Hour Volumes - 2011 Approved Project - With Stadium

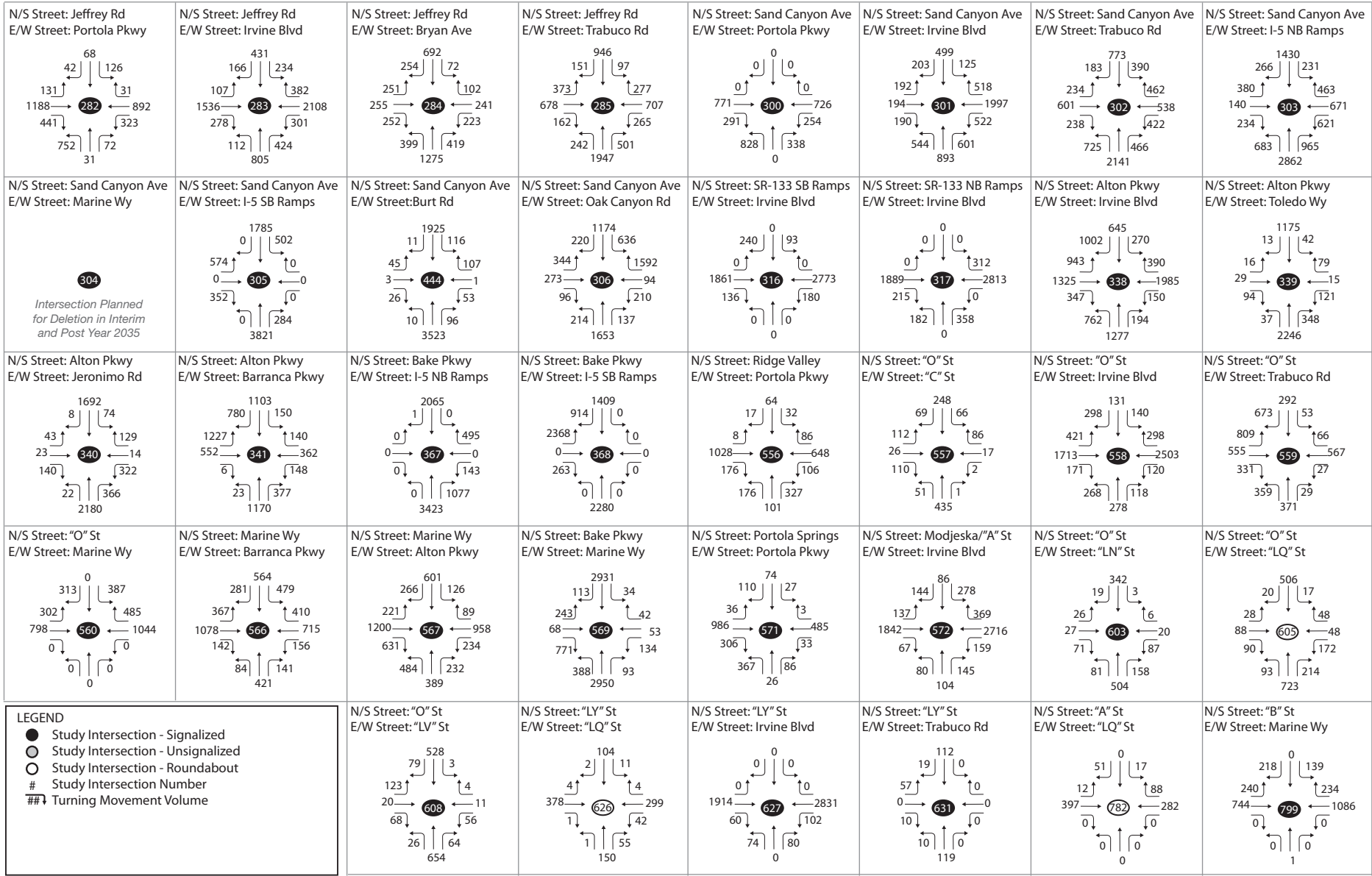
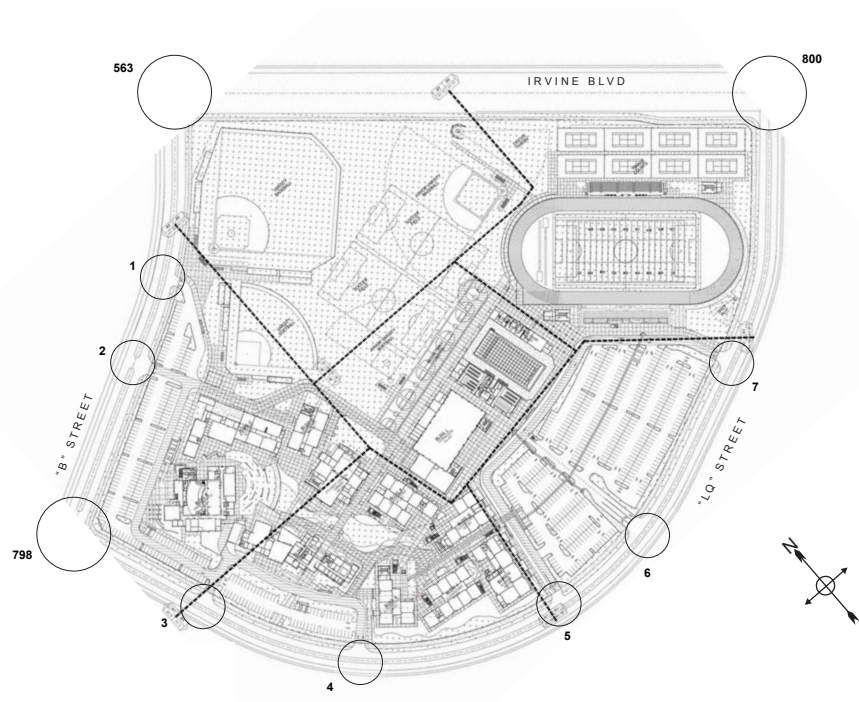


Figure 8.5 Year 2035 Peak Hour Volumes - 2012 Modified Project Option 1 - With Stadium



<p>N/S Street: "B" St E/W Street: Driveway 1</p>	<p>N/S Street: Sand Canyon Ave E/W Street: Driveway 2</p>	<p>N/S Street: Driveway 3 E/W Street: "LQ" St</p>	<p>N/S Street: Driveway 4 E/W Street: "LQ" St</p>
<p>N/S Street: "LQ" St E/W Street: Driveway 5</p>	<p>N/S Street: "LQ" St E/W Street: Driveway 6</p>	<p>N/S Street: "LQ" St E/W Street: Driveway 7</p>	<p>N/S Street: "B" St E/W Street: Irvine Blvd</p>
<p>N/S Street: "Z" St E/W Street: "LQ" St</p>	<p>N/S Street: "Z" St E/W Street: Irvine Blvd</p>	<p>N/S Street: "B" St E/W Street: "LQ" St</p>	<p>N/S Street: "A-02" St/"LQ" St E/W Street: Irvine Blvd</p>
<p>N/S Street: SR-133 SB Ramps E/W Street: Trabuco Rd</p>	<p>N/S Street: SR-133 NB Ramps E/W Street: Trabuco Rd</p>		

LEGEND

- Study Intersection - Signalized
- Study Intersection - Unsignalized
- Study Intersection - Roundabout
- # Study Intersection Number
- ## Turning Movement Volume

Figure 8.5 Year 2035 Peak Hour Volumes - 2012 Modified Project Option 1 - With Stadium

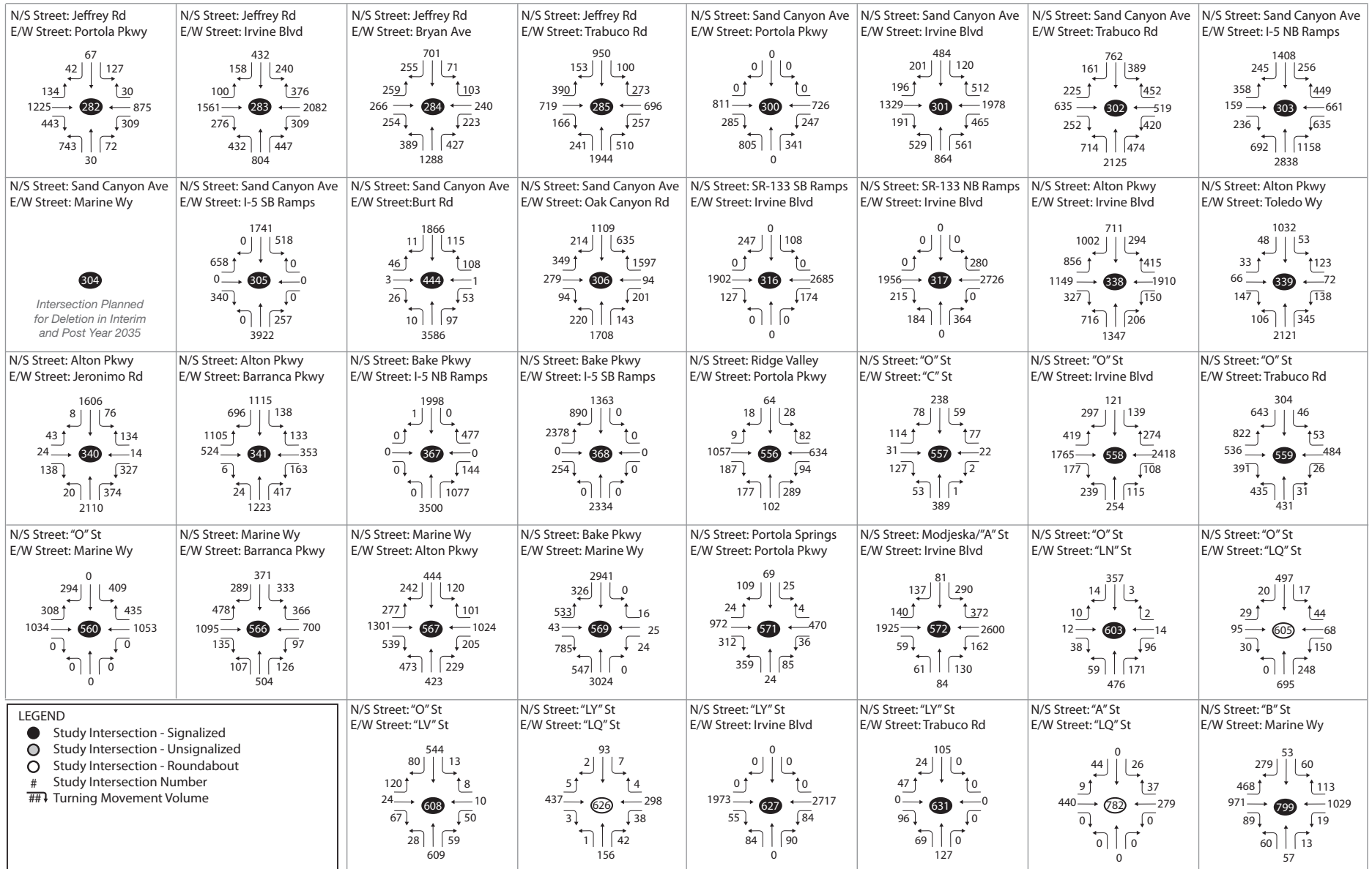
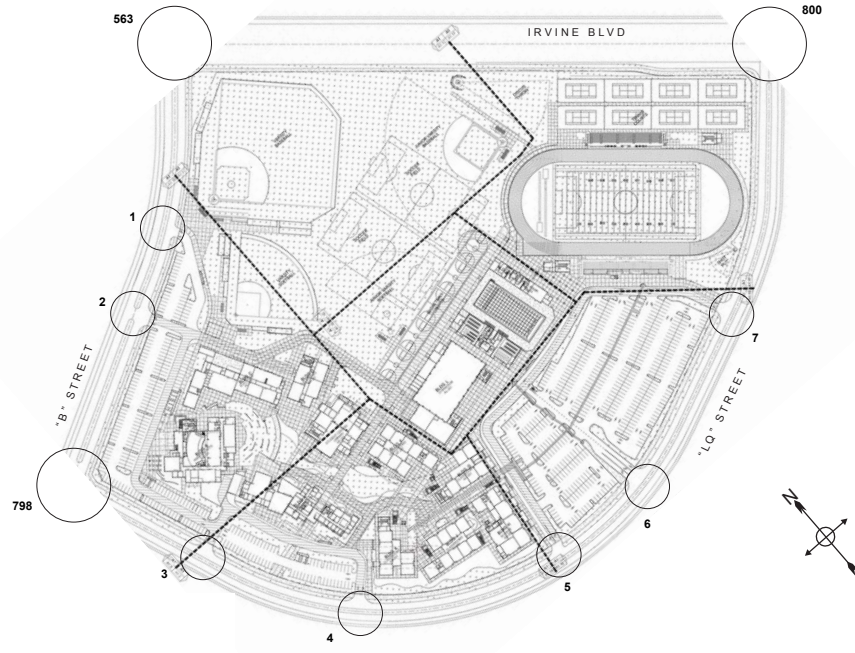


Figure 8.6 Year 2035 Peak Hour Volumes - 2012 Modified Project Option 2 - With Stadium



<p>N/S Street: "B" St E/W Street: Driveway 1</p>	<p>N/S Street: Sand Canyon Ave E/W Street: Driveway 2</p>	<p>N/S Street: Driveway 3 E/W Street: "LQ" St</p>	<p>N/S Street: Driveway 4 E/W Street: "LQ" St</p>
<p>N/S Street: "LQ" St E/W Street: Driveway 5</p>	<p>N/S Street: "LQ" St E/W Street: Driveway 6</p>	<p>N/S Street: "LQ" St E/W Street: Driveway 7</p>	<p>N/S Street: "B" St E/W Street: Irvine Blvd</p>
<p>N/S Street: "Z" St E/W Street: "LQ" St</p>	<p>N/S Street: "Z" St E/W Street: Irvine Blvd</p>	<p>N/S Street: "B" St E/W Street: "LQ" St</p>	<p>N/S Street: "A-02" St/"LQ" St E/W Street: Irvine Blvd</p>
<p>N/S Street: SR-133 SB Ramps E/W Street: Trabuco Rd</p>	<p>N/S Street: SR-133 NB Ramps E/W Street: Trabuco Rd</p>		

LEGEND

- Study Intersection - Signalized
- Study Intersection - Unsignalized
- Study Intersection - Roundabout
- # Study Intersection Number
- ## Turning Movement Volume

Figure 8.6 Year 2035 Peak Hour Volumes - 2012 Modified Project Option 2 - With Stadium

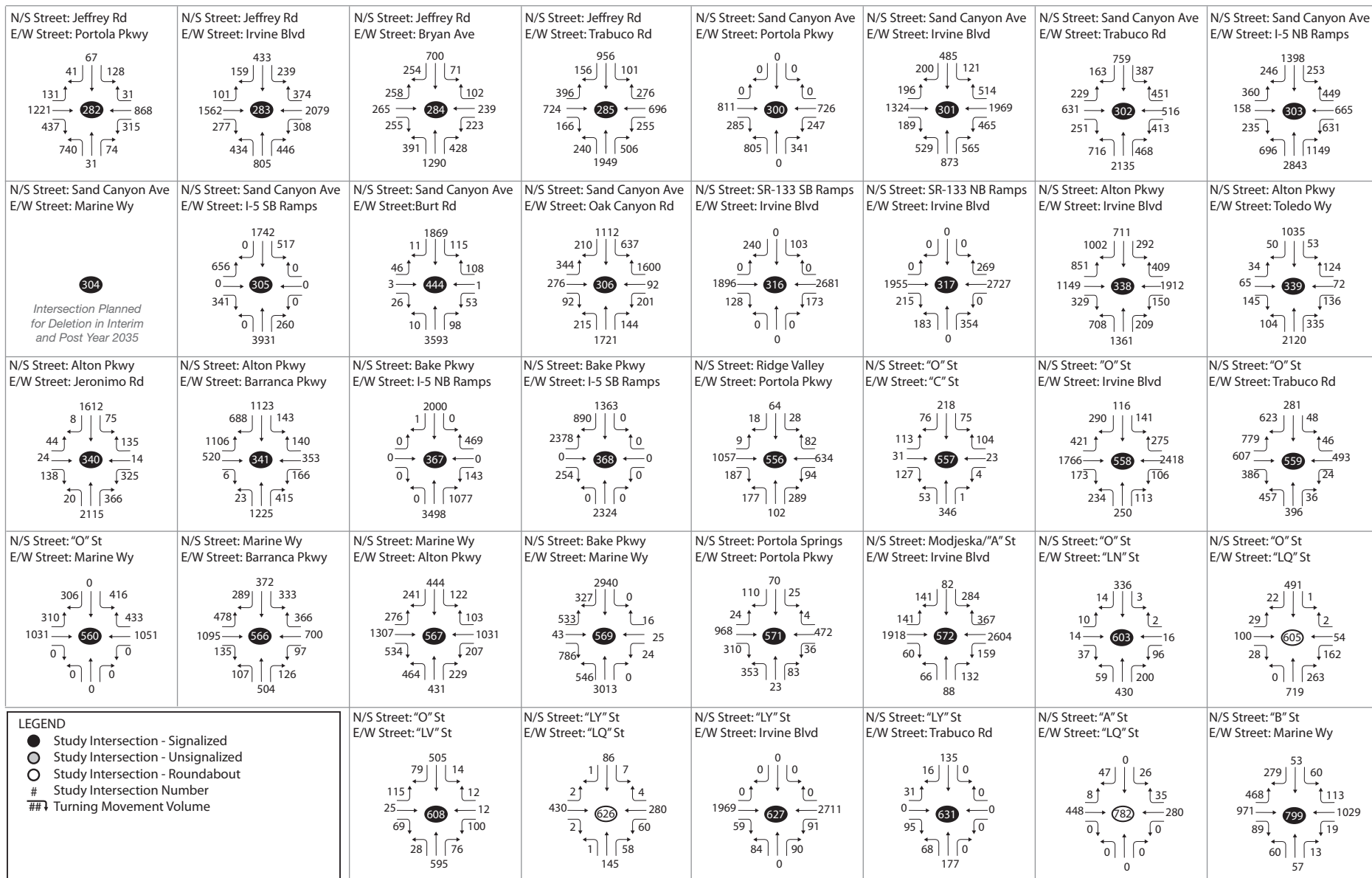
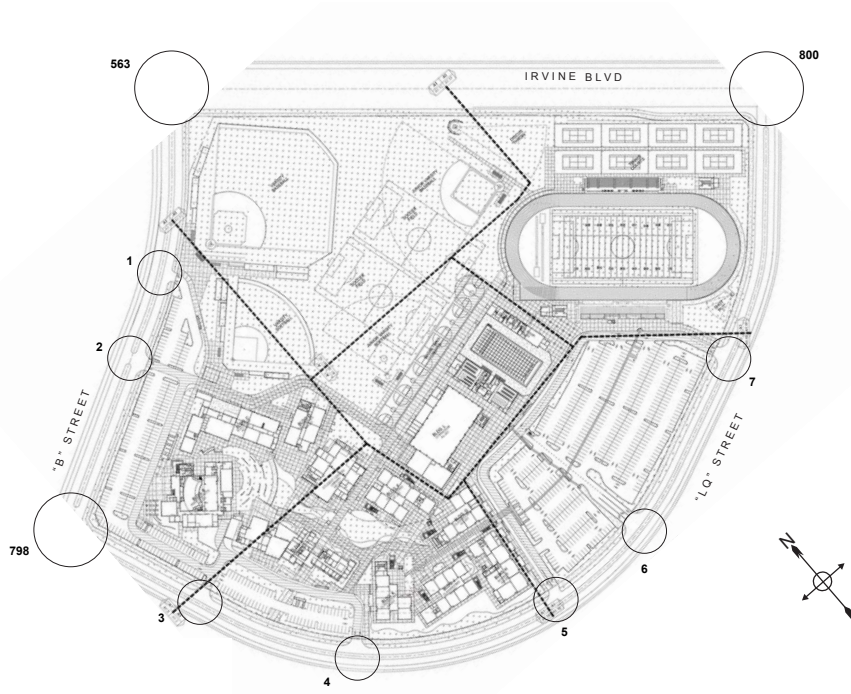


Figure 8.7 Post Year 2035 Peak Hour Volumes - 2011 Approved Project - With Stadium



<p>N/S Street: "B" St E/W Street: Driveway 1</p>	<p>N/S Street: Sand Canyon Ave E/W Street: Driveway 2</p>	<p>N/S Street: Driveway 3 E/W Street: "LQ" St</p>	<p>N/S Street: Driveway 4 E/W Street: "LQ" St</p>
<p>N/S Street: "LQ" St E/W Street: Driveway 5</p>	<p>N/S Street: "LQ" St E/W Street: Driveway 6</p>	<p>N/S Street: "LQ" St E/W Street: Driveway 7</p>	<p>N/S Street: "B" St E/W Street: Irvine Blvd</p>
<p>N/S Street: "Z" St E/W Street: "LQ" St</p>	<p>N/S Street: "Z" St E/W Street: Irvine Blvd</p>	<p>N/S Street: "B" St E/W Street: "LQ" St</p>	<p>N/S Street: "A-02" St/"LQ" St E/W Street: Irvine Blvd</p>
<p>N/S Street: SR-133 SB Ramps E/W Street: Trabuco Rd</p>	<p>N/S Street: SR-133 NB Ramps E/W Street: Trabuco Rd</p>		

LEGEND

- Study Intersection - Signalized
- Study Intersection - Unsignalized
- Study Intersection - Roundabout
- # Study Intersection Number
- ##↘ Turning Movement Volume

Figure 8.7 Post Year 2035 Peak Hour Volumes - 2011 Approved Project - With Stadium

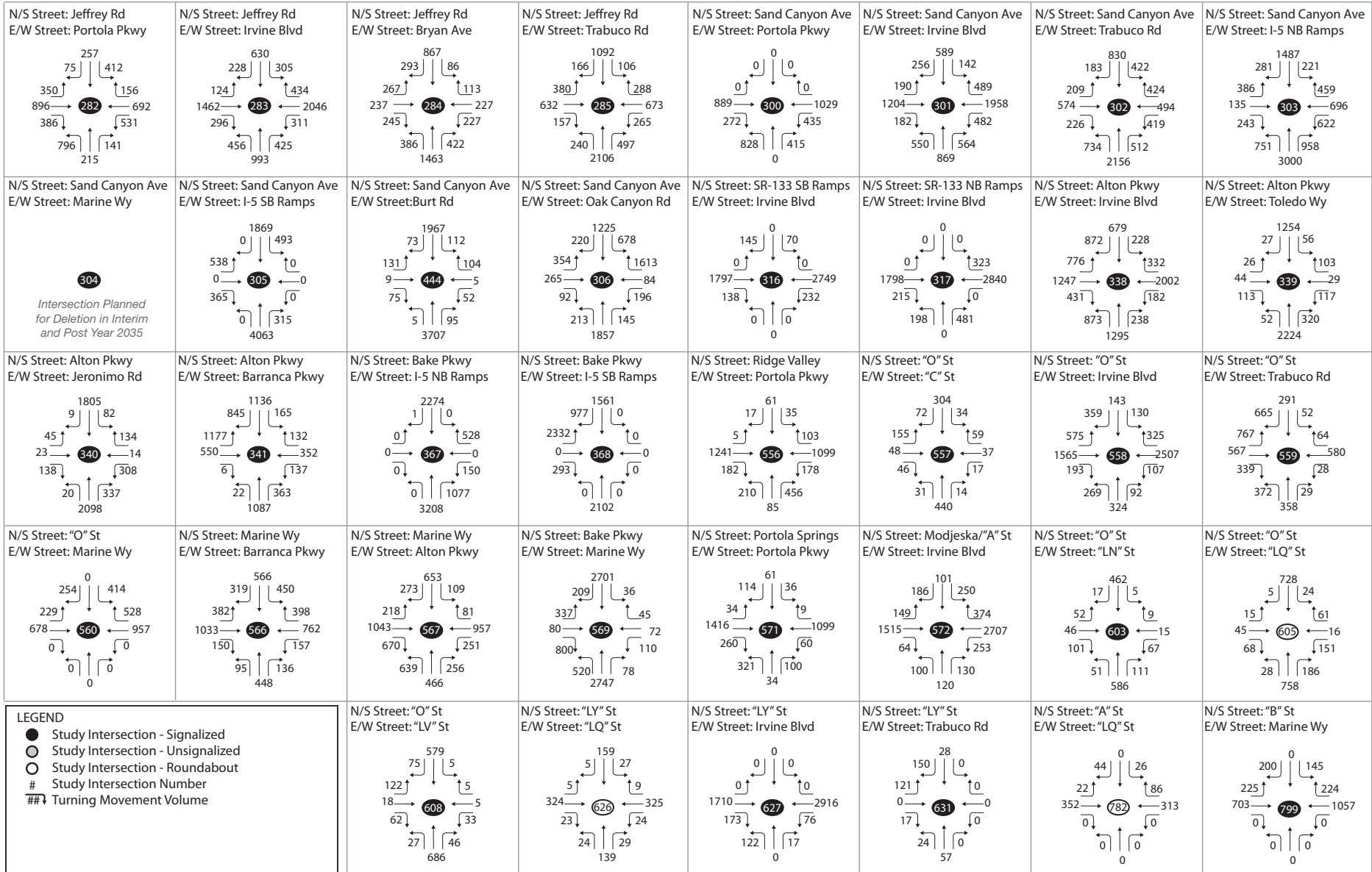
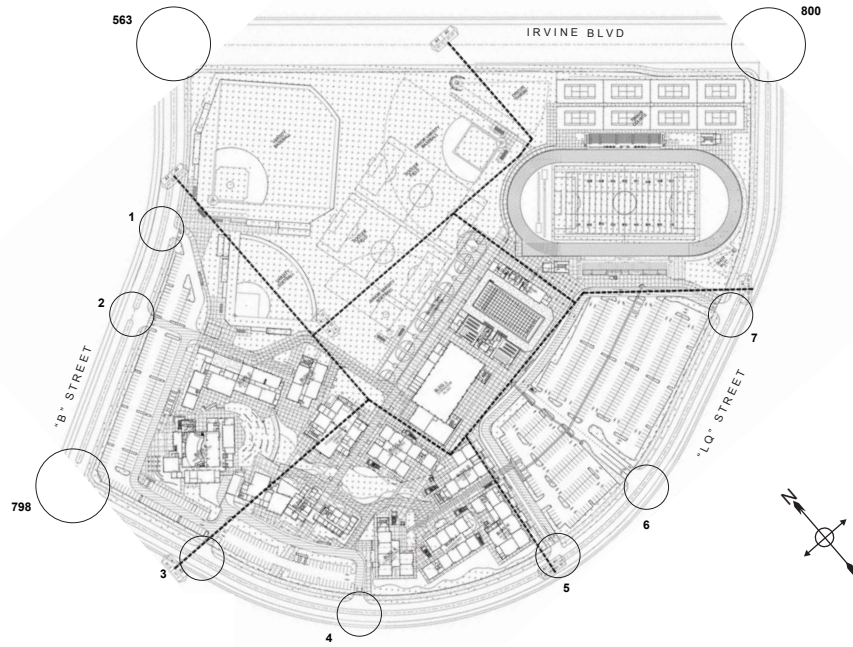


Figure 8.8 Post Year 2035 Peak Hour Volumes - 2012 Modified Project Option 1 - With Stadium



<p>N/S Street: "B" St E/W Street: Driveway 1</p>	<p>N/S Street: Sand Canyon Ave E/W Street: Driveway 2</p>	<p>N/S Street: Driveway 3 E/W Street: "LQ" St</p>	<p>N/S Street: Driveway 4 E/W Street: "LQ" St</p>
<p>N/S Street: "LQ" St E/W Street: Driveway 5</p>	<p>N/S Street: "LQ" St E/W Street: Driveway 6</p>	<p>N/S Street: "LQ" St E/W Street: Driveway 7</p>	<p>N/S Street: "B" St E/W Street: Irvine Blvd</p>
<p>N/S Street: "Z" St E/W Street: "LQ" St</p>	<p>N/S Street: "Z" St E/W Street: Irvine Blvd</p>	<p>N/S Street: "B" St E/W Street: "LQ" St</p>	<p>N/S Street: "A-02" St/"LQ" St E/W Street: Irvine Blvd</p>
<p>N/S Street: SR-133 SB Ramps E/W Street: Trabuco Rd</p>	<p>N/S Street: SR-133 NB Ramps E/W Street: Trabuco Rd</p>		

LEGEND

- Study Intersection - Signalized
- Study Intersection - Unsignalized
- Study Intersection - Roundabout
- # Study Intersection Number
- ## ↘ Turning Movement Volume

Figure 8.8 Post Year 2035 Peak Hour Volumes - 2012 Modified Project Option 1 - With Stadium

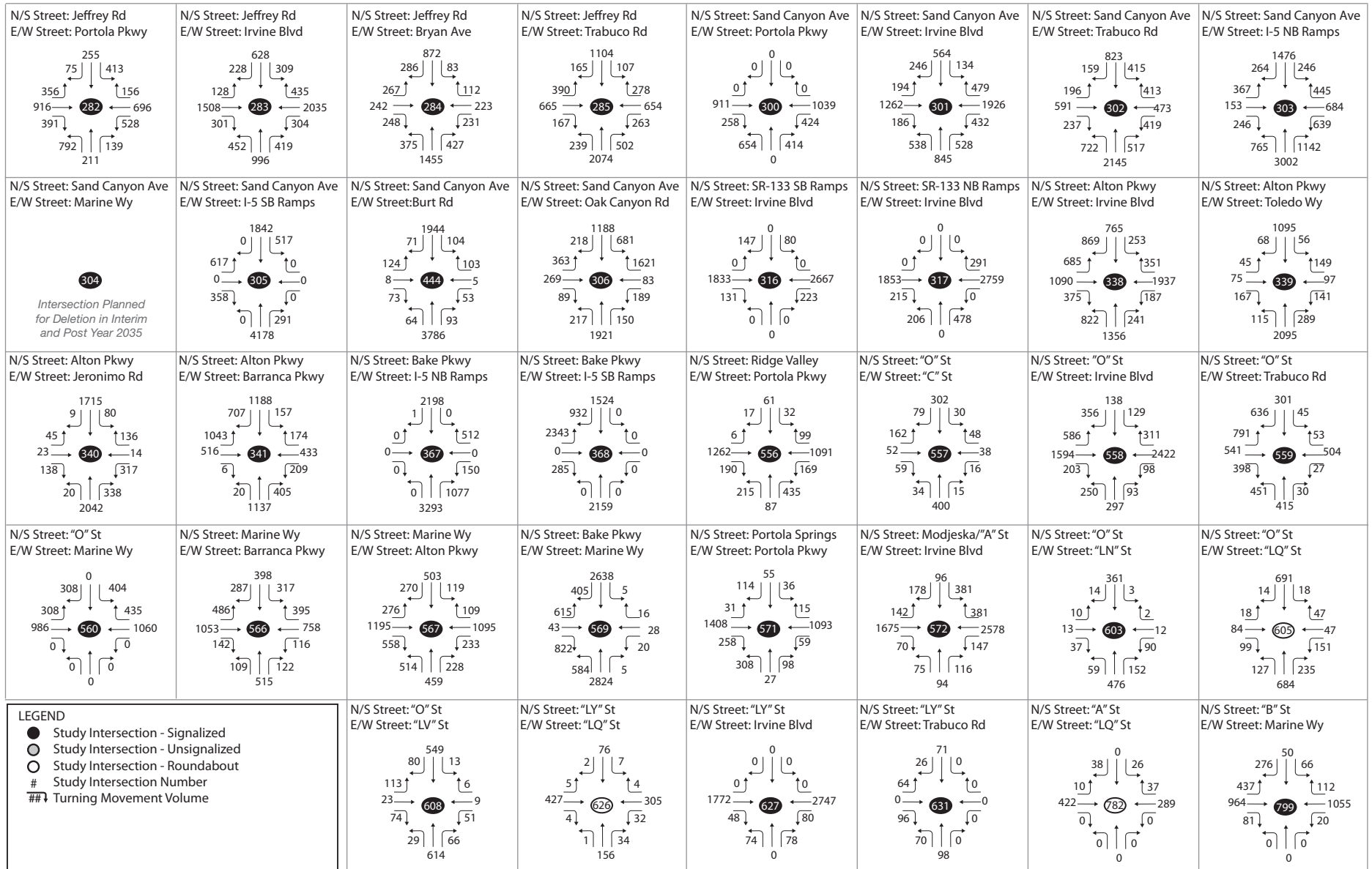
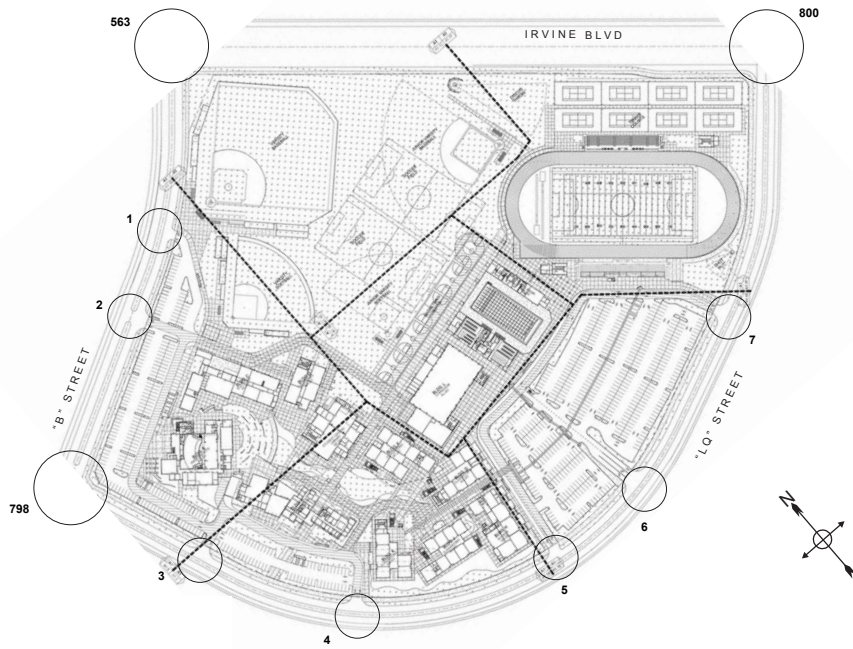


Figure 8.9 Post Year 2035 Peak Hour Volumes - 2012 Modified Project Option 2 - With Stadium

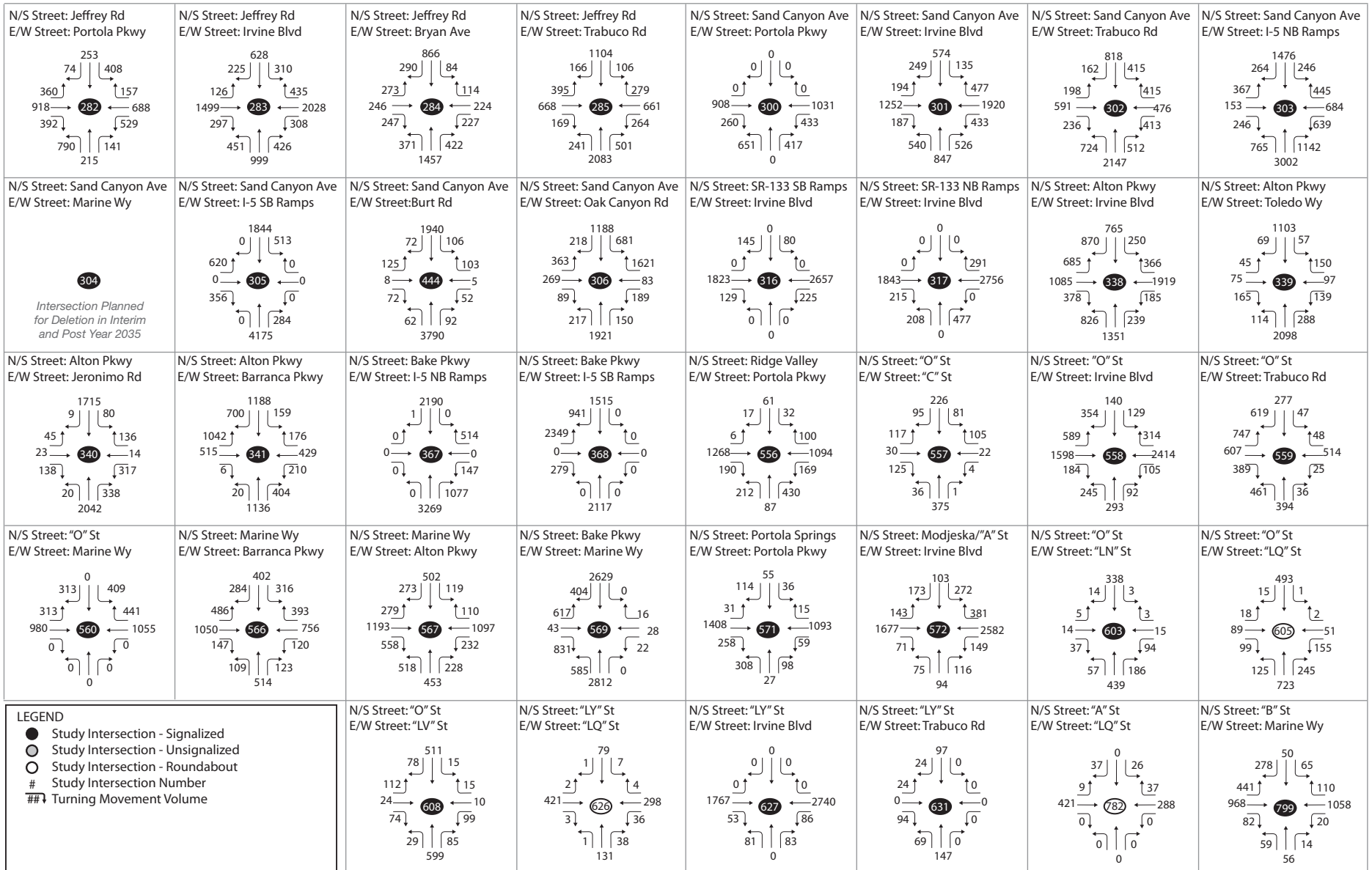


<p>N/S Street: "B" St E/W Street: Driveway 1</p>	<p>N/S Street: Sand Canyon Ave E/W Street: Driveway 2</p>	<p>N/S Street: Driveway 3 E/W Street: "LQ" St</p>	<p>N/S Street: Driveway 4 E/W Street: "LQ" St</p>
<p>N/S Street: "LQ" St E/W Street: Driveway 5</p>	<p>N/S Street: "LQ" St E/W Street: Driveway 6</p>	<p>N/S Street: "LQ" St E/W Street: Driveway 7</p>	<p>N/S Street: "B" St E/W Street: Irvine Blvd</p>
<p>N/S Street: "Z" St E/W Street: "LQ" St</p>	<p>N/S Street: "Z" St E/W Street: Irvine Blvd</p>	<p>N/S Street: "B" St E/W Street: "LQ" St</p>	<p>N/S Street: "A-02" St/"LQ" St E/W Street: Irvine Blvd</p>
<p>N/S Street: SR-133 SB Ramps E/W Street: Trabuco Rd</p>	<p>N/S Street: SR-133 NB Ramps E/W Street: Trabuco Rd</p>		

LEGEND

- Study Intersection - Signalized
- Study Intersection - Unsignalized
- Study Intersection - Roundabout
- # Study Intersection Number
- ## ↘ Turning Movement Volume

Figure 8.9 Post Year 2035 Peak Hour Volumes - 2012 Modified Project Option 2 - With Stadium



9. Congestion Management Program (CMP) Requirements

The Orange County Congestion Management Program (CMP) monitors the level of service at all designated CMP intersections in the County. Irvine Boulevard is designated as a CMP roadway within the study area. Two CMP intersections are located in the traffic study area for High School No. 5. These intersections are:

- Irvine Boulevard and the SR-133 NB Ramps
- Irvine Boulevard and the SR-133 SB Ramps

Table 9-1 summarizes the anticipated level of service for these two intersections with and without the project for each of the future analysis years.

Table 9-1 CMP Intersection LOS Comparison

Intersection		AM Peak Hour						PM Peak Hour					
		No Project		With Project		Change in V/C	Impact	No Project		With Project		Change in V/C	Impact
		V/C Delay	LOS	V/C Delay	LOS			V/C Delay	LOS	V/C Delay	LOS		
2017 (2011 Approved Project)													
316	SR-133 SB Ramps at Irvine Blvd	0.55	A	0.64	B	0.09		0.49	A	0.52	A	0.02	
317	SR-133 NB Ramps at Irvine Blvd	0.63	B	0.7	C	0.14		0.77	C	0.80	C	0.03	
2017 (2012 Modified Project 1)													
316	SR-133 SB Ramps at Irvine Blvd	0.43	A	0.50	A	0.08		0.45	A	0.47	A	0.02	
317	SR-133 NB Ramps at Irvine Blvd	0.44	A	0.55	A	0.11		0.68	B	0.71	C	0.03	
2017 (2012 Modified Project 2)													
316	SR-133 SB Ramps at Irvine Blvd	0.43	A	0.51	A	0.07		0.45	A	0.47	B	0.02	
317	SR-133 NB Ramps at Irvine Blvd	0.43	A	0.54	A	0.11		0.68	B	0.72	C	0.03	
2035 (2011 Approved Project)													
316	SR-133 SB Ramps at Irvine Blvd	0.55	A	0.64	B	0.08		0.61	B	0.63	B	0.02	
317	SR-133 NB Ramps at Irvine Blvd	0.72	C	0.84	D	0.13		0.80	C	0.83	D	0.03	
2035 (2012 Modified Project 1)													
316	SR-133 SB Ramps at Irvine Blvd	0.49	A	0.53	A	0.04		0.59	A	0.61	B	0.02	
317	SR-133 NB Ramps at Irvine Blvd	0.56	A	0.66	B	0.10		0.78	C	0.80	C	0.03	
2035 (2012 Modified Project 2)													
316	SR-133 SB Ramps at Irvine Blvd	0.49	A	0.53	A	0.04		0.59	A	0.61	B	0.02	

Intersection		AM Peak Hour						PM Peak Hour					
		No Project		With Project		Change in V/C	Impact	No Project		With Project		Change in V/C	Impact
		V/C Delay	LOS	V/C Delay	LOS			V/C Delay	LOS	V/C Delay	LOS		
317	SR-133 NB Ramps at Irvine Blvd	0.56	A	0.66	B	0.10		0.77	C	0.79	C	0.03	
Post 2035 (2011 Approved Project)													
316	SR-133 SB Ramps at Irvine Blvd	0.61	B	0.69	B	0.08		0.57	A	0.59	A	0.02	
317	SR-133 NB Ramps at Irvine Blvd	0.74	C	0.86	D	0.13		0.88	D	0.91	E	0.03	
Post 2035 (2012 Modified Project 1)													
316	SR-133 SB Ramps at Irvine Blvd	0.53	A	0.60	A	0.07		0.56	A	0.57	A	0.01	
317	SR-133 NB Ramps at Irvine Blvd	0.58	A	0.68	B	0.10		0.86	D	0.88	D	0.03	
Post 2035 (2012 Modified Project 2)													
316	SR-133 SB Ramps at Irvine Blvd	0.53	A	0.59	A	0.07		0.55	A	0.57	A	0.01	
317	SR-133 NB Ramps at Irvine Blvd	0.58	A	0.68	B	0.10		0.86	D	0.88	D	0.03	

No significant traffic impacts are anticipated to CMP intersections as a result of the proposed High School No. 5. No mitigation measures are necessary.

10. Recommended Mitigation Measures

The proposed Irvine High School #5 is forecast to cause project impacts at the following intersections:

Year 2035 – 2011 Approved Project

- "LQ" Street and Irvine Boulevard (#800) – LOS E – AM Peak Hour

Post Year 2035 – 2011 Approved Project

- "LQ" Street and Irvine Boulevard (#800) – LOS E – AM Peak Hour

In order to bring the intersection back to an acceptable level of service or pre-project conditions, the following mitigation measures are required and listed in Table 10-1.

Table 10-1 Recommended Mitigation Measures

#	Location	Improvement
Year 2035 - 2011 Approved Project		
800	"LQ" Street and Irvine Boulevard	Add northbound left-turn lane, resulting in dual-northbound left-turn lanes.
Post Year 2035 - 2011 Approved Project		
800	"LQ" Street and Irvine Boulevard	Add northbound left-turn lane, resulting in dual-northbound left-turn lanes.

11. Conclusion

The Irvine Unified School District plans to build a new high school facility on a 40.3-acre site on the southeast corner of Irvine Boulevard and the future "B" Street, east of Sand Canyon Avenue and Highway 133 and west of Alton Parkway. The project site is on a portion of the former Marine Corps Air Station El Toro (MCAS El Toro), in Planning Area 51, Orange County Great Park, of the City of Irvine General Plan.

The school would serve a maximum capacity of 2,600 students and include a performing arts center, a gymnasium, and a stadium with 2,940 seats. The high school is expected to generate up to 4,446 vehicle trips on a typical weekday, with 1,092 trips (743 inbound and 349 outbound) during the AM peak hour and 338 trips (159 inbound and 179 outbound) during the PM peak hour. Varsity football games with attendance at stadium capacity are forecast to generate a total of 494 trips (351 inbound and 143 outbound) during the evening peak hour. The stadium is not expected to generate a significant number of trips during the AM peak hour.

The project is forecast to cause a significant impact at one intersection in multiple scenarios. The recommended mitigation measures that would bring the impacted intersections back to an acceptable level of service or pre-project conditions are summarized in Section 9.

As part of the traffic analysis, special analyses were conducted for site access, parking, pedestrian and bicycle circulation and with stadium.

- **Site Access** - The Irvine High School #5 site has seven unsignalized access driveways located along "B" Street and "LQ" Street. Three additional signalized intersections are proposed along Irvine Boulevard at "B" Street and "LQ" Street, and at the intersection of "B" Street and "LQ" Street. All access intersections are forecast to operate at an acceptable level of service during all analysis scenarios and both peak hour periods, with the exception of Driveway 6 on "LQ" Street (Intersection #6). This intersection is forecast to have an LOS E in the Year 2035 2011 Approved Project Scenario during the AM peak hour. The delay is caused by traffic coming out of the school parking lot, and can be mitigated by signalizing the intersection.
- **Signal Warrant Analysis** - A signal warrant analysis was conducted at all unsignalized study intersections per the Manual on Uniform Traffic Control Devices (MUTCD). Based on the forecast volumes, traffic signals are not warranted at all unsignalized study intersections and site access driveways for all scenarios. However, Driveway 6 should be reevaluated when the roadway to the south is implemented to account for pedestrian volume and buildout of the intersection to a four-legged intersection.
- **Sight Distance Analysis** – Sight distance for access roadways leading up to the High School should be maintained. It is recommended that a clear line of sight be maintained at Intersections "B" Street/Irvine Boulevard (#563), "A-02" Street/"LQ" Street and Irvine Boulevard (#800), and "B" Street and "LQ" Street (#798).
- **Parking Analysis** - Irvine High School #5 is proposing to provide 784 surface parking spaces per the most current site plan. Forecast peak period parking generation per the Institute of Transportation Engineers (ITE) Parking Generation Manual is 598 parking spaces. Based on the forecast parking generation and proposed parking supply, the proposed parking supply exceeds forecast peak period parking demand.

- **Pedestrian and Bicycle Circulation** - The preliminary site plan for Irvine High School #5 shows landscaped pedestrian pathways throughout the school with connections to the various surface parking facilities. There are currently Class II bike lanes along Irvine Boulevard, Alton Parkway, and Sand Canyon Avenue. It is recommended that the school provide bicycle lockers or racks on site, as well as signage to increase awareness and safety of bicyclists and pedestrians.
- **Stadium Traffic** - The Irvine Unified School District is proposing to build a 2,940-seat athletic stadium as part of the High School #5 campus. The stadium would serve as a venue for special events such as graduation ceremonies and sports activities, and is not expected to generate a significant number of trips on a daily basis throughout the year. The proposed stadium is not expected to generate a significant number of trips during the AM peak hour, so the PM peak hour is the only time period selected for analysis.

Based on the PM peak hour analysis for the stadium, no project related impacts are forecast.

No significant traffic impacts are anticipated to CMP intersections as a result of the proposed High School No. 5.

APPENDIX
