THE COLLECTION AT CACTUS (PRJ-1111415)

Transportation Impact Study

FEBRUARY 2026



Prepared For

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Executive Summary

ES.1 Project Description and Setting

The purpose of this Transportation Impact Study is to identify and document potential significant transportation impacts associated with the development of The Collection at Cactus (the "Proposed Project"), as well as to recommend mitigation measures for any identified significant traffic impacts on study area intersections, roadways, freeway segments, or metered freeway ramps. The Proposed Project is consistent with the Otay Mesa Central Village Specific Plan and intends to tier off the Otay Mesa Community Plan Final Environmental Impact Report (OMCPU FEIR and Addendum to the OMCPU FEIR) prepared for the Central Village Specific Plan and use level of service (LOS) as the CEQA metric for evaluating the Proposed Project's significant transportation impacts. The analyses were performed in accordance with the requirements of the City of San Diego Traffic Impact Study Manual (July 1998), the City of San Diego Significance Determination Thresholds (January 2016), consistent with the OMCPU FEIR analysis, and the enhanced California Environmental Quality Act (CEQA) project review process.

The project site is located at the northeast corner of the Cactus Road and Airway Road intersection in the Otay Mesa community within the City of San Diego. The Proposed Project is part of the Otay Mesa Central Village Specific Plan (CVSP) that was adopted by City Council on April 13, 2017. The Proposed Project proposes to construct a multi-family residential development which includes a total of 985 multi-family units, including 83 affordable units, across Planning Areas 10, 11, 12, and 13 of the CVSP in the Otay Mesa Community Plan on a 40-acre vacant site. Additionally, the Project would allow for the future development of a 3.5-acre park (3.62 gross acres with 3.5 usable acres) within Planning Area 17 of the Otay Mesa CVSP . Access to the project site is provided via four (4) primary driveways, one per planning area, and four (4) secondary driveways, one per planning area. The project requires a Vesting Tentative Map (VTM), Neighborhood Development Permit (NDP), and slope easement vacation. The project opening year is anticipated to take place in 2027 and is proposed as one phase.

Consistent with the City of San Diego Traffic Impact Study Manual (TISM) dated July 1998, project trip generation estimates were derived utilizing the trip generation rates outlined in the *City of San Diego Land Development Code–Trip Generation Manual (May 2003)*. The Project would be expected to generate a total of approximately 6,085 average daily trips, with 480 (99-in/381-out) during the AM peak hour and 546 (380-in/166-out) during the PM peak hour.

Consistent with the requirements of the *City of San Diego Traffic Impact Study Manual (July 1998)*, analysis was conducted under the following scenarios:

- Existing
- Existing with Project
- Opening Year 2027
- Opening Year 2027 with Project
- Horizon Year 2062
- Horizon Year 2062 with Project

The following fifteen (15) study intersections, sixteen (16) roadway segments, three (3) freeway segments, and two (2) freeway metered ramp locations were selected for analysis:

Intersections

1. Cactus Road & Otay Mesa Road (Signal)
2. Continental Street & Otay Mesa Road (Signal)
3. Britannia Boulevard & Otay Mesa Road (Signal)
4. Britannia Boulevard & State Route (SR) 905 Westbound Ramps (Signal)
5. Britannia Boulevard & SR-905 Eastbound Ramps (Signal)
6. Britannia Boulevard & Airway Road (Signal)
7. Continental Street & Airway Road (SSSC)
8. Cactus Road & Airway Road (AWSC)
9. La Media Road & Airway Road (Signal)
10. Park Way & Airway Road (SSSC)*
11. Cactus Road & Street "D" (SSSC)*
12. Cactus Road & PA-11 Secondary Driveway (SSSC)*
13. Park Way & Street "D" (SSSC)*
14. Continental Street/PA-12 Secondary Driveway & Street "D"/Colchester Court (AWSC)*
15. Park Way & PA-10/PA-13 Primary Driveway (SSSC)*

Note:
PA = Planning Area
AWSC = All-Way Stop-Controlled
SSSC = Side-Street Stop-Controlled
*Analyzed under "with Project" conditions only

Roadway Segments

1. Otay Mesa Road, west of Cactus Road
2. Otay Mesa Road, between Cactus Road and Continental Street
3. Otay Mesa Road, between Continental Street and Brittania Boulevard
4. Otay Mesa Road, east of Brittania Boulevard
5. Britannia Boulevard, between Otay Mesa Road and SR-905 Westbound Ramps
6. Britannia Boulevard, between SR-905 Westbound Ramps and SR-905 Eastbound Ramps
7. Britannia Boulevard, between SR-905 Eastbound Ramps and Airway Road
8. Britannia Boulevard, south of Airway Road
9. Airway Road, between Cactus Road and Park Way
10. Airway Road, between Park Way and Continental Street
11. Airway Road, between Continental Street and Britannia Boulevard
12. Airway Road, between Britannia Boulevard and 50 feet west of La Media Road
13. Airway Road, between 50 feet west of La Media Road and La Media Road
14. Cactus Road, between Street "D" and Airway Road
15. Cactus Road, south of Airway Road
16. Continental Street, between Street "D"/Colchester Court and Airway Road

Freeway Segments

- SR-905, between Caliente Avenue and Heritage Road
- SR-905, between Heritage Road and Britannia Boulevard
- SR-905, between Britannia Boulevard and La Media Road

Metered Freeway Ramp Locations

- SR-905 Westbound Ramps at Britannia Boulevard
- SR-905 Eastbound Ramps at Britannia Boulevard

State Route 905 Overpass

The future Cactus Road SR-905 overpass, identified in the Otay Mesa Community CVSP and the Otay Mesa Community Plan, assumes the construction of a four-lane overpass connecting Cactus Road between Otay Mesa Road to the north and Airway Road to the south. The planned overpass is not identified to be fully funded according to the Otay Mesa Public Facilities Financing Plan. It is important to note that the Proposed Project will not construct the SR-905 overpass. However, the construction of the Proposed Project and the improvements along the project site frontage will not impede future construction of the SR-905 overpass. The Project frontage improvements are expected to be completed before the construction of the SR-905 overpass. Because of this, the plans for Cactus Road and also for the Project's property line display the full buildout and improvements at the overpass.

ES.2 Recommended Mitigation Measures

Figure ES.1 displays the proposed roadway configurations while **Figure ES.2** displays the proposed intersection lane geometry to be constructed by the Project under mitigated conditions.

State Highway System Coordination and Improvement Requirements

Several improvements identified in this report are located within the SR-905 corridor and would occur within California Department of Transportation (Caltrans) right-of-way (ROW). As the owner and operator of the State Highway System, Caltrans is the responsible agency for oversight of planning, environmental review, design, permitting, and construction of improvements within its facilities. Accordingly, any project-related improvements within the SR-905 corridor shall comply with the applicable Caltrans project development procedures and the most current Caltrans standards, policies, manuals, and design criteria in effect at the time of implementation.

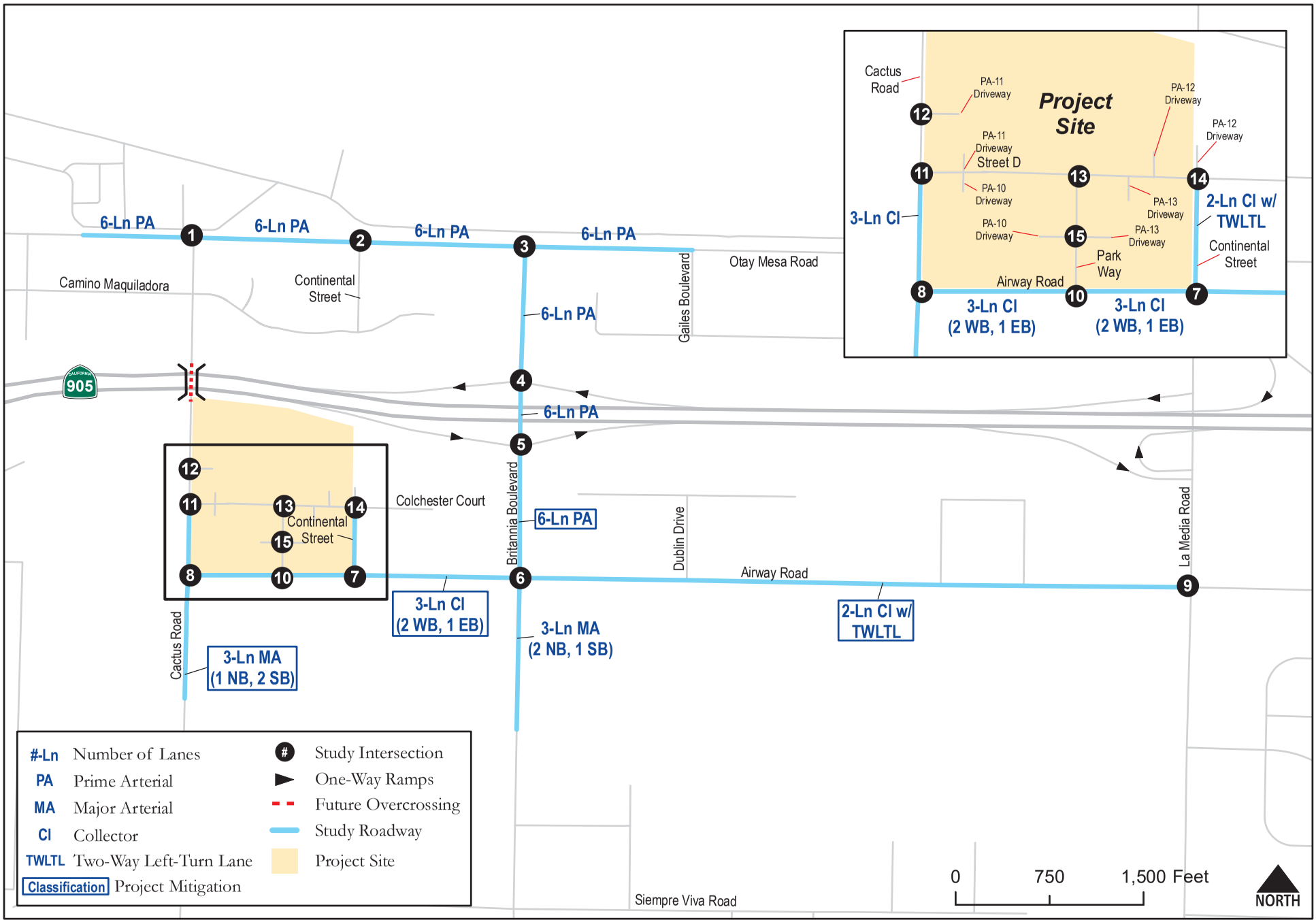

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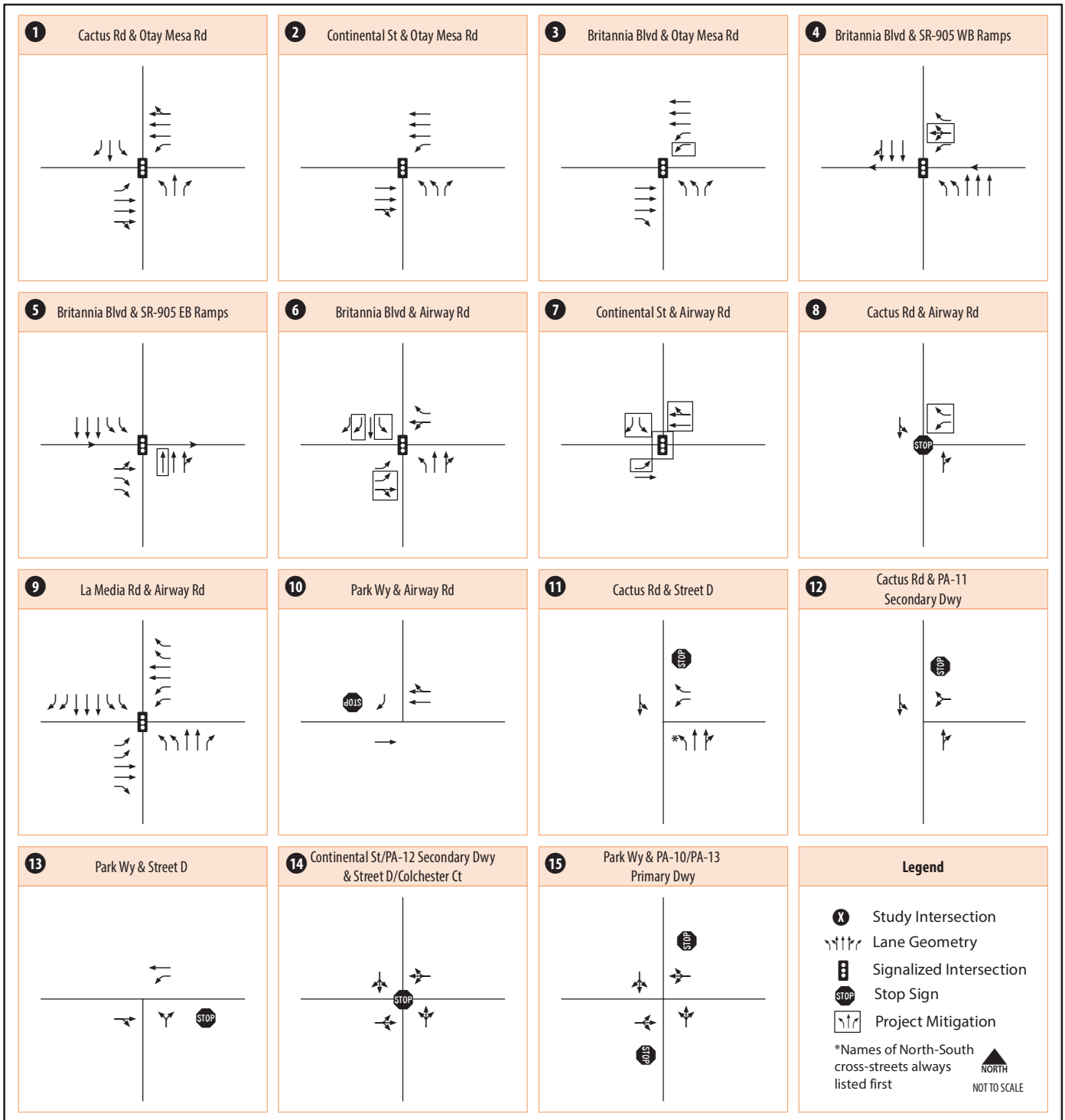
Figure ES.1
Geometrics with Recommended Mitigation Measures (Roadways)
Opening Year 2027/Horizon Year 2062 with Project Conditions



*The northbound left-turn lane will be striped out by the Proposed Project once EPOCA Neighborhood A has been constructed since the turn lane is not constructed under existing conditions.

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Figure ES.2
Geometrics with Recommended Mitigation Measures (Intersections)
Opening Year 2027/Horizon Year 2062 with Project Conditions

Opening Year 2027 with Project Conditions

Roadway Segment Mitigation

Since implementation of the Proposed Project would degrade LOS to unacceptable levels or further degrade traffic operations at study area roadway segments already operating at unacceptable LOS, mitigation measures would be required by the Project at the following roadway segments:

- Britannia Boulevard, between SR-905 Eastbound Ramps and Airway Road – This segment would operate at LOS F with the addition of project traffic. Prior to the issuance of any building permit, the Owner/Permittee shall assure by permit and bond to improve Britannia Boulevard between SR-905 Eastbound Ramps and Airway Road from a 5-Lane Prime Arterial (2 NB/3 SB) to a 6-Lane Prime Arterial per current City standards and Caltrans standards, satisfactory to the City Engineer and Caltrans. All improvements shall be completed and operational prior to first occupancy. This improvement would require the reconstruction of the existing raised median to provide an additional northbound lane and restriping the existing pavement to accommodate this roadway configuration. The improvement does not require widening the existing curb-to-curb width along the segment. This mitigation measure is consistent with the OMCPU EIR at buildout of the OMCPU.
- Airway Road, between Continental Street and Britannia Boulevard – This segment would operate at LOS F with the addition of project traffic. Prior to the issuance of any building permit, the Owner/Permittee shall assure by permit and bond to improve Airway Road between Continental Street and Britannia Boulevard from a 2-Lane Collector to a 3-Lane (1EB/2WB) Collector per current City standards, satisfactory to the City Engineer. This improvement would require restriping the existing pavement to accommodate this roadway configuration. All improvements shall be completed and operational prior to first occupancy. This mitigation measure is consistent with the OMCPU EIR at buildout of the OMCPU.
- Airway Road, between Britannia Boulevard and 50 feet west of La Media Road – This segment would operate at LOS F with the addition of project traffic. Prior to the issuance of any building permit, the Owner/Permittee shall assure by permit and bond to improve Airway Road between Britannia Boulevard and 50 feet west of La Media Road from a 2-Lane Collector to a 2-Lane Collector with a two-way left-turn lane per current City standards, satisfactory to the City Engineer. This improvement would require restriping the existing pavement to accommodate this roadway configuration and removal of parking along the roadway. Furthermore, this improvement does not require widening of existing right-of-way. All improvements shall be completed and operational prior to first occupancy. This mitigation measure is consistent with the OMCPU EIR at buildout of the OMCPU.
- Cactus Road, south of Airway Road – This segment would operate at LOS F with the addition of project traffic. Prior to the issuance of any building permit, the Owner/Permittee shall assure by permit and bond to improve Cactus Road south of Airway Road from a 2-Lane Collector to a 3-Lane (1NB/2SB) Major Arterial per current City standards, satisfactory to the City Engineer. This improvement would require the construction of a raised median and restriping within the existing pavement to accommodate this lane configuration. All improvements shall be completed and operational prior to first occupancy. This mitigation measure is consistent with the OMCPU EIR at buildout of the OMCPU.
  Cactus Road south of Airway Road is being improved by the EPOCA (Otay Mesa Lumina, PTS#555609) project. Although EPOCA is conditioned for an ultimate 4-lane major arterial, right-of-way constraints require a temporary 3-lane (1 NB/2 SB) major arterial. As of October

2025, the segment between Airway Road and Secano Street has been widened from 20 ft to 40 ft to accommodate a 3-lane major arterial roadway, however, the construction of a raised median and striping to a 3-lane (1 NB / 2 SB) major arterial roadway, has yet to be completed. If EPOCA has not completed the 3-lane interim improvements prior to the Proposed Project's opening year, the Owner/Permittee for the Proposed Project will implement the remaining improvements.

Conceptual improvement plans for the proposed mitigation measures by the Project are provided in **Appendix S**.

Table ES.1 displays level of service analysis results with implementation of the recommended mitigation measures at the impacted roadway segments under Opening Year 2027 with Project with Mitigation Conditions. Conceptual improvement and striping plans are provided in Appendix S.

As shown, the significant impacts associated with the following four (4) roadway segments would be mitigated with the implementation of the recommended mitigation measures:

- Britannia Boulevard, between SR-905 Eastbound Ramps and Airway Road - This roadway segment is expected to continue to operate at LOS F with the recommended mitigation. However, since the roadway segment would operate at better than pre-project conditions, the Proposed Project's direct significant impact would be mitigated by the recommended mitigation measure.
- Airway Road, between Continental Street and Britannia Boulevard - This roadway segment is expected to continue to operate at LOS F with the recommended mitigation. However, since the roadway segment would operate at better than pre-project conditions, the Proposed Project's direct significant impact would be mitigated by the recommended mitigation measure.
- Airway Road, between Britannia Boulevard and 50 feet west of La Media Road - This roadway segment is expected to continue to operate at LOS F with the recommended mitigation. However, since the roadway segment would operate at better than pre-project conditions, the Proposed Project's direct significant impact would be mitigated by the recommended mitigation measure.
- Cactus Road, south of Airway Road – This roadway segment is expected to improve from LOS F to LOS A with the recommended mitigation. The Proposed Project's direct significant impact would be mitigated by the recommended mitigation measure.

Table ES.1 – Roadway Segment LOS Results – Opening Year 2027 with Project with Mitigation Conditions

Roadway	Segment	Without Project					With Project Before Mitigation					With Project After Mitigation					Δ in V/C[1]	Δ in V/C[2]
		Functional Classification	Capacity (LOS E)	ADT	V/C	LOS	Functional Classification	Capacity (LOS E)	ADT	V/C	LOS	Functional Classification	Capacity (LOS E)	ADT	V/C	LOS		
Britannia Blvd	SR-905 EB Ramps to Airway Rd	5-Lane (2NB/3SB) Prime Arterial	50,000	69.700	1.394	**F**	5-Lane (2NB/3SB) Prime Arterial	50,000	74,629	1.493	**F**	6-Lane Prime Arterial	60,000	74,629	1.244	**F**	-0.150	-0.249
Airway Rd	Continental St to Britannia Blvd	2-Lane Collector	8,000	23,130	2.891	**F**	2-Lane Collector	8,000	28,972	3.622	**F**	3-Lane (1EB/2WB) Collector	11,000	28,972	2.634	**F**	-0.257	-0.988
Airway Rd	Britannia Blvd to 50 feet west of La Media Rd	2-Lane Collector	8,000	15,650	1.956	**F**	2-Lane Collector	8,000	16,259	2.032	**F**	2-Lane Collector w/ TWLTL	15,000	16,259	1.084	**F**	-0.872	-0.948
Cactus Rd	South of Airway Road	2-Lane Collector	8,000	10,750	1.344	**F**	2-Lane Collector	8,000	10,993	1.374	**F**	3-Lane (1NB/2SB) Major Arterial	30,000	10,993	0.366	A	-0.978	-1.008

Sources: CR Associates (2025)

Notes:
[1] V/C under With Project After Mitigation Conditions – V/C under Without Project Conditions
[2] V/C under With Project After Mitigation Conditions – V/C under With Project Before Mitigation Conditions
Bold = LOS E or F
V/C = Volume to Capacity Ratio

Intersection Mitigation

Since implementation of the Proposed Project would degrade LOS to unacceptable levels or further degrade traffic operations at study area intersections already operating at unacceptable LOS, mitigation measures would be required at the following intersections:

3. Britannia Boulevard & Otay Mesa Road – Prior to the issuance of the first building permit, the Owner/Permittee shall assure by permit and bond the restriping of the westbound approach to accommodate dual left-turn lanes and three through lanes and associated traffic signal modification per current City standards, satisfactory to the City Engineer. All improvements shall be completed and operational prior to first occupancy. These recommended mitigation measures are consistent with the ultimate intersection geometrics assumption of the OMCPU EIR's analysis of traffic at OMCPU buildout.

   With implementation of the mitigation measure above, the intersection delay would be expected to decrease by 33.7 seconds during the PM peak hour and the LOS would improve from LOS E to LOS D. Therefore, the Proposed Project's direct significant impact would be mitigated by the recommended mitigation measure.

4. Britannia Boulevard & SR-905 Westbound Ramps – Prior to the issuance of the first building permit, the Owner/Permittee shall assure by permit and bond the restriping of the westbound off-ramp approach to accommodate an exclusive left-turn lane, a shared left-through-right lane, an exclusive right-turn, and associated traffic signal modification per current City standards and Caltrans standards, satisfactory to the City Engineer and Caltrans. All improvements shall be completed and operational prior to first occupancy. These recommended mitigation measures are consistent with the ultimate intersection geometrics assumption of the OMCPU EIR's analysis of traffic at OMCPU buildout.

   With implementation of the mitigation measure above, the intersection delay would be expected to decrease by 29.0 seconds during the PM peak hour. Although the LOS would remain at LOS F, the intersection delay would be less than pre-project conditions; therefore, the Proposed Project's direct significant impact would be mitigated by the recommended mitigation measure.

5. Britannia Boulevard & SR-905 Eastbound Ramps – Prior to the issuance of the first building permit, the Owner/Permittee shall assure by permit and bond the reconfiguration of the northbound approach to accommodate two through lanes and a shared through-right lane and associated traffic signal modification and reconstruction of existing raised median per current City standards and Caltrans standards, satisfactory to the City Engineer and Caltrans. All improvements shall be completed and operational prior to first occupancy. These recommended mitigation measures are consistent with the ultimate intersection geometrics assumption of the OMCPU EIR's analysis of traffic at OMCPU buildout.

   With implementation of the mitigation measure above, the intersection delay would be expected to decrease by 87.4 seconds during the AM peak hour and by 105.1 seconds during the PM peak hour. Although the LOS would remain at LOS F, the intersection delay would be less than pre-project conditions; therefore, the Proposed Project's direct significant impact would be mitigated by the recommended mitigation measure.

6. Britannia Boulevard & Airway Road – Prior to the issuance of the first building permit, the Owner/Permittee shall assure by permit and bond to restripe the eastbound approach to accommodate 400-foot dual left-turn lanes and a shared through-right turn lane and restripe the southbound approach to accommodate a left-turn lane, one through lane and dual right-turn lanes and associated traffic signal modification per current City standards, satisfactory to the City Engineer. All improvements shall be completed and operational prior to first occupancy. These recommended mitigation measures are consistent with the ultimate intersection geometrics assumption of the OMCPU EIR's analysis of traffic at OMCPU buildout.

   With implementation of the mitigation measure above, the intersection delay would be expected to decrease by 110.2 seconds during the AM peak hour and by 129.0 seconds during the PM peak hour. Although the LOS would remain at LOS F, the intersection delay would be less than pre-project conditions; therefore, the Proposed Project's direct significant impact would be mitigated by the recommended mitigation measure.

7. Continental Street & Airway Road - Prior to the issuance of the first building permit, the Owner/Permittee shall assure by permit and bond the signalization of the Continental Street and Airway Road intersection. The following minimum lane configuration shall be constructed at the intersection:

   - Southbound approach: left-turn pocket and a right-turn lane
   - Eastbound approach: left-turn pocket and one through lane
   - West Leg: configured with two receiving lanes
   - Westbound Approach: one through lane and shared through right-turn lane

   All improvements shall be satisfactory to the City Engineer and shall be completed and operational prior to first occupancy.

   The estimated ADT signal warrant would be met for this intersection based on analyzed traffic volumes under Opening Year 2027 with Project conditions per the California Manual on Uniform Traffic Control Devices (CAMUTCD) Average Traffic Estimate Form, Figure 4C-103 (Average Traffic Estimate Form). The signal warrants are provided in **Appendix I**.

   These recommended mitigation measures are consistent with the lane configuration per the Otay Mesa Central Village Specific Plan Transportation Facilities Trigger Analysis.

   With implementation of the mitigation measure above, the intersection delay would decrease from beyond calculable delay during both the AM and PM peak hours to 43.6 seconds and 11.9 seconds, respectively. The LOS would improve from LOS F to LOS D during the AM peak hour and LOS B during the PM peak hour. Therefore, the Proposed Project's direct significant impact would be mitigated by the recommended mitigation measure.

8. Cactus Road and Airway Road – Prior to the issuance of the first building permit, the Owner/Permittee shall assure by permit and bond the reconfiguration of the intersection with the following lane configuration:

   - North leg: configured with two receiving lanes
   - Westbound approach: one left-turn lane and one right-turn lane

   All improvements shall be satisfactory to the City Engineer and shall be completed and operational prior to first occupancy. These recommended mitigation measures are consistent with the ultimate intersection geometrics assumptions of the OMCPU EIR's analysis of traffic at OMCPU buildout.

   It is important to note that the intersection is identified to be improved to a signalized intersection as a project feature for the Otay Mesa Lumina (PTS#555609)/EPOCA Project. Furthermore, the EPOCA project Mitigation, Monitoring, and Reporting Program identifies cumulative traffic impacts at this intersection and would require the following improvements:

   - Widen the westbound approach to accommodate dual left-turn lanes, three through lanes, and dual right-turn lanes
   - Widen the eastbound approach to accommodate dual left-turn lanes, three through lanes with a shared right-turn lane, and an exclusive right-turn lane
   - Widen the southbound approach to accommodate dual left-turn lanes, two through lanes with a shared right-turn lane, and an exclusive right-turn lane
   - Widen the northbound approach to accommodate dual left-turn lanes, two through lanes, and an exclusive right-turn lane
   - West Leg: configured with three receiving lanes

   The improvements mentioned above are to be implemented at the start of construction of the Otay Mesa Lumina (PTS#555609)/EPOCA Project and when proper right-of-way is acquired to fully build out the intersection. With implementation of the mitigation measures implemented by the Proposed Project, the intersection delay would be expected to decrease by 73.9 seconds during the AM peak hour and beyond calculable delay during the PM peak hour. Although the LOS would remain at LOS F, the intersection delay would be less than pre-project conditions; therefore, the Proposed Project's direct significant impact would be mitigated by the recommended mitigation measure.

Conceptual improvement plans for the proposed mitigation measures by the Project are provided in Appendix S.

Table ES.2 displays intersection LOS and average vehicle delay results under Opening Year 2027 with Project with Mitigation Conditions. As shown, all study area intersections would operate at LOS D or better than pre-project conditions with implementation of the recommended mitigation measures.

Table ES.2 – Intersection LOS Results – Opening Year 2027 with Project with Mitigation Conditions

#	Intersection	Control Type	Without Project				With Project Before Mitigation				With Project After Mitigation				Δ in Delay AM/PM[2]	Δ in Delay AM/PM[3]
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
			Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS		
3	Britannia Blvd & Otay Mesa Rd	Signal	29.1	C	50.3	D	31.2	C	69.4	**E**	22.9	C	35.7	D	-6.2 / -14.6	-8.3 / -33.7
4	Britannia Blvd & SR-905 WB Ramps	Signal	31.5	C	84.2	**F**	36.4	D	112.7	**F**	27.0	C	83.7	**F**	-4.5 / -0.5	-9.4 / -29.0
5	Britannia Blvd & SR-905 EB Ramps	Signal	164.8	**F**	228.5	**F**	213.3	**F**	268.1	**F**	125.9	**F**	163.0	**F**	-38.9 / -65.5	-87.4 / -105.1
6	Britannia Blvd & Airway Rd	Signal	284.1	**F**	288.4	**F**	368.6	**F**	372.3	**F**	258.4	**F**	243.3	**F**	-25.7 / -45.1	-110.2 / -129.0
7	Continental St & Airway Rd	Signal[1]	463.4	**F**	BCD	**F**	BCD	**F**	BCD	**F**	43.6	D	11.9	B	-419.8 / BCD	BCD / BCD
8	Cactus Rd & Airway Rd	AWSC	162.5	**F**	436.7	**F**	226.0	**F**	BCD	**F**	152.1	**F**	158.2	**F**	-10.4 / -278.5	-73.9 / BCD

Source: CR Associates (2025)

Notes:
[1] Improved from existing side-street stop-controlled intersection to a signalized intersection
[2] Delay under With Project After Mitigation Conditions – Delay under Without Project Conditions
[3] Delay under With Project After Mitigation Conditions – Delay under With Project Before Mitigation Conditions
Bold = LOS E or F
AWSC = All-Way Stop-Control
BCD = Exceeds maximum reasonable calculable delay of 600 seconds per Synchro 11.0 traffic analysis software.

Ramp Meter Analysis

No significant impacts were identified at any of the analyzed freeway metered ramps.

Freeway Segment Analysis

No significant impacts were identified at any of the analyzed freeway segments.

Horizon Year 2062 with Project Conditions

Roadway Segment Mitigation

Since implementation of the Proposed Project would degrade LOS to unacceptable levels or further degrade traffic operations at study area roadway segments already operating at an unacceptable LOS, mitigation measures would be required by the Project for its cumulative impacts at the following roadway segments:

- Britannia Boulevard, between SR-905 Westbound Ramps and SR-905 Eastbound Ramps – This roadway segment would operate at LOS F with the addition of project traffic and the OMCPU EIR disclosed its operations as LOS F, both of which exceed the LOS D threshold. This roadway is currently built to its ultimate classification as a 6-Lane Prime Arterial as identified in the currently adopted Otay Mesa Community Plan, thus no mitigation is proposed. The impact is considered significant and unavoidable, consistent with the OM CPU EIR.
- Britannia Boulevard, between SR-905 Eastbound Ramps and Airway Road – This segment would operate at LOS F with the addition of project traffic. It should be noted that the Project will improve this roadway segment from a 5-Lane Prime Arterial (2 lanes NB/3 lanes SB) to its ultimate classification as a 6-Lane Prime Arterial per the currently adopted Otay Mesa Community Plan under Opening Year 2027 with Project Conditions. With this improvement, LOS is expected to remain at LOS F under the Horizon Year 2062 Plus Project scenario. Therefore, no additional fair share contribution would be required by the Project. This impact is considered significant and unavoidable, consistent with the OM CPU EIR.
- Airway Road, between Continental Street and Britannia Boulevard – This segment would operate at LOS F with the addition of project traffic. It should be noted that the Proposed Project will improve this roadway segment from a 2-Lane Collector to a 3-Lane (1 lane EB/2 lanes WB) Collector under Opening Year 2027 Plus Project. With this improvement, LOS is expected to remain at LOS F under the Horizon Year 2062 Plus Project scenario, however, the roadway segment would operate at better than pre-project conditions. Therefore, the cumulative impact would be mitigated by the recommended mitigation measure and no additional mitigation measures would be required by the Project. This mitigation measure is consistent with the OMCPU EIR at buildout of the OMCPU.
- Airway Road, between Britannia Boulevard and 50 feet west of La Media Road – This segment would operate at LOS F with the addition of project traffic. It should be noted that the Project will improve this roadway segment from a 2-Lane Collector to a 2-Lane Collector with a two-way left-turn lane under Opening Year 2027 Plus Project conditions. With this improvement, LOS is expected to remain at LOS F under the Horizon Year 2062 Plus Project scenario, however, the roadway segment would operate at better than pre-project conditions. Therefore, the cumulative impact would be mitigated by the recommended mitigation

measure and no additional mitigation measures would be required by the Project. This mitigation measure is consistent with the OMCPU EIR at buildout of the OMCPU.

- Cactus Road, south of Airway Road – This segment would operate at LOS F with the addition of project traffic. It should be noted that the Project will improve this roadway segment from a 2-Lane Collector to a 3-Lane (1NB/2SB) Major Arterial under Opening Year 2027 Plus Project conditions. With this improvement, LOS is expected to improve from LOS F to LOS B. Therefore, the cumulative impact would be mitigated by the recommended mitigation measure and no additional mitigation measures would be required by the Project. This mitigation measure is consistent with the OMCPU EIR at buildout of the OMCPU.

  It is anticipated that Cactus Road south of Airway Road would be improved to a 3-lane (1NB/2SB) Major Arterial prior to the Proposed Project's opening year by the EPOCA (Otay Mesa Lumina PTS#555609) project. However, should EPOCA not complete the improvement to Cactus Road south of Airway Road before the Proposed Project's opening year, the Owner/Permittee for the Proposed Project will be responsible for implementation of the improvement.

  Additionally, Cactus Road south of Airway Road is anticipated to be improved by the EPOCA residential development, previously known as Otay Mesa Lumina PTS#555609. The EPOCA project has the responsibility to widen the roadway to a 4-lane major arterial, however, due to right-of-way constraints, the roadway can only be widened temporarily to accommodate a 3-lane (1NB/2SB) Major Arterial. As of December 2024, Cactus Road between Airway Road and Secano Street has been widened from approximately 20-feet to 40-feet to accommodate a 3-lane Major Arterial roadway, however, the construction of a raised median and striping to a 3-lane (1NB/2B) major arterial roadway has yet to be completed.

Table ES.3 displays level of service analysis results with implementation of the recommended mitigation measures at the impacted roadway segments under Horizon Year 2062 with Project with Mitigation Conditions. Conceptual improvement and striping plans are provided in Appendix S.

As shown in Table ES.3, the cumulative impacts associated with the following four (4) roadway segments would be mitigated with the implementation of the recommended mitigation measures:

- Britannia Boulevard, between SR-905 Eastbound Ramps and Airway Road - This roadway segment would operate at LOS F and the OMCPU EIR disclosed its operations as LOS F, both of which exceed the LOS D threshold. However, since the roadway segment would operate at better than pre-project conditions, the significant impact would be considered mitigated in the Opening Year 2027 Plus Project condition. Since this roadway would be built to its ultimate classification as a 6-Lane Prime Arterial in the currently adopted Otay Mesa Community Plan by the Project in Opening Year 2027 with Project conditions, no additional mitigation measures would be required, and the cumulative impact would remain significant and unavoidable, consistent with the OM CPU EIR.
- Airway Road, between Continental Street and Britannia Boulevard - This roadway segment would operate at LOS F which exceeds the LOS D threshold. However, since the roadway segment would operate at better than pre-project conditions, the cumulative impact would be mitigated by the recommended mitigation measure.

- Airway Road, between Britannia Boulevard and 50 feet west of La Media Road - This roadway segment would operate at LOS F which exceeds the LOS D threshold. However, since the roadway segment would operate at better than pre-project conditions, the cumulative impact would be mitigated by the recommended mitigation measure.
- Cactus Road, south of Airway Road – This roadway segment would be mitigated by the improvements constructed by the project in the Opening Year 2027 with Project condition and operate at LOS B in the Horizon Year 2062 with Project condition after mitigation. Therefore, the Proposed Project's cumulative impact would be mitigated by the recommended mitigation measure.

Table ES.3 – Roadway Segment LOS Results – Horizon Year 2062 with Project with Mitigation Conditions

Roadway	Segment	Without Project					With Project Before Mitigation					With Project After Mitigation					Δ in V/C[1]	Δ in V/C[2]
		Functional Classification	Capacity (LOS E)	ADT	V/C	LOS	Functional Classification	Capacity (LOS E)	ADT	V/C	LOS	Functional Classification	Capacity (LOS E)	ADT	V/C	LOS		
Britannia Blvd	SR-905 EB Ramps to Airway Rd	5-Lane (2NB/3SB) Prime Arterial	50,000	73,200	1.464	**F**	5-Lane (2NB/3SB) Prime Arterial	50,000	78,129	1.563	**F**	6-Lane Prime Arterial	60,000	78,129	1.302	**F**	-0.162	**-0.261**
Airway Rd	Continental St to Britannia Blvd	2-Lane Collector	8,000	26,760	3.345	**F**	2-Lane Collector	8,000	32,602	4.075	**F**	3-Lane (1EB/2WB) Collector	11,000	32,602	2.964	**F**	-0.381	-1.111
Airway Rd	Britannia Blvd to 50 feet west of La Media Rd	2-Lane Collector	8,000	23,310	2.914	**F**	2-Lane Collector	8,000	23,919	2.990	**F**	2-Lane Collector w/ TWLTL	15,000	23,919	1.595	**F**	-1.319	-1.395
Cactus Rd	South of Airway Rd	2-Lane Collector	8,000	14,390	1.799	**F**	2-Lane Collector	8,000	14,633	1.829	**F**	3-Lane (1NB/2SB) Major Arterial	30,000	14,633	0.488	B	-1.311	-1.341

Sources: CR Associates (2025)

Notes:
[1] V/C under With Project After Mitigation Conditions – V/C under Without Project Conditions
[2] V/C under With Project After Mitigation Conditions – V/C under With Project Before Mitigation Conditions
Bold = LOS E or F
V/C = Volume to Capacity Ratio

Intersection Mitigation

Since implementation of the Proposed Project would degrade LOS to unacceptable level of service or further degrade traffic operations at study area intersections already operating at unacceptable LOS, mitigation measures would be required by the Project for its cumulative impacts at the following intersections:

3. Britannia Boulevard & Otay Mesa Road – The intersection would operate at LOS E during the PM peak hour under Horizon Year 2062 with Project conditions if the project were not already providing improvements at the Opening Year 2027 with Project scenario. It should be noted that the Proposed Project will restripe the westbound approach to accommodate dual left-turn lanes and three through lanes as identified under Opening Year 2027 with Project Mitigation section. With this improvement, LOS is expected to operate at LOS D during the PM peak hour under the Horizon Year 2062 Plus Project scenario; therefore, the project's cumulative impact would be mitigated by the recommended mitigation measure, and no additional mitigation measures would be required by the Project. This mitigation measure is consistent with the ultimate intersection geometrics assumption of the OMCPU EIR's analysis of traffic at OMCPU buildout.
4. Britannia Boulevard & SR-905 Westbound Ramps – The intersection would operate at LOS F during the PM peak hour with the addition of project traffic. It should be noted that the Proposed Project shall restripe the westbound approach to accommodate an exclusive left-turn lane, a shared left-through-right lane, and an exclusive right-turn as identified under Opening Year 2027 with Project Mitigation section. This mitigation measure is consistent with the ultimate intersection geometrics assumption of the OMCPU EIR's analysis of traffic at OMCPU buildout. With this improvement, LOS is expected to remain at LOS F under the Horizon Year 2062 Plus Project scenario and would remain significant and unavoidable, consistent with the OM CPU EIR.
5. Britannia Boulevard & SR-905 Eastbound Ramps – The intersection would operate at LOS F during both the AM and PM peak hours with the addition of project traffic. It should be noted that the Proposed Project will reconfigure the northbound approach to accommodate two through lanes and a shared through-right lane as identified under Opening Year 2027 with Project Mitigation section. This mitigation measure is consistent with the ultimate intersection geometrics assumption of the OMCPU EIR's analysis of traffic at OMCPU buildout. With this improvement, LOS is expected to remain at LOS F under Horizon Year 2062 with Project conditions and would remain significant and unavoidable, consistent with the OM CPU EIR.
6. Britannia Boulevard & Airway Road – The intersection would operate at LOS F during both the AM and PM peak hours with the addition of project traffic. It should be noted that the Proposed Project will restripe the eastbound approach to provide 400-foot dual left-turn lanes and a shared through-right turn lane and restripe the southbound approach to accommodate a left-turn lane, one through lane and dual right-turn lanes as identified under Opening Year 2027 with Project Mitigation section. This mitigation measure is consistent with the ultimate intersection geometrics assumption of the OMCPU EIR's analysis of traffic at OMCPU buildout. With this improvement, LOS is expected to remain at LOS F under Horizon Year 2062 with Project conditions and would remain significant and unavoidable, consistent with the OM CPU EIR.

7. Continental Street & Airway Road - The intersection would operate at LOS F during both the AM and PM peak hours under Horizon Year 2062 with Project conditions if the project were not already providing improvements at the Opening Year 2027 with Project scenario. It should be noted that the Proposed Project will improve the existing side-street stop-controlled intersection to a signalized intersection as identified under Opening Year 2027 with Project Mitigation section. The estimated ADT signal warrant would be met for this intersection based on analyzed traffic volumes under both Opening Year 2027 with Project conditions and Horizon Year 2062 with Project conditions per the Average Traffic Estimate Form. With this improvement, LOS is expected to operate at LOS D during the AM peak hour and LOS B during the PM peak hour under the Horizon Year 2062 Plus Project scenario; therefore, the cumulative impact would be mitigated by the recommended mitigation measure, and no additional mitigation measures would be required by the Project.
8. Cactus Road & Airway Road - The intersection would operate at LOS F during both the AM and PM peak hours with the addition of project traffic. It should be noted that the Proposed Project will reconfigure the north leg with two receiving lanes and the westbound approach with one left-turn lane and one right-turn lane as identified under Opening Year 2027 with Project Mitigation section. With this improvement, LOS is expected to remain at LOS F under Horizon Year 2062 with Project conditions. However, the intersection would operate at better than pre-project conditions. Therefore, the cumulative impact would be mitigated by the recommended mitigation measure, and no additional mitigation measures would be required by the Project. This mitigation measure is consistent with the OMCPU EIR at buildout of the OMCPU.

Table ES.4 displays intersection LOS and average vehicle delay results under Horizon Year 2062 with Project with Mitigation Conditions. As shown, all study area intersections would operate at an acceptable LOS or for intersections shown to operate at an unacceptable LOS to be better than pre-project conditions with implementation of the recommended mitigation measures.

Table ES.4 – Intersection LOS Results – Horizon Year 2062 with Project with Mitigation Conditions

#	Intersection	Control Type	Without Project				With Project Before Mitigation				With Project After Mitigation				Δ in Delay AM/PM[2]	Δ in Delay AM/PM[3]
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
			Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS		
3	Britannia Blvd & Otay Mesa Rd	Signal	32.2	C	54.4	D	39.1	D	70.3	**E**	27.3	C	38.0	D	-4.9 / -16.4	-11.8 / -32.3
4	Britannia Blvd & SR-905 WB Ramps	Signal	36.1	D	90.3	**F**	44.0	D	121.2	**F**	31.9	C	89.4	**F**	-4.2 / -0.9	-12.1 / -31.8
5	Britannia Blvd & SR-905 EB Ramps	Signal	187.7	**F**	252.1	**F**	235.5	**F**	293.2	**F**	142.3	**F**	182.9	**F**	-45.4 / -69.2	-93.2 / -110.3
6	Britannia Blvd & Airway Rd	Signal	323.9	**F**	326.0	**F**	398.9	**F**	403.4	**F**	300.5	**F**	282.0	**F**	-23.4 / -44.0	-98.4 / -121.4
7	Continental St & Airway Rd	Signal[1]	529.1	**F**	BCD	**F**	BCD	**F**	BCD	**F**	42.4	D	19.7	B	-486.7 / BCD	BCD / BCD
8	Cactus Rd & Airway Rd	AWSC	176.0	**F**	507.3	**F**	227.2	**F**	584.3	**F**	140.0	**F**	236.3	**F**	-36.0 / -271.0	-87.2 / -348.0

Source: CR Associates (2025)

Notes:
[1] Improved from existing side-street stop-controlled intersection to a signalized intersection
[2] Delay under With Project After Mitigation Conditions – Delay under Without Project Conditions
[3] Delay under With Project After Mitigation Conditions – Delay under With Project Before Mitigation Conditions
Bold = LOS E or F
AWSC = All-Way Stop-Control
BCD = Exceeds maximum reasonable calculable delay of 600 seconds per Synchro 11.0 traffic analysis software.

Ramp Meter Analysis

No significant impacts were identified at any of the analyzed freeway metered ramps.

Freeway Segment Analysis

All freeway segments within the study area would continue to operate at unacceptable LOS F under Horizon Year 2062 with Project conditions, which includes the following:

- SR-905, between Caliente Avenue and Heritage Road
- SR-905, between Heritage Road and Britannia Boulevard
- SR-905, between Britannia Boulevard and La Media Road

Based on City guidelines, mitigation measures would be required at the aforementioned freeway segments to achieve acceptable LOS. However, these facilities are under the purview of Caltrans, and no current plans exist to widen these freeway segments; thus, this freeway segment would continue to operate at LOS F with the addition of Project traffic. It should be noted that the OMCPU EIR disclosed that these segments along SR-905 would operate at a deficient LOS F, and disclosed impacts to these freeway segments as a significant and unavoidable impact of the OMCPU. The proposed Project is consistent with the findings and conclusions of the OMCPU EIR with respect to these freeway segments.

ES.3 Queue Analysis

Opening Year 2027 with Project Conditions

As shown, the Proposed Project would contribute project traffic to the following turn movements exceeding available storage and project improvements would be required:

1. Cactus Road & Otay Mesa Road
   - Northbound Right-Turn - The trips associated with the Proposed Project would not increase the 95th percentile queue for this movement when compared to Opening Year 2027 without Project conditions. However, the trips associated with the Proposed Project would increase the 95th percentile queue for this movement by 25 feet during both the AM and PM peak periods in the Horizon Year 2062 with Project conditions, when compared to Horizon Year 2062 without Project conditions. Based on the analysis, the Proposed Project would require extending the northbound right-turn pocket from its existing 110-foot length by approximately 40 feet to achieve a total length of 150 feet to accommodate the projected queue. However, an existing full-access driveway serving a gas station is located along Cactus Road approximately 150 feet south of Otay Mesa Road. Extending the right-turn pocket to the full 150 feet would interfere with this driveway and its existing full-access operations. Therefore, the northbound right-turn pocket will be extended to the extent feasible without affecting driveway access, resulting in an assumed total length of approximately 130 feet from the intersection stop line. Accordingly, the Proposed Project will restripe the northbound right-turn pocket from 110 feet to approximately 130 feet to better accommodate the projected queue while preserving full access to the existing gas station driveway.

     Prior to the issuance of the first building permit, the Owner/Permittee shall assure by permit and bond to lengthen the existing 110-foot northbound right turn lane by 20 feet to provide a total of 130 feet northbound right turn lane storage length under Opening Year 2027 with Project conditions to accommodate the expected 95th percentile queue in the Horizon Year 2062 with Project condition via signage and striping plan per current City standards, satisfactory to the City Engineer. All improvements shall be completed and operational prior to first occupancy.

4. Britannia Boulevard & SR-905 Westbound Ramps
   - Westbound Left-Turn – The 95th percentile queue would decrease for this movement by 125 feet during the AM peak hour and increase by 50 feet during the PM peak hour when compared to Opening Year 2027 without Project conditions. The reduction during the AM peak hour is primarily due to the intersection mitigation measures as identified under Opening Year 2027 with Project Mitigation conditions. Although the 95th percentile queue is expected to decrease when compared to Opening Year 2027 with Project conditions, the expected 95th percentile queue in the Opening Years 2027 Plus Project condition would exceed the existing westbound left turn lane storage. To accommodate the additional 95th percentile queue, the westbound left-turn lane would require to be lengthened from the existing 330-feet to 425-feet. However, under Horizon Year 2062 with Project Conditions, the westbound left-turn lane would require a storage length of 450 feet to accommodate the expected 95th percentile queue in Horizon Year 2062 with Project Conditions. Therefore, it is recommended that the Proposed Project extend the westbound left-turn lane from the existing 330-feet to 450 feet. Since this intersection is

located within Caltrans right-of-way, additional coordination would be required to implement this improvement.

Prior to the issuance of the first building permit, the Owner/Permittee shall assure by permit and bond to lengthen the existing 330-foot westbound left turn lane by 120 feet to provide a total of 450 feet westbound left turn lane storage length with appropriate transition at the intersection of Britannia Boulevard and SR-905 Westbound Ramps per current City standards and Caltrans standards, satisfactory to the City Engineer and Caltrans. All improvements shall be completed and operational prior to first occupancy.

5. Britannia Boulevard & SR-905 Eastbound Ramps
   - Eastbound Right-Turn – The trips associated with the Proposed Project would increase the 95th percentile queue length for the eastbound right-turn movement by approximately 275 feet in the AM peak and 225 feet in the PM peak when compared to Opening Year 2027 without Project conditions. This would result in 95th percentile queue lengths of approximately 1,400 feet in the AM peak and 1,350 feet in PM peak.

     The off-ramp provides two dedicated eastbound right-turn lanes at this intersection. The shorter lane offers approximately 930 feet of storage, while the longer lane provides up to 1,550 feet of queueing capacity before reaching the freeway mainline. Under Opening Year 2027 with Project conditions, the projected queue is expected to exceed the storage length of the shorter right-turn lane. However, the total off-ramp storage capacity is sufficient to accommodate the projected queue, which would remain within the ramp limits and would not extend to the freeway mainline, as shown in the image below.



The existing geometric lane configuration at the SR-905 EB off-ramp is consistent with the buildout lane configuration shown in the OM CPU EIR (Figure 5.12-4c, intersection #19).

6. Britannia Boulevard & Airway Road
   - Northbound Left-Turn – The 95th percentile queue would decrease for this movement by 25 feet in the AM when compared to Opening Year 2027 without Project conditions. This reduction is primarily due to the intersection mitigation measures as identified under Opening Year 2027 with Project Mitigation conditions. Although the 95th percentile queue is expected to decrease when compared to Opening Year 2027 without Project conditions, the expected 95th percentile queue in the Opening Year 2027 with Project conditions would exceed the existing northbound left turn lane storage. To accommodate

the expected 95th percentile queue, the northbound left-turn lane would require to be lengthened from the existing 210-feet length to 300 feet. Therefore, it is recommended that the Proposed Project lengthen the northbound left-turn lane from the existing 210-feet length to 300 feet, which would require reconfiguration of an existing raised median along Britannia Boulevard.

Prior to the issuance of the first building permit, the Owner/Permittee shall assure by permit and bond to lengthen the existing 210 feet long northbound left turn lane by 90 feet to provide a total of 300 feet northbound left turn lane storage length with appropriate transition at the intersection of Britannia Boulevard and Airway Road, satisfactory to the City Engineer. All improvements shall be completed and operational prior to first occupancy.

- Eastbound Left-Turn - The 95th percentile queue would decrease for this movement by 850 feet during the AM peak hour and PM peak hour when compared to Opening Year without Project conditions. This reduction is primarily due to the intersection mitigation measures as identified under Opening Year 2027 with Project Mitigation conditions. Although the 95th percentile queue is expected to decrease when compared to Opening Year 2027 without Project Conditions, the expected 95th percentile queue in the Opening Year 2027 with Project conditions would exceed the existing eastbound left turn lane storage. To accommodate the expected 95th percentile queue, the eastbound left-turn lane would require to be lengthened from the existing 300-feet length to 350 feet. However, under Horizon Year 2062 with Project Conditions, the eastbound left turn lane would require a storage length of 400 feet to accommodate the expected 95th percentile queue in Horizon Year 2062 with Project Conditions. Therefore, it is recommended that the Proposed Project lengthen the eastbound left-turn lane from the existing 300-feet length to 400 feet, which would require reconfiguration of an existing road striping along Airway Road.

  Prior to the issuance of the first building permit, the Owner/Permittee shall assure by permit and bond to lengthen the existing 300 feet long eastbound left turn lane by 100 feet to provide a total of 400 feet eastbound left turn lane storage length with appropriate transition at the intersection of Britannia Boulevard and Airway Road, satisfactory to the City Engineer. All improvements shall be completed and operational prior to first occupancy.

<u>Horizon Year 2062 with Project Conditions</u>

As shown, the Proposed Project would contribute project traffic to the following turn movements exceeding available storage and improvements would be required:

1. Cactus Road & Otay Mesa Road
   - Northbound Right-Turn – The trips associated with the Proposed Project would increase the 95th percentile queue for this movement by 25 feet during both the AM and PM peak periods, when compared to Horizon Year 2062 without Project conditions. Based on the analysis, the Proposed Project would require extending the northbound right-turn pocket from its existing 110-foot length by approximately 40 feet to achieve a total length of 150 feet to accommodate the projected queue. However, an existing full-access driveway serving a gas station is located along Cactus Road approximately 150 feet south of Otay Mesa Road. Extending the right-turn pocket to the full 150 feet would interfere with this

driveway and its existing full-access operations. Therefore, the northbound right-turn pocket will be extended to the extent feasible without affecting driveway access, resulting in an assumed total length of approximately 130 feet from the intersection stop line. Accordingly, the Proposed Project will restripe the northbound right-turn pocket from 110 feet to approximately 130 feet to better accommodate the projected queue while preserving full access to the existing gas station driveway.

Prior to the issuance of the first building permit, the Owner/Permittee shall assure by permit and bond to lengthen the existing 110-foot northbound right turn lane by 20 feet to provide a total of 130 feet northbound right turn lane storage length under Opening Year 2027 with Project conditions to accommodate the expected 95th percentile queue in the Horizon Year 2062 with Project condition via signing and striping plans per current City standards, satisfactory to the City Engineer. All improvements shall be completed and operational prior to first occupancy.

4. Britannia Boulevard & SR-905 Westbound Ramps

   - Westbound Left-Turn – The trips associated with the Proposed Project would increase the 95th percentile queue for the westbound left-turn movement at the intersection of Britannia Boulevard & SR-905 Westbound Ramps by 25 feet during both the AM and PM peak hour when compared to Horizon Year 2062 without Project conditions. The Proposed Project will extend the westbound left-turn pocket from the existing 330-foot length by 120 feet to provide a total of 450 feet in the Opening Year 2027 with Project Conditions, which would accommodate the expected 95th percentile queue in Horizon Year 2062 with Project conditions. Since this intersection is located within Caltrans right-of-way, additional coordination would be required to implement this improvement.

     Prior to the issuance of the first building permit, the Owner/Permittee shall assure by permit and bond to lengthen the existing 330-foot westbound left turn lane on the offramp by 120 feet to provide a total of 450 feet westbound left turn lane storage length with appropriate transition at the intersection of Britannia Boulevard and SR-905 Westbound Ramps per current City standards and Caltrans standards, satisfactory to the City Engineer and Caltrans. All improvements shall be completed and operational prior to first occupancy.

5. Britannia Boulevard & SR-905 Eastbound Ramps

   Eastbound Right-Turn –The trips associated with the Proposed Project would increase the 95th percentile queue length for the eastbound right-turn movement by approximately 350 feet during the AM and PM peak period when compared to Horizon Year 2062 without Project conditions. This would result in 95th percentile queue lengths of approximately 1,475 feet in the AM and PM peak.

   The off-ramp provides two dedicated eastbound right-turn lanes at this intersection. The shorter lane offers approximately 930 feet of storage, while the longer lane provides up to 1,550 feet of queueing capacity before reaching the freeway mainline. Under Horizon Year 2062 with Project conditions, the projected queue is expected to exceed the storage length of the shorter right-turn lane. However, the total off-ramp storage capacity is sufficient to accommodate the projected queue, which would remain within the ramp limits and would not extend to the freeway mainline, as shown in the image below.



The existing geometric lane configuration at the SR-905 EB off-ramp is consistent with the buildout lane configuration shown in the OM CPU EIR (Figure 5.12-4c, intersection #19).

6. Britannia Boulevard & Airway Road
   - Northbound Left-Turn – The trips associated with the Proposed Project would decrease the 95th percentile queue for this movement during the AM peak hour by 25 feet and would increase by 25 feet during the PM peak hour. Although the 95th percentile queue is expected to decrease in the AM peak hour when compared to Horizon Year 2062 without Project conditions, the expected 95th percentile queue in the Horizon Year 2062 with Project conditions would exceed the existing northbound left turn lane storage by 90 feet. The Proposed Project will lengthen the northbound left-turn pocket from the existing 210 feet to 300 feet in the Opening Year 2027 with Project conditions, which would accommodate the expected 95th percentile queue in Horizon Year 2062 with Project conditions.

     Prior to the issuance of the first building permit, the Owner/Permittee shall assure by permit and bond to lengthen the existing 210 feet long northbound left turn lane by 90 feet to provide a total of 300 feet northbound left turn lane storage length with appropriate transition at the intersection of Britannia Boulevard and Airway Road, satisfactory to the City Engineer. All improvements shall be completed and operational prior to first occupancy.

   - Eastbound Left-Turn – The 95th percentile queue would decrease for this movement by 800 feet during the AM peak hour and PM peak hour when compared to Horizon Year 2062 without Project conditions. This reduction is primarily due to the intersection mitigation measures as identified under Opening Year 2027 with Project Mitigation conditions. Although the 95th percentile queue is expected to decrease when compared to Horizon Year 2062 without Project Conditions, the expected 95th percentile queue in the Horizon Year 2062 with Project conditions would exceed the existing eastbound left turn lane storage. The proposed Project will extend the eastbound left turn lane from the existing 300-feet length by 100 feet to provide a total of 400 feet in the Opening Year 2027 with Project Conditions, which would accommodate the expected 95th percentile queue in Horizon Year 2062 with Project conditions. This improvement would require reconfiguration of an existing striping along Airway Road.

Prior to the issuance of the first building permit, the Owner/Permittee shall assure by permit and bond to lengthen the existing 300 feet long eastbound left turn lane by 100 feet to provide a total of 400 feet eastbound left turn lane storage length with appropriate transition at the intersection of Britannia Boulevard and Airway Road, satisfactory to the City Engineer. All improvements shall be completed and operational prior to first occupancy.

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1.0 Introduction

The purpose of this Transportation Impact Study is to identify and document potential significant transportation impacts associated with the development of The Collection at Cactus (the "Proposed Project"), as well as to recommend mitigation measures for any identified significant traffic impacts on study area intersections, roadways, freeway segments, or metered freeway ramps. The Proposed Project is consistent with the Otay Mesa Central Village Specific Plan and intends to tier off the Otay Mesa Community Plan Final Environmental Impact Report (OMCPU FEIR and Addendum to the OMCPU FEIR) prepared for the Central Village Specific Plan and use level of service (LOS) as the CEQA metric for evaluating the Proposed Project's significant transportation impacts. The analyses were performed in accordance with the requirements of the City of San Diego Traffic Impact Study Manual (July 1998), the City of San Diego Significance Determination Thresholds (January 2016), consistent with the OMCPU FEIR analysis, and the enhanced California Environmental Quality Act (CEQA) project review process.

1.1 Project Description

The project site is located at the northeast corner of the Cactus Road and Airway Road intersection in the Otay Mesa community within the City of San Diego. The Proposed Project is part of the Otay Mesa Central Village Specific Plan (CVSP) that was adopted by City Council on April 13, 2017. The Proposed Project proposes to construct a multi-family residential development which includes a total of 985 multi-family units, including 83 affordable units, across Planning Areas 10, 11, 12, and 13 of the CVSP in the Otay Mesa Community Plan on a 40-acre vacant site. Additionally, the Project would allow for the future development of a 3.5-acre park (3.62 gross acres with 3.5 usable acres) within Planning Area 17 of the Otay Mesa CVSP. The project requires a Vesting Tentative Map (VTM), Neighborhood Development Permit (NDP), and slope easement vacation. The project opening year is anticipated to take place in 2027 and is proposed as one phase.

Access to the project site is provided via four (4) primary and four (4) secondary driveways. All site access driveways are described below:

- Secondary Access for PA 11 along Cactus Road located 190-feet north of Street "D" with full access.
- Primary Access for PA 11 along Street "D" located 220-feet east of Cactus Road with full access.
- Secondary Access for PA 10 along Street "D" located 220-feet east of Cactus Road with full access.
- Primary Access for PA 10 along Park Way located 250-feet north of Airway Road with full access.
- Primary Access for PA 13 along Park Way located 250-feet north of Airway Road with full access.
- Secondary Access for PA 13 along Street "D" located 240-feet east of Park Way with full access.
- Primary Access for PA 12 along Street "D" located 375-feet east of Park Way with full access.
- Secondary Access for PA 12 at the Continental Street and Colchester Court intersection configured as the north leg with full access. The intersection control at this intersection will be maintained as an all-way stop-control.

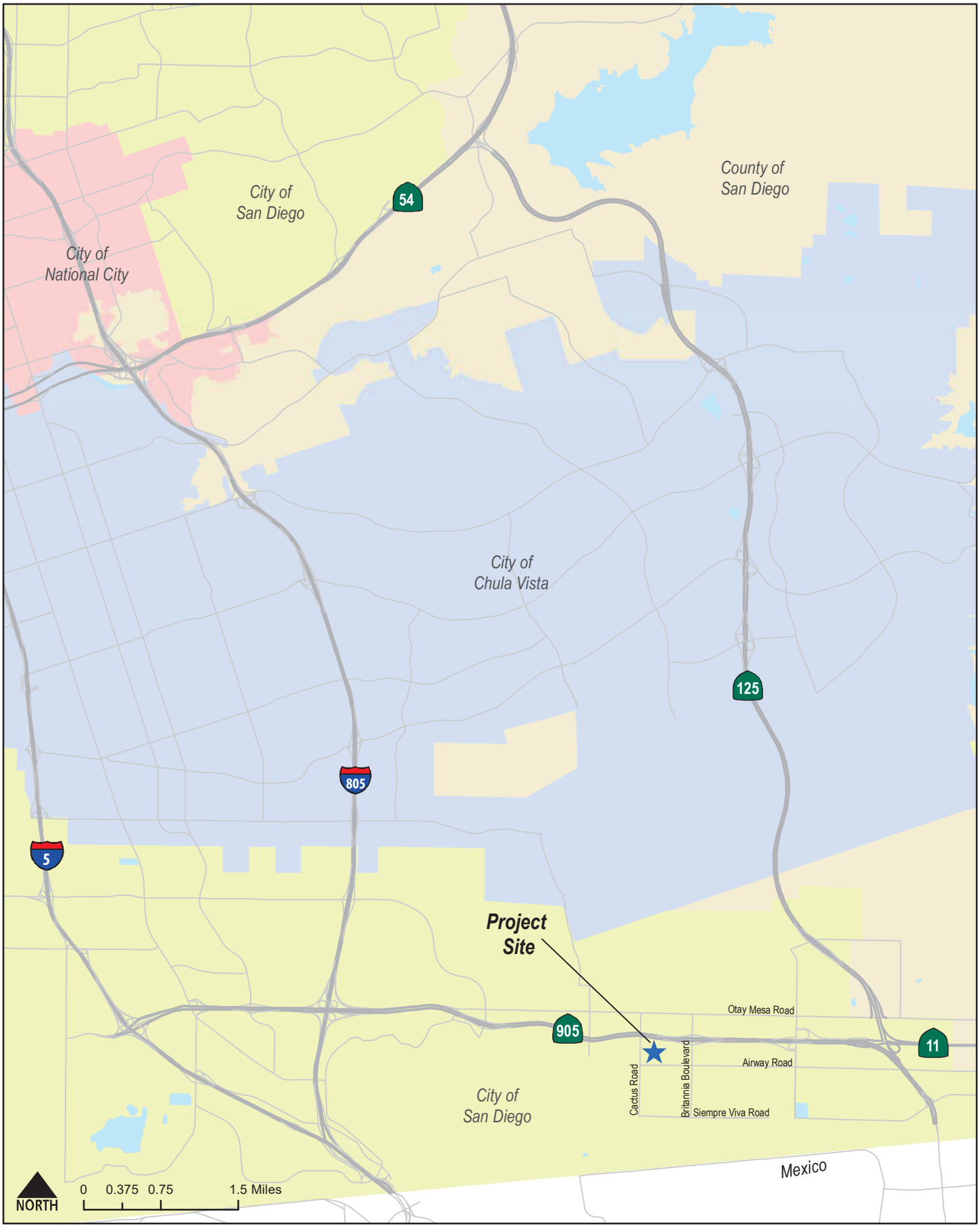
Figure 1.1 displays the Proposed Project's regional location while **Figure 1.2** displays the proposed site plan. It is important to note that the proposed project site plan displays all project frontage improvements including recommended mitigation measures for intersections. However, all project study intersections were analyzed assuming existing lane configuration to determine project impacts.

Additionally, the project site plan displays improvements (not analyzed as part of this study) assumed to be constructed by cumulative project EPOCA residential development, previously known as Otay Mesa Lumina PTS#555609 as follows:

- Driveway located on west leg of the Cactus Road and Streed D intersection per PRJ#1103278 DWG#41885-D.
- The following lane configuration for the southbound approach per PTS#658874 DWG#41885-D along Cactus Road between Street "D" and Airway Road:
    - Left-turn pocket, two through lanes, right-turn pocket
- The following lane configuration for the eastbound approach per PTS#658874 DWG#41802-D at the Cactus Road and Airway Road intersection:
    - Dual Left-turn pockets, two through lanes, share through-right lane, right-turn pocket
- Future traffic signal at the Cactus Road and Airway Road intersection per PTS#555609 DWG#42088-D.
- Cactus Road improvements south of Airway Road per PTS#661308 DWG 41885-D

State Route 905 Overpass

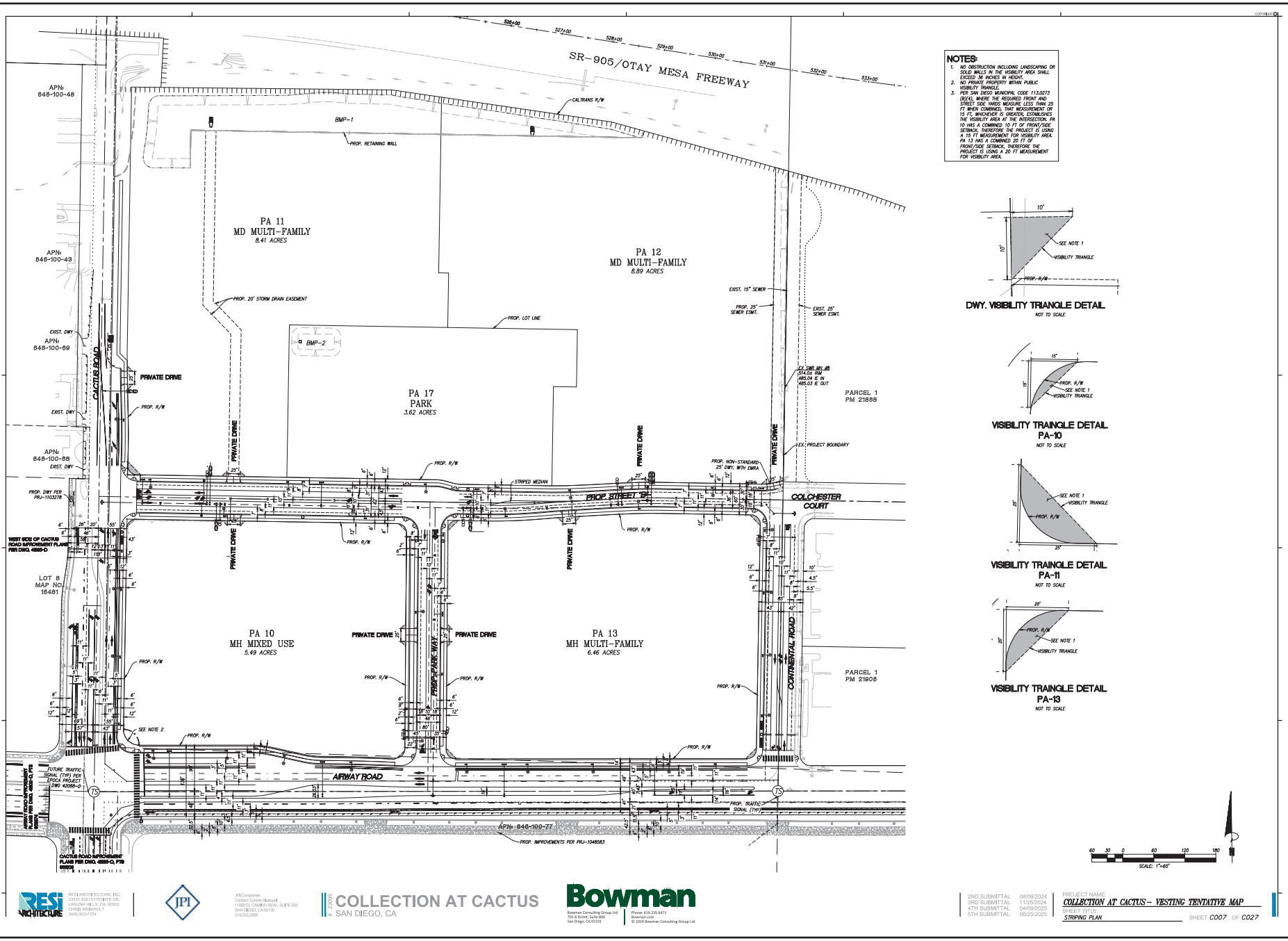
The future Cactus Road SR-905 overpass, identified in the Otay Mesa Community CVSP and the Otay Mesa Community Plan, assumes the construction of a four-lane overpass connecting Cactus Road between Otay Mesa Road to the north and Airway Road to the south. The planned overpass is not identified to be fully funded according to the Otay Mesa Public Facilities Financing Plan. It is important to note that the Proposed Project will not construct the SR-905 overpass. However, the construction of the Proposed Project and the improvements along the project site frontage will not impede future construction of the SR-905 overpass. The Project frontage improvements are expected to be completed before the construction of the SR-905 overpass. Because of this, the plans for Cactus Road and also for the Project's property line display the full buildout and improvements at the overpass. **Figure 1.3** displays the project site boundary allowing for right-of-way for future construction of the overpass. **Figure 1.4** displays the Cactus Road future overpass profile.



The Collection at Cactus
Transportation Impact Study

C+R

Figure 1.1
Project Regional Location



NOTES:

1. NO OBSTRUCTION INCLUDING LANDSCAPING OR SOLID WALLS IN THE VISIBILITY AREA SHALL EXCEED 36 INCHES IN HEIGHT.
2. NO PRIVATE PROPERTY WITHIN PUBLIC VISIBILITY TRIANGLE.
3. PER SAN DIEGO MUNICIPAL CODE 113.0273 (B)(4), WHERE THE REQUIRED FRONT AND STREET SIDE YARDS MEASURE LESS THAN 25 FT WHEN COMBINED, THAT MEASUREMENT OR 15 FT, WHICHEVER IS GREATER, ESTABLISHES THE VISIBILITY AREA AT THE INTERSECTION. PA 10 HAS A COMBINED 10 FT OF FRONT/SIDE SETBACK, THEREFORE THE PROJECT IS USING A 15 FT MEASUREMENT FOR VISIBILITY AREA. PA 13 HAS A COMBINED 20 FT OF FRONT/SIDE SETBACK, THEREFORE THE PROJECT IS USING A 20 FT MEASUREMENT FOR VISIBILITY AREA.

DWY. VISIBILITY TRIANGLE DETAIL
NOT TO SCALE

VISIBILITY TRAINGLE DETAIL
PA-10
NOT TO SCALE

VISIBILITY TRAINGLE DETAIL
PA-11
NOT TO SCALE

VISIBILITY TRAINGLE DETAIL
PA-13
NOT TO SCALE

RESI ARCHITECTURE | JPI

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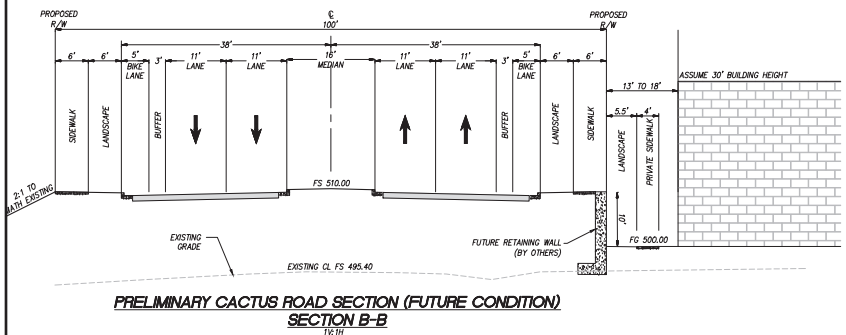
2ND SUBMITTAL	08/09/2024	
3RD SUBMITTAL	11/25/2024	
4TH SUBMITTAL	04/09/2025	
5TH SUBMITTAL	06/25/2025	

PROJECT NAME
COLLECTION AT CACTUS - VESTING TENTATIVE MAP
SHEET TITLE
STRIPING PLAN
SHEET C007 OF C027

Figure 1.2
Project Site Plan



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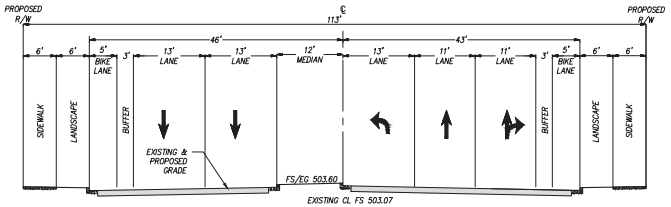
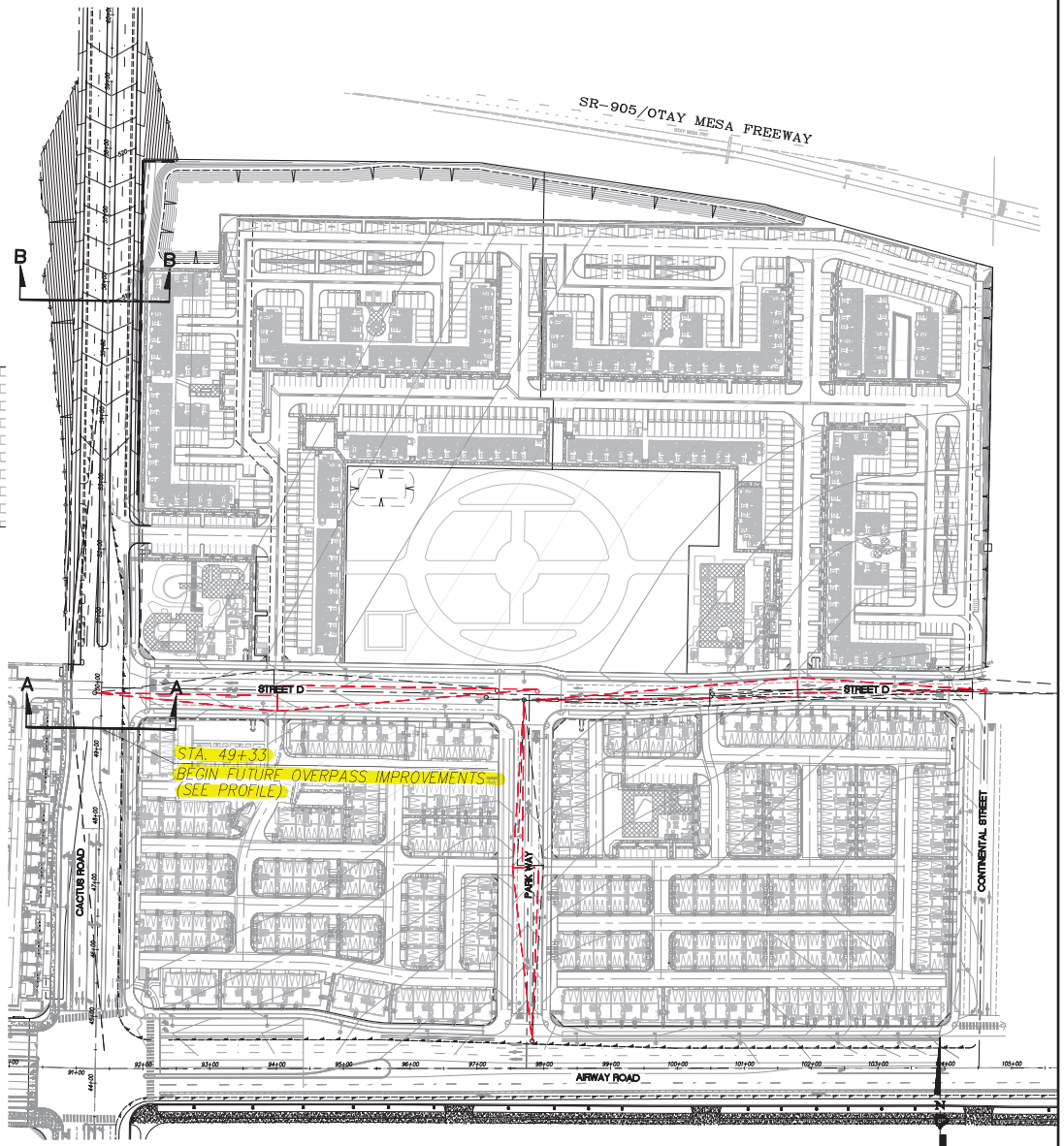
SECTION B-B
1"=1'



PRELIMINARY CACTUS ROAD SECTION
SECTION A-A
1"=1'

NOT FOR CONSTRUCTION PURPOSES



CACTUS ROAD FUTURE OVERPASS EXHIBIT - PRELIMINARY

OVERALL VIEW

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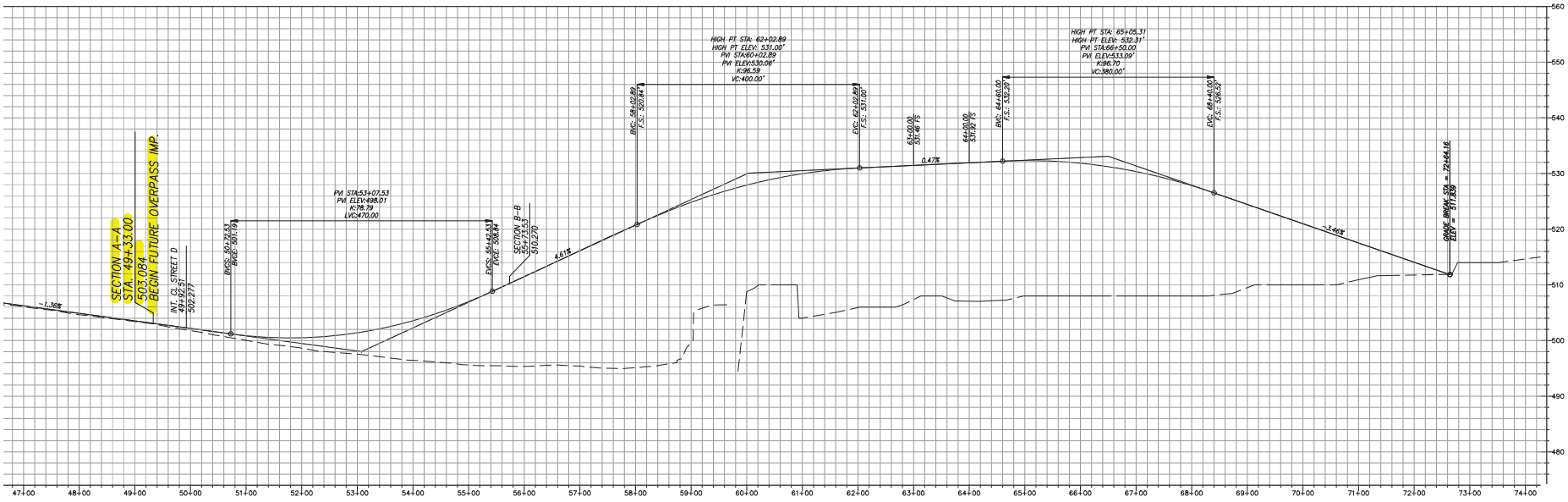
Jul 02, 2025 - 12:17pm



CACTUS ROAD FUTURE OVERPASS PROFILE- PRELIMINARY

N.T.S.

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Jul 02, 2025 - 12:26pm

1.2 Project Frontage Improvements

The following facilities will be constructed by the Proposed Project along its project frontage. These public improvements are required based on the roadway classifications as identified within the Otay Mesa CVSP.

- Airway Road, between Cactus Road and Continental Street – Along the project frontage, the project will improve Airway Road from a two-lane undivided roadway to two-lanes in the westbound direction, one-lane in the eastbound direction, and a buffered Class II bike lane along the north side of the road due to existing ROW constraints. It is important to note that Airway Road between Cactus Road and Continental Street is identified as a 6-lane urban major per the Otay Mesa Central Village Specific Plan (OMCVSP) and Airway Road between Cactus Road and Britannia Boulevard as a 6-lane major arterial per the Otay Mesa Community Plan. Due to the timing uncertainty for implementation of fronting improvements by the property on the south side of Airway Road between Cactus Road and Britanna Boulevard, interim frontage striping plans are provided. Additionally, development plans showing the ultimate project frontage improvements along Airway Road consistent with the OMCVSP are provided in **Appendix A**.
- Cactus Road, between Street "D" and Airway Road – Along the project frontage, the project will improve Cactus Road from a two-lane undivided roadway to two northbound lanes and one southbound lane and a buffered Class II bicycle lane. This roadway is identified as a 4-lane major arterial in the Otay Mesa CVSP.
- Street "D", between Cactus Road and Park Way – The project will construct this two-lane collector with a two-way left-turn lane, buffered Class II bike lanes, and parking on both sides. Per the Otay Mesa CVSP, this roadway is identified as a village entry roadway, which is a 2-lane collector with a two-way left-turn lane and bicycle lanes and parking on both sides.
- Street "D", between Park Way and Continental Street – The project will construct this two-lane collector with parking on both sides. Per the Otay Mesa CVSP, this roadway is identified as a village entry roadway, which is a 2-lane collector and parking on both sides.
- Park Way, between Street "D" and Airway Road – The project will construct this two-lane collector with a two-way left-turn lane with parking on both sides. Per the Otay Mesa CVSP, this roadway is identified as a green street, which is a 2-lane collector with a two-way left-turn lane and parking on both sides.
- Continental Street, between Street "D"/Colchester Court and Airway Road –The project will improve Continental Street from existing two-lane undivided roadway to a two-lane collector with a two-way left-turn lane, buffered Class II bicycle lanes, and parking on both sides. Per the Otay Mesa CVSP, this roadway is identified as a village entry roadway, which is a 2-lane collector with a two-way left-turn lane with bicycle lanes and parking on both sides.

Development plans and conceptional striping plans that display the existing and proposed improvements are provided in Appendix A.

1.3 Report Organization

Following this introductory chapter, this report is organized into the following chapters:

2. Analysis Methodology – This chapter describes the methodologies and standards utilized to analyze roadway and intersection traffic conditions.
3. Project Traffic - This chapter describes the Proposed Project's land uses and associated trip generation. Additional information such as trip distribution patterns and project trip assignment are also included in this chapter, which is used to determine the project study area.
4. Existing Conditions – This chapter describes and evaluates the existing transportation network. Vehicular operations within the study area are evaluated. LOS analysis results are also provided for existing vehicular traffic conditions without and with the Project vehicular traffic conditions. Additionally, the Proposed Project's access to transit as well as pedestrian and bicycle facilities are evaluated.
5. Opening Year 2027 Conditions – This chapter describes cumulative developments anticipated to generate additional study area trips and establishes a cumulative year baseline against which traffic generated by the Proposed Project can be compared to at the project opening day, assumed to be Year 2027. LOS analysis results are also provided for Opening Year 2027 without and with Project vehicular traffic conditions.
6. Horizon Year 2062 Conditions – This chapter describes projected long-range conditions of the transportation network within the study area. LOS analysis results are also provided for Horizon Year 2062 without and with Project vehicular traffic conditions.
7. Recommended Mitigation Measures - This chapter identifies any substandard facilities and provides recommended mitigation measures to improve substandard facilities to acceptable LOS or pre-project conditions, if necessary.
8. Queue – This chapter provides a queue analysis at study intersections where the Proposed Project contributes vehicular traffic to exclusive turn lanes.

2.0 Analysis Methodology

The Proposed Project is consistent with the Otay Mesa Community Central Village Specific Plan and intends to tier off the Otay Mesa Community Plan Final Environmental Impact Report (OMCPU FEIR and Addendum to the OMCPU FEIR prepared for the Central Village Specific Plan). Therefore, the analyses were performed in accordance with the requirements of the *City of San Diego Traffic Impact Study Manual (July 1998)*, the City of San Diego Significance Determination Thresholds (January 2016), consistent with the OMCPU FEIR analysis, and the enhanced California Environmental Quality Act (CEQA) project review process.

2.1 Level of Service (LOS) Definition

Level of Service (LOS) is a quantitative measure describing operational conditions within a traffic stream, and the motorist's and/or passengers' perception of operations. A LOS definition generally describes these conditions in terms of such factors as delay, speed, travel time, freedom to maneuver, interruptions in traffic flow, queuing, comfort, and convenience. **Table 2.1** describes generalized definitions of the various LOS categories (A through F) as applied to roadway operations.

Table 2.1 - LOS Definitions

LOS Category	Definition of Operation
A	This LOS represents a completely free-flow condition, where the operation of vehicles is virtually unaffected by the presence of other vehicles and only constrained by the geometric features of the highway and by driver preferences.
B	This LOS represents a relatively free-flow condition, although the presence of other vehicles becomes noticeable. Average travel speeds are the same as in LOS A, but drivers have slightly less freedom to maneuver.
C	At this LOS, the influence of traffic density on operations becomes marked. The ability to maneuver within the traffic stream is clearly affected by other vehicles.
D	At this LOS, the ability to maneuver is notably restricted due to traffic congestion, and only minor disruptions can be absorbed without extensive queues forming and the service deteriorating.
E	This LOS represents operations at or near capacity. LOS E is an unstable level, with vehicles operating with minimum spacing for maintaining uniform flow. At LOS E, disruptions cannot be dissipated readily thus causing deterioration down to LOS F.
F	At this LOS, forced or breakdown of traffic flow occurs, although operations appear to be at capacity, queues form behind these breakdowns. Operations within queues are highly unstable, with vehicles experiencing brief periods of movement followed by stoppages.

Source: Highway Capacity Manual 2000

2.2 Roadway Segment LOS Standards and Thresholds

Roadway segment LOS standards and thresholds provide the basis for analysis of arterial roadway segment performance. The analysis of roadway segment LOS is based on the functional classification of the roadway, the maximum capacity, roadway geometrics, and existing or forecast Average Daily Traffic (ADT) volumes. **Table 2.2** displays roadway segment capacity standards. The actual capacity of a roadway facility varies according to its physical attributes.

Table 2.2 - Roadway Segment Daily Capacity and LOS Standards

Roadway Classification	LOS/ADT Thresholds				
	LOS A	LOS B	LOS C	LOS D	LOS E
Expressway (6-lane)	< 30,000	< 42,000	< 60,000	< 70,000	< 80,000
Prime Arterial (6-lane)	< 25,000	< 35,000	< 50,000	< 55,000	< 60,000
Prime Arterial (5-lane)	< 20,800	< 29,200	< 41,700	< 45,800	<50,000
Prime Arterial (4-lane)	< 16,700	< 23,400	< 33,400	< 36,700	< 40,000
Major Arterial (6-lane, divided)	< 20,000	< 28,000	< 40,000	< 45,000	< 50,000
Major Arterial (4-lane, divided)	< 15,000	< 21,000	< 30,000	< 35,000	< 40,000
Major Arterial (3-lane, divided)	< 11,250	< 15,750	< 22,500	< 26,250	< 30,000
Collector (4-lane w/ center lane)	< 10,000	< 14,000	< 20,000	< 25,000	< 30,000
Collector (4-lane w/o center lane)	< 5,000	< 7,000	< 10,000	< 13,000	< 15,000
Collector (2-lane w/continuous left-turn lane)	< 5,000	< 7,000	< 10,000	< 13,000	< 15,000
Collector (2-lane no fronting property)	< 4,000	< 5,500	< 7,500	< 9,000	< 10,000
Collector (2-lane w/commercial fronting)	< 2,500	< 3,500	< 5,000	< 6,500	< 8,000
Collector (2-lane multi-family)	< 2,500	< 3,500	< 5,000	< 6,500	< 8,000
Sub-Collector (2-lane single-family)	-	-	< 2,200	-	-

Source: City of San Diego Traffic Impact Study Manual (1998)

These standards are generally used as long-range planning guidelines to determine the functional classification of roadways. The actual capacity of a roadway facility varies according to its physical attributes. Typically, the performance and LOS of a roadway segment is heavily influenced by the ability of its intersections to accommodate peak hour traffic volumes. For the purposes of this traffic analysis, LOS D is considered acceptable for circulation element roadway segments within the City of San Diego.

2.3 Peak Hour Intersection LOS Standards and Thresholds

This section presents the methodologies used to perform peak hour intersection capacity analysis, including both signalized and unsignalized intersections. The following assumptions were utilized in conducting all intersection level of service analyses:

- Heavy Vehicle Factor: Heavy vehicle factors utilized for the analyses for this report are consistent with those utilized in the Otay Mesa CVSP TFTA, which range between 2% and 12%.
- Signal Timing: Based on existing signal timing plans (as of March 2025), provided in **Appendix B**.

- Peak Hour Factor: Field-collected PHF for Existing and Opening Year 2027 conditions. A PHF of 0.95, unless higher on existing traffic counts, was assumed for Horizon Year 2062 analysis.

2.3.1 Signalized Intersections

The analysis of signalized intersections utilized the operational analysis procedures as outlined in the 2000 Highway Capacity Manual (HCM), Transportation Research Board Special Report 209. The Proposed Project is part of the Otay Mesa Central Village Specific Plan EIR (SCH No. 2004651076), which utilized the HCM 2000 analysis methodology. Therefore, HCM 2000 was used for the analysis in this report to be consistent with the Otay Mesa CVSP TFTA. This method defines LOS in terms of delay, or more specifically, average stopped delay per vehicle. Delay is a measure of driver and/or passenger discomfort, frustration, fuel consumption and lost travel time. This technique uses 1,900 vehicles per hour per lane (VPHPL) as the maximum saturation volume of an intersection. This saturation volume is adjusted to account for lane width, on-street parking, pedestrians, traffic composition (i.e., percentage trucks) and shared lane movements (i.e., through and right-turn movements originating from the same lane). The LOS criteria used for this technique are described in **Table 2.3**. The computerized analysis of intersection operations was performed utilizing the Synchro 11 traffic analysis software.

Table 2.3 - Signalized Intersection LOS Operational Analysis Method

Average Stopped Delay Per Vehicle (Seconds)	Level of Service (LOS) Characteristics
<10.0	LOS A describes operations with very low delay. This occurs when progression is extremely favorable, and most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
10.1 – 20.0	LOS B describes operations with generally good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.
20.1 – 35.0	LOS C describes operations with higher delays, which may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
35.1 – 55.0	LOS D describes operations with high delay, resulting from some combination of unfavorable progression, long cycle lengths, or high volumes. The influence of congestion becomes more noticeable, and individual cycle failures are noticeable.
55.1 – 80.0	LOS E is considered the limit of acceptable delay. Individual cycle failures are frequent occurrences.
> 80.0	LOS F describes a condition of excessively high delay, considered unacceptable to most drivers. This condition often occurs when arrival flow rates exceed the LOS D capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes to such delay.

Source: Highway Capacity Manual 2000; TRB Special Report 209

2.3.2 Unsignalized Intersections

Unsignalized intersections, including side-street and all-way stop controlled intersections, were analyzed using the 2000 Highway Capacity Manual (Section 10) unsignalized intersection analysis methodology. HCM 2000 was used for the analysis to be consistent with the Otay Mesa CVSP TFTA. The Synchro 11 Traffic Analysis software supports this methodology and was utilized to produce LOS results.

LOS was determined as follows:

- All-way stop intersections: Reported for the entire intersection as an average value
- Side-street stop intersections: Reported for the worst-case movement

Table 2.4 summarizes the LOS criteria for unsignalized intersections. The City of San Diego considers LOS D or better during the AM and PM peak hours to be acceptable for intersection LOS.

Table 2.4 - LOS Criteria for Stop-Controlled Unsignalized Intersections

Average Stopped Delay Per Vehicle (Seconds)	LOS
0 – 10	A
>10 – 15	B
>15 – 25	C
>25 – 35	D
>35 – 50	E
> 50	F

Source: Highway Capacity Manual, Transportation Research Board, 2010

2.4 Ramp Metering Analysis

Ramp metering is a means of controlling the volume of traffic entering the freeway with the goal of improving the traffic operations and flow on the freeway main lanes. Freeway ramp meter analysis estimates the peak hour queues and delays at freeway ramps by comparing traffic volumes to the meter rate (vehicles per hour per lane) at the given location. Ramp metering analyses to calculate delays at the study area freeway on-ramps were conducted based upon procedures outlined in the City of San Diego Traffic Impact Study Manual (1998).

Ramp meter rates were obtained from Caltrans. However, per coordination with Caltrans, ramp meters are currently installed but not in operation within the project study area due to low demand during peak hours. Therefore, ramp metering analysis is not included under existing conditions.

Based on anticipated traffic volumes, ramp meter analysis was conducted under Opening Year 2027 and Horizon Year 2062 scenarios. To be consistent with the Otay Mesa Community Plan Final Environmental Impact Report (OMCPU FEIR and Addendum to the OMCPU FEIR) prepared for the Central Village Specific Plan, the meter rates from the OMCPU EIR were utilized for these scenarios.

2.5 Freeway Level of Service Standards and Thresholds

Freeway level of service analysis is based upon procedures developed by Caltrans District 11. The procedure for calculating freeway level of service involves estimating a peak hour volume to capacity (V/C) ratio. Peak hour volumes are estimated from the application of design hour ("K"), directional ("D") and truck ("T") factors to Average Daily Traffic (ADT) volumes. The base capacities were assumed to be 2,350 passenger-car per hour per main lane (pc/h/ln) and 1,410 pc/h/ln for auxiliary lane, respectively. A 0.95 peak-hour factor (PHF) is utilized for this analysis.

The resulting V/C ratio is then compared to acceptable ranges of V/C values corresponding to the various levels of service for each facility classification, as shown in **Table 2.5**. The corresponding level of service represents an approximation of existing or anticipated future freeway operating conditions in the peak direction of travel during the peak hour.

LOS D or better is used in this study as the threshold for acceptable freeway operations based upon Caltrans and the SANDAG Regional Growth Management Strategy (RGMS) requirements.

Table 2.5 - Caltrans District 11 – Freeway Segment Level of Service Definitions

LOS	V/C	Congestion/Delay	Traffic Description
Used for freeways, expressways, and conventional highways			
"A"	<0.41	None	Free flow.
"B"	0.42-0.62	None	Free to stable flow, light to moderate volumes.
"C"	0.63-0.79	None to minimal	Stable flow, moderate volumes, freedom to maneuver noticeably restricted.
"D"	0.80-0.92	Minimal to substantial	Approaches unstable flow, heavy volumes, very limited freedom to maneuver.
"E"	0.93-1.00	Significant	Extremely unstable flow, maneuverability, and psychological comfort extremely poor.
Used for conventional highways			
"F"	>1.00	Considerable	Forced or breakdown flow. Delay measured in average travel speed (MPH). Signalized segments experience delays >60.0 seconds/vehicle.
Used for freeways and expressways			
"F0"	1.01–1.25	Considerable (0-1 hour delay)	Forced flow, heavy congestion, long queues form behind breakdown points, stop, and go.
"F1"	1.26-1.35	Severe (1-2 hour delay)	Very heavy congestion, very long queues.
"F2"	1.36-1.45	Very severe (2-3 hour delay)	Extremely heavy congestion, longer queues, more numerous breakdown points, longer stop periods.
"F3"	>1.46	Extremely severe (3+ hours of delay)	Gridlock.

Source: SANTEC/ITE Guidelines for TIS in the San Diego Region

2.6 Determination of Significant Impacts

The City of San Diego Significance Determination Thresholds defines project impact thresholds by facility type. These thresholds are generally based upon an acceptable increase in the Volume / Capacity (V/C) ratio for roadway and freeway segments, and upon increases in vehicle delays for intersections and freeway ramps.

In the City of San Diego, LOS D is considered acceptable for roadway and intersection operations. A project is considered to have a significant impact if it degrades the operations of a roadway or intersection from an acceptable LOS (D or better) to an unacceptable LOS (E or F), or if it adds additional delay to a facility already operating an unacceptable level. **Table 2.6** summarizes the impact significant thresholds as identified by the City of San Diego beyond which mitigation measures are required.

Table 2.6 – Measure of Significant Project Traffic Impacts

Level of Service (LOS) with Project*	Allowable Change Due to Impact**					
	Freeways		Roadway Segments		Intersections	Ramp Metering
	V/C	Speed (mph)	V/C	Speed (mph)	Delay (sec)	Delay (min.)
LOS E (or ramp meter delays > 15 min.)	0.010	1.0	0.02	1.0	2.0	2.0
LOS F (or ramp meter delays > 15 min.)	0.005	0.5	0.01	0.5	1.0	1.0

Source: City of San Diego, Significance Determination Thresholds (January 2011)

Notes:
* All level of service (LOS) measurements are based upon HCM procedures for peak-hour conditions. However, vehicle to capacity (V/C) ratios for roadway segments may be estimated on an ADT/24-hour traffic volume basis (using Table 2.1 or a similar LOS chart for each jurisdiction). The acceptable LOS for freeways, roadways, and intersections is generally "D" ("C" for undeveloped or not densely developed locations per jurisdiction definitions). For metered freeway ramps, LOS does not apply. However, ramp meter delays above 15 minutes are considered excessive.
** If a proposed project's traffic causes the values shown in the table to be exceeded, the impacts are determined to be significant. These impact changes may be measured from appropriate computer programs or expanded manual spreadsheets. The project applicant shall then identify feasible mitigation (within the Traffic Impact Study report) that will maintain the traffic facility at an acceptable LOS. If the LOS with the proposed project becomes unacceptable (see above * note), or if the project adds a significant amount of peak-hour trips to cause any traffic queues to exceed on- or off-ramp storage capacities, the project applicant shall be responsible for mitigating significant impact changes.

3.0 Project Traffic

This chapter describes the Proposed Project including the Proposed Project's trip generation, trip distribution patterns, and project trip assignment.

3.1 Project Trip Generation

Consistent with the City of San Diego Traffic Impact Study Manual (TISM) dated July 1998, project trip generation estimates were derived utilizing the trip generation rates outlined in the *City of San Diego Land Development Code–Trip Generation Manual (May 2003)*. **Table 3.1** displays the Proposed Project's trip generation.

Table 3.1 – Proposed Project Trip Generation

Land Use	Units	Daily Trip Rate	ADT	AM Peak Hour					PM Peak Hour				
				%	Trips	Split	In	Out	%	Trips	Split	In	Out
Multi-Family (Over 20 DU/acre)	985 DU	6/DU	5,910	8%	473	2:8	95	378	9%	532	7:3	373	159
Park (Developed)	3.5 Acres	50/ Acre	175	4%	7	5:5[1]	4	3	8%	14	5:5[1]	7	7
			6,085	-	**480**	-	**99**	**381**	-	**546**	-	**380**	**166**

Source: City of San Land Development Code-Trip Generation Manual (May 2003)

Notes:
DU = Dwelling Unit
ADT = Average Daily Trips
[1] Peak hour splits for Park (Developed) land use are not provided within the City of San Diego Trip Generation Manual. Therefore, same split assumptions from the Otay Mesa Central Village Specific Plan Transportation Facilities Trigger Analysis for the Park (Developed) land use were utilized.

As shown, the Project would be expected to generate a total of approximately 6,085 average daily trips, with 480 (99-in/381-out) during the AM peak hour and 546 (380-in/166-out) during the PM peak hour.

3.2 Project Trip Distribution and Assignment

Since the Proposed Project intends to tier from the previously approved OMCPU FEIR and Addendum to the OMCPU FEIR prepared for the CVSP, the same areawide project trip distribution from the Otay Mesa CVSP TFTA, provided in **Appendix C**, was utilized. The trip distribution for the Proposed Project was adjusted specifically to the Proposed Project taking into consideration the existing transportation network.

Additionally, the La Media Road CIP Project[1] began construction January 2023, and will be constructed in two (2) phases. Under existing conditions (with counts conducted March 2024 and May 2024), the intersection of La Media Road and Airway Road is closed due to construction activity and access is restricted to construction vehicular traffic only. Therefore, no trips generated by the Proposed Project are assumed to travel through this intersection under Existing with Project conditions. Based on the review of the City's CIP tracking website, substantial completion of construction activity for the La Media CIP Project is anticipated by Spring 2025, at which time, the intersection of La Media Road and Airway Road is expected to be re-opened. Based on the La Media Road CIP Project construction, two (2) separate trip distribution assumptions were utilized for the following study scenarios:

- *Existing + Project* – Project trips destined to and from the east were routed to the SR-905 by way of Britannia Boulevard due to closure of the La Media Road and Airway Road intersection. It is important to note that this scenario is hypothetical since the improvements at the La Media Road and Airway Road intersection are anticipated to be completed by the project's opening day in 2027 and would be open to vehicular traffic.
- *Opening Year 2027 + Project* and *Horizon Year 2062 + Project* scenarios – Assumes full access to the La Media Road and Airway Road intersection, since the La Media Road CIP Project (Phase 1) is expected to be completed by the Proposed Project's opening day.

Figure 3.1 and **Figure 3.2** display the Proposed Project's trip distribution patterns to roadway segments and intersections, respectively, under Existing + Project conditions. **Figure 3.3** and **Figure 3.4** display the Proposed Project's trip distribution patterns to roadway segments and intersections, respectively, under Opening Year 2027/Horizon Year 2062 + Project conditions.

Figure 3.5 and **Figure 3.6** display the Proposed Project's trip assignment to roadway segments and intersections, respectively, under Existing + Project conditions. **Figure 3.7** and **Figure 3.8** display the Proposed Project's trip assignment to roadway segments and intersections, respectively, under Opening Year 2027/Horizon Year 2062 + Project conditions.

[1] CIP # S-15018 La Media Road improvements include widening La Media Road between SR-905 to Siempre Viva Road. La Media Road will be widened from a two-lane collector to a six-lane primary arterial from SR-905 to Airway Road, and a five-lane major (three southbound lanes/ two northbound lanes) between Airway Road and Siempre Viva Road.

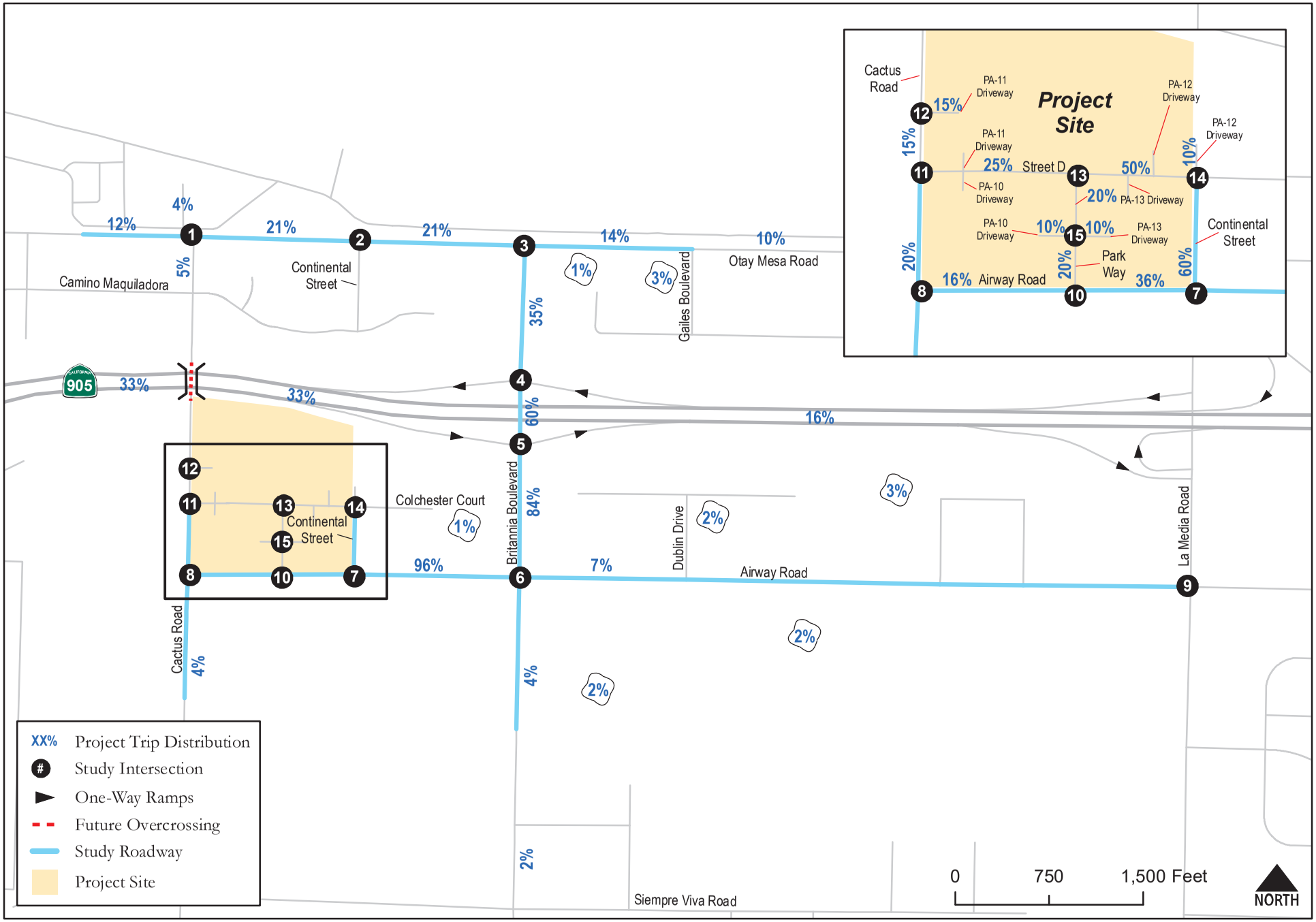

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Figure 3.1
Project Trip Distribution (Roadway Segments)
Existing + Project Conditions
(La Media & Airway Intersection Closed)

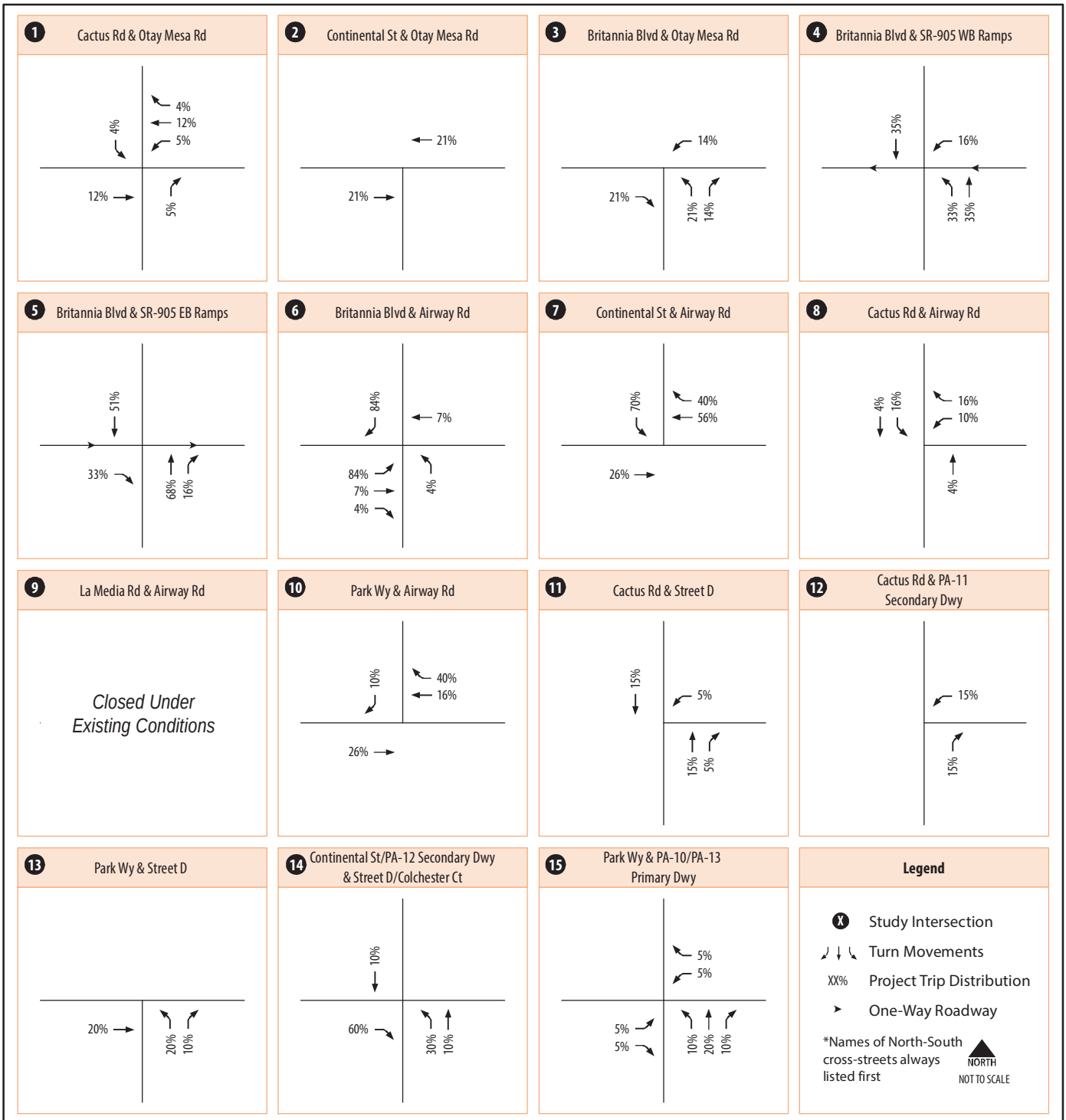

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Figure 3.2
Project Trip Distribution (Intersections)
Existing + Project Conditions
(La Media & Airway Intersection Closed)

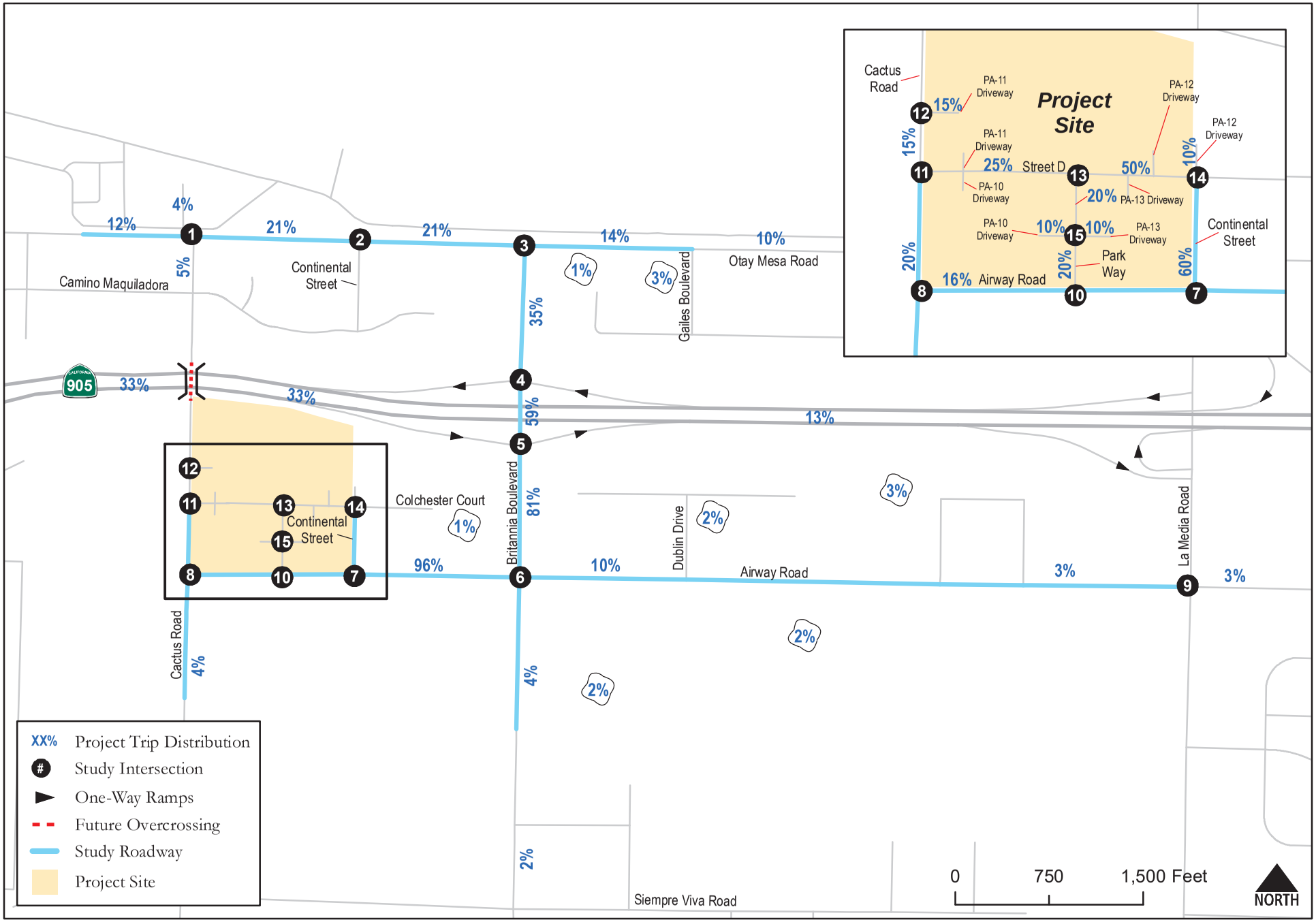

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Figure 3.3
Project Trip Distribution (Roadway Segments)
Opening Year 2027/Horizon Year 2062 + Project Conditions
(La Media & Airway Intersection Open)

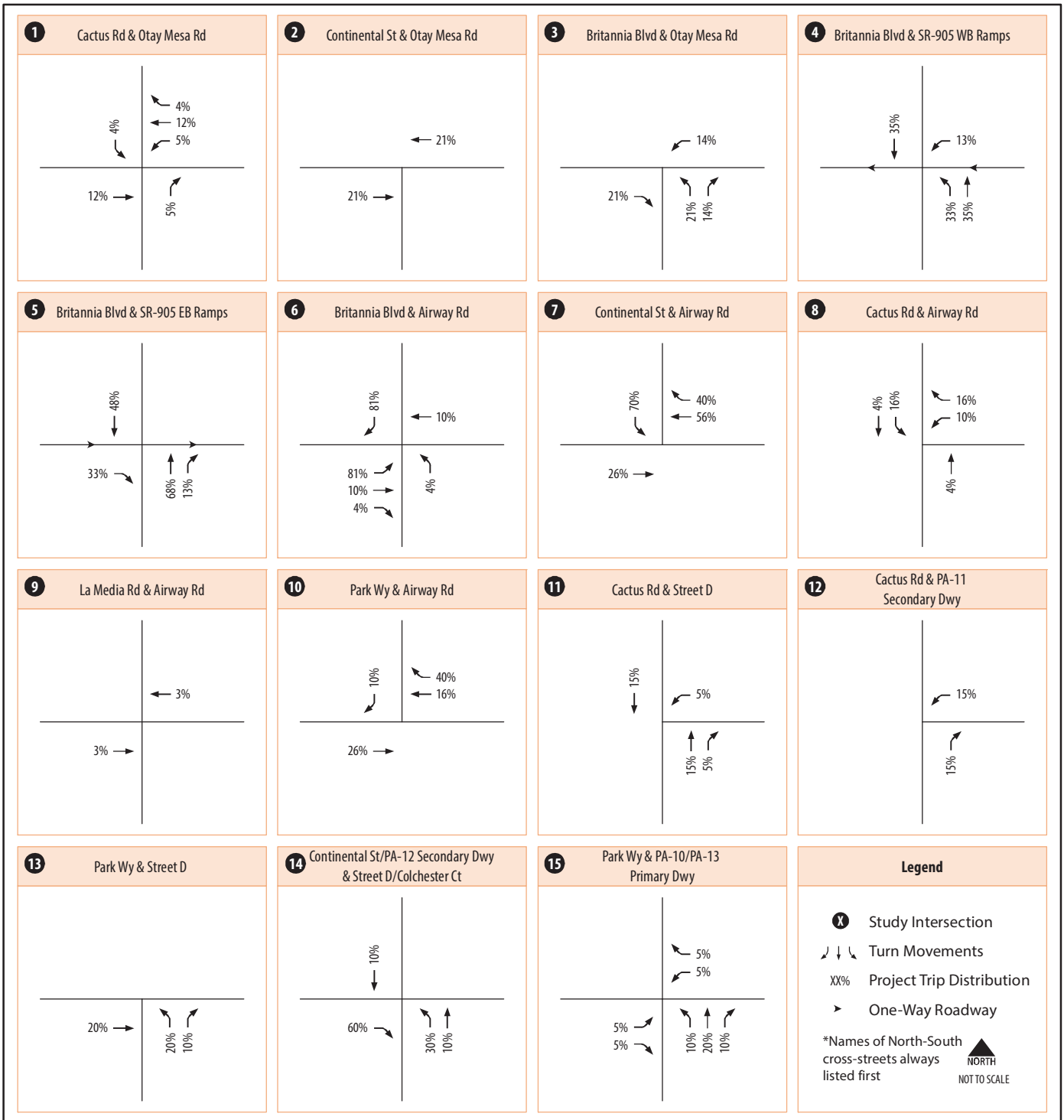

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Figure 3.4
Project Trip Distribution (Intersections)
Opening Year 2027/Horizon Year 2062 + Project Conditions
(La Media & Airway Intersection Open)

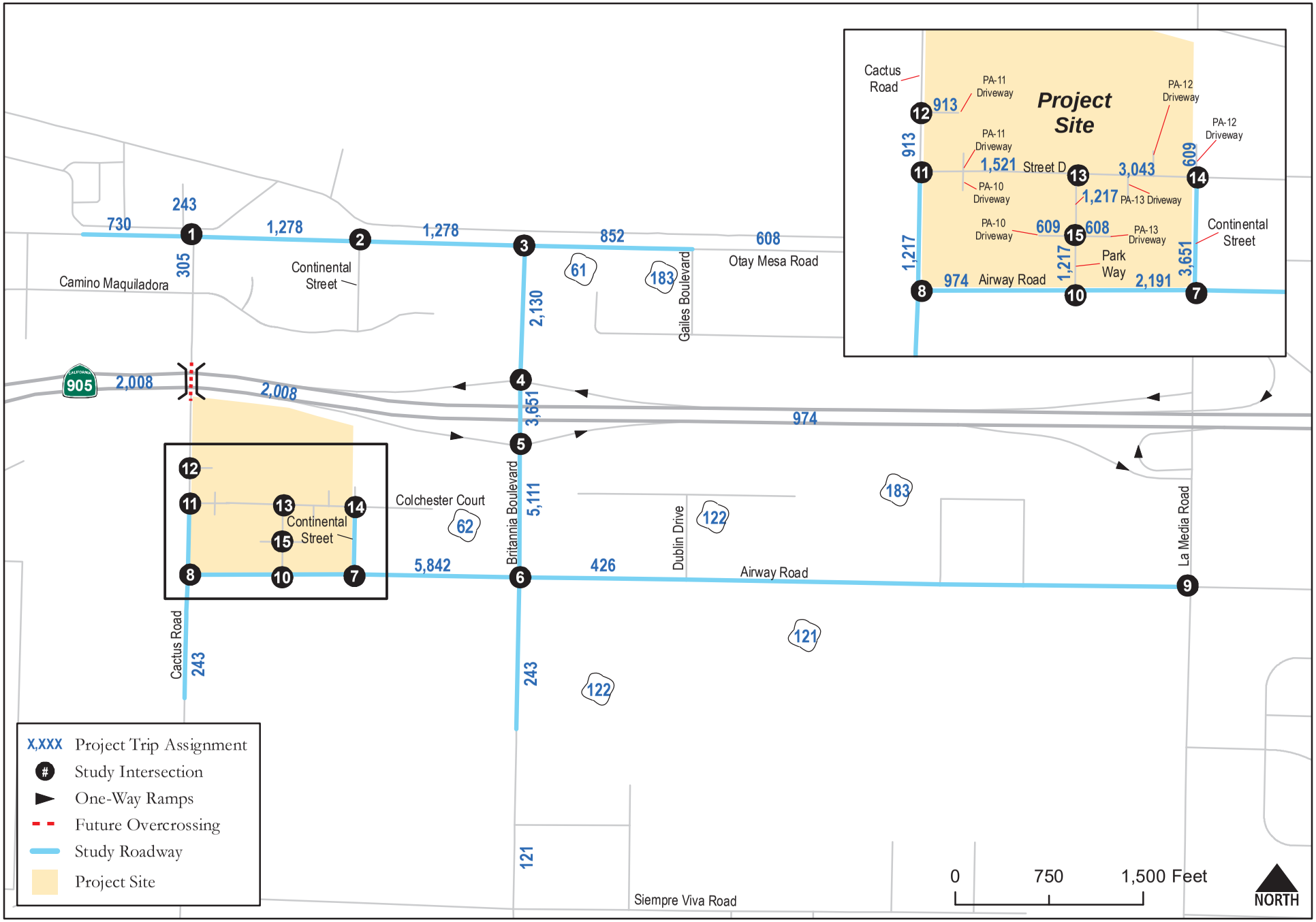

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Figure 3.5
Project Trip Assignment (Roadway Segments)
Existing + Project Conditions
(La Media & Airway Intersection Closed)

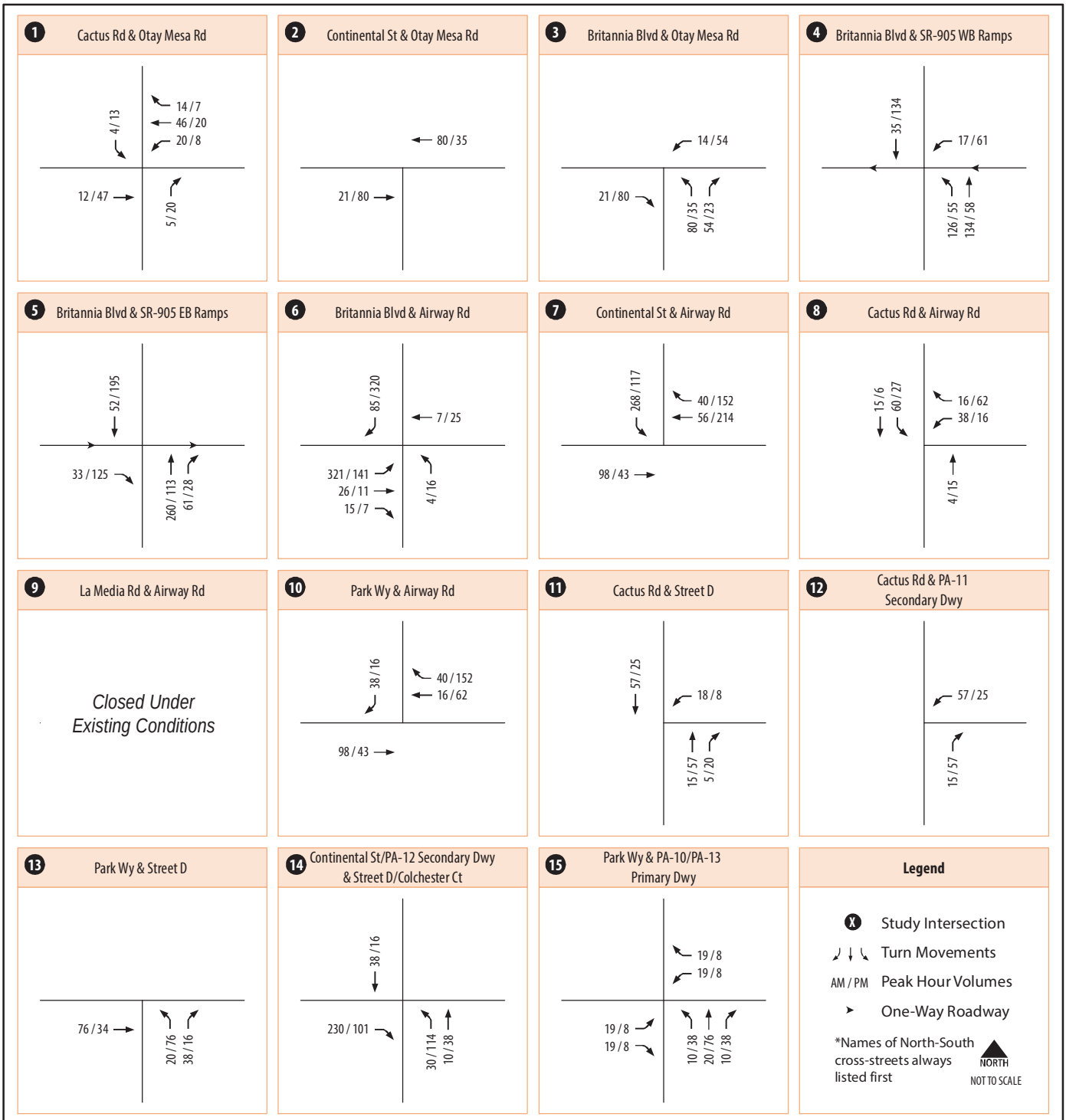

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Figure 3.6
Project Trip Assignment (Intersections)
Existing + Project Conditions
(La Media & Airway Intersection Closed))

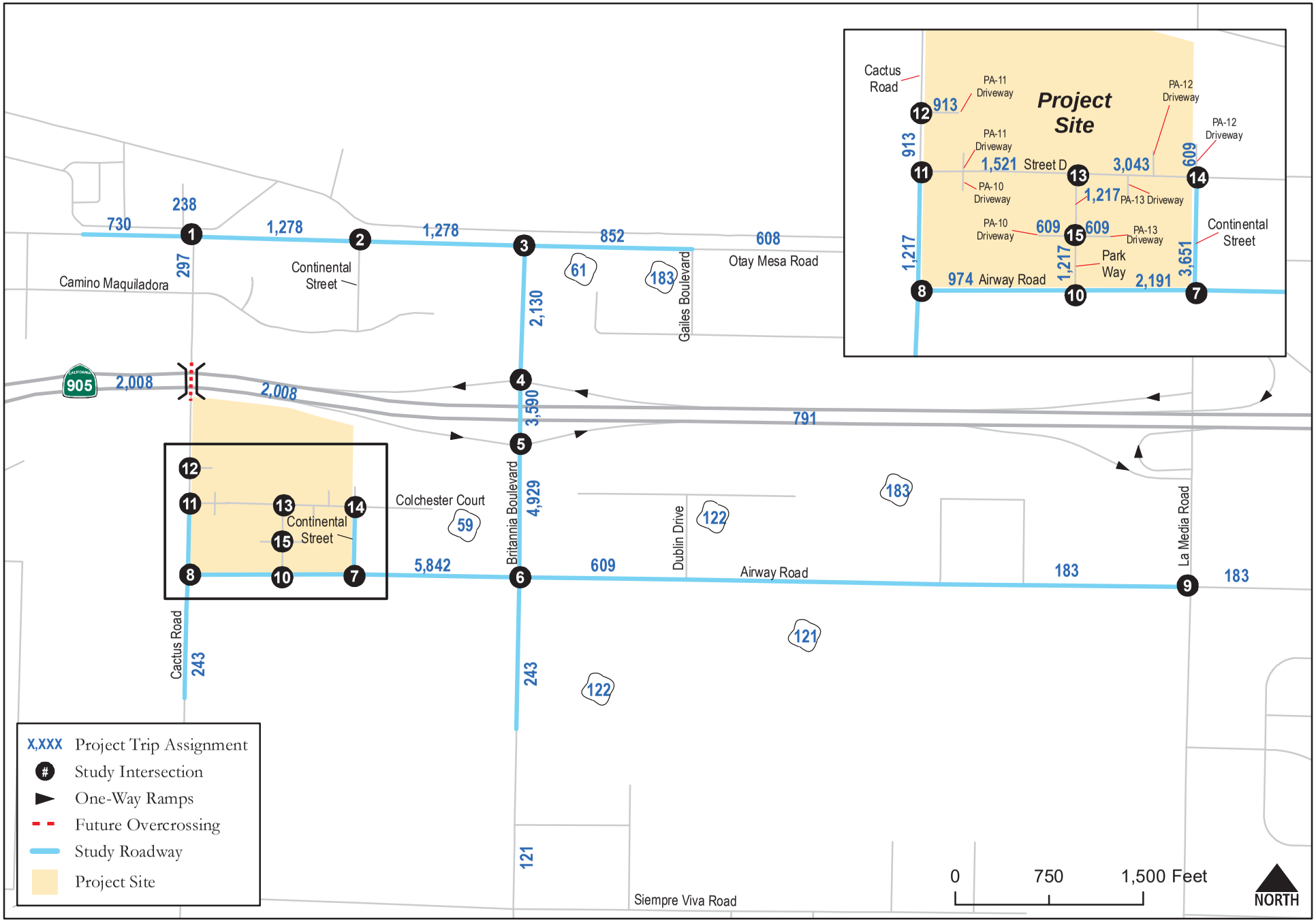

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Figure 3.7
Project Trip Assignment (Roadway Segments)
Opening Year 2027/Horizon Year 2062 + Project Conditions
(La Media & Airway Intersection Open)

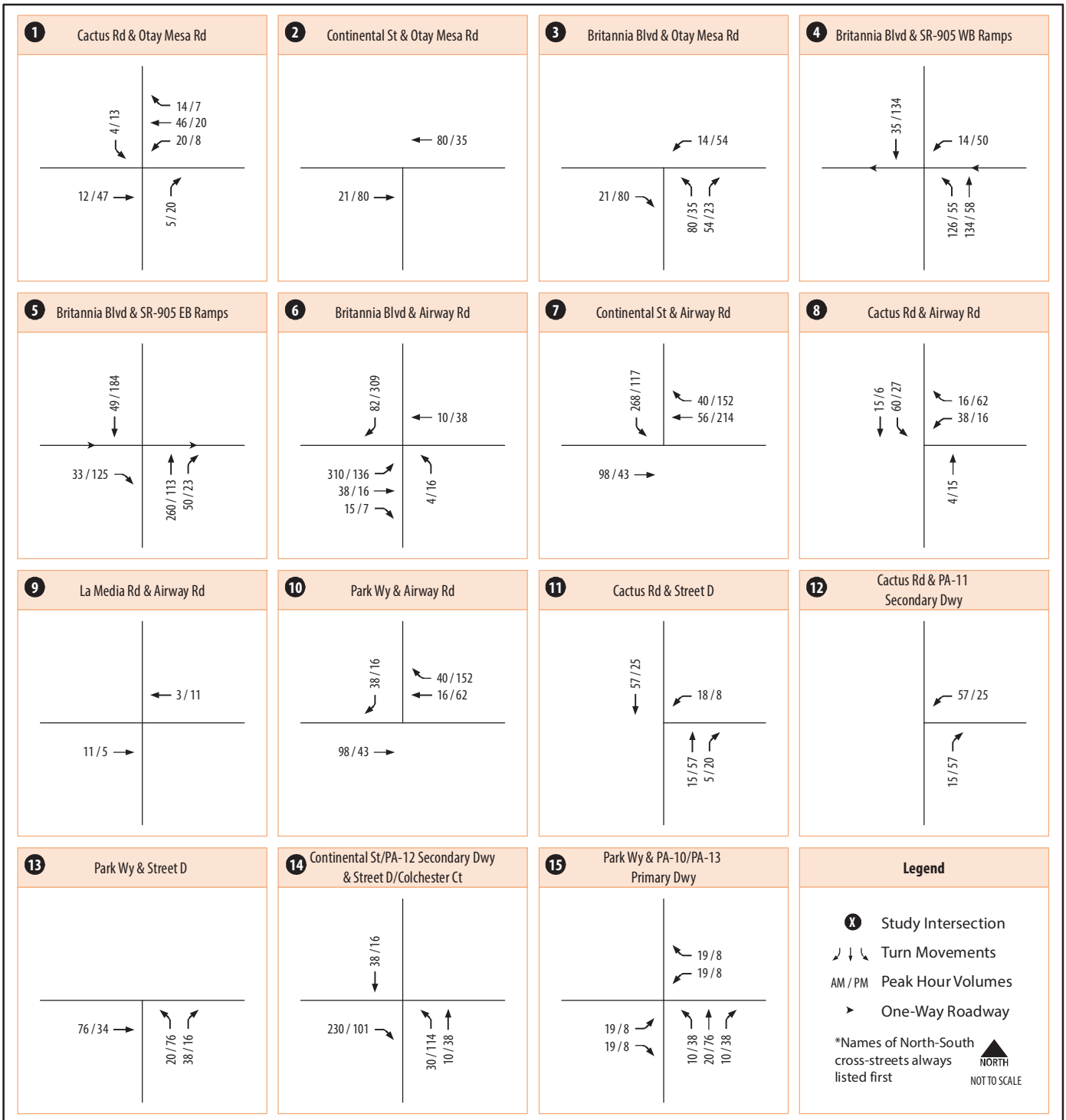

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Figure 3.8
Project Trip Assignment (Intersections)
Opening Year 2027/Horizon Year 2062 + Project Conditions
(La Media & Airway Intersection Open)

3.3 Project Study Area

Consistent with the City of San Diego TISM, the following fifteen (15) study intersections, sixteen (16) roadway segments, three (3) freeway segments, and two (2) freeway metered ramp locations were selected for analysis:

Intersections

1. Cactus Road & Otay Mesa Road (Signal)
2. Continental Street & Otay Mesa Road (Signal)
3. Britannia Boulevard & Otay Mesa Road (Signal)
4. Britannia Boulevard & State Route (SR) 905 Westbound Ramps (Signal)
5. Britannia Boulevard & SR-905 Eastbound Ramps (Signal)
6. Britannia Boulevard & Airway Road (Signal)
7. Continental Street & Airway Road (SSSC)
8. Cactus Road & Airway Road (AWSC)
9. La Media Road & Airway Road (Signal)
10. Park Way & Airway Road (SSSC)*
11. Cactus Road & Street "D" (SSSC)*
12. Cactus Road & PA-11 Secondary Driveway (SSSC)*
13. Park Way & Street "D" (SSSC)*
14. Continental Street/PA-12 Secondary Driveway & Street "D"/Colchester Court (AWSC)*
15. Park Way & PA-10/PA-13 Primary Driveway (SSSC)*

Note:
PA = Planning Area
AWSC = All-Way Stop-Controlled
SSSC = Side-Street Stop-Controlled
*Analyzed under "with Project" conditions only

Roadway Segments

1. Otay Mesa Road, west of Cactus Road
2. Otay Mesa Road, between Cactus Road and Continental Street
3. Otay Mesa Road, between Continental Street and Brittania Boulevard
4. Otay Mesa Road, east of Brittania Boulevard
5. Britannia Boulevard, between Otay Mesa Road and SR-905 Westbound Ramps
6. Britannia Boulevard, between SR-905 Westbound Ramps and SR-905 Eastbound Ramps
7. Britannia Boulevard, between SR-905 Eastbound Ramps and Airway Road
8. Britannia Boulevard, south of Airway Road
9. Airway Road, between Cactus Road and Park Way
10. Airway Road, between Park Way and Continental Street
11. Airway Road, between Continental Street and Britannia Boulevard
12. Airway Road, between Britannia Boulevard and 50 feet west of La Media Road
13. Airway Road, between 50 feet west of La Media Road and La Media Road
14. Cactus Road, between Street "D" and Airway Road
15. Cactus Road, south of Airway Road
16. Continental Street, between Street "D"/Colchester Court and Airway Road

Freeway Segments

- SR-905, between Caliente Avenue and Heritage Road
- SR-905, between Heritage Road and Britannia Boulevard
- SR-905, between Britannia Boulevard and La Media Road

Metered Freeway Ramp Locations

- SR-905 Westbound Ramps at Britannia Boulevard
- SR-905 Eastbound Ramps at Britannia Boulevard

3.4 Study Scenarios

Consistent with the requirements of the *City of San Diego Traffic Impact Study Manual (July 1998)*, analysis was conducted under the following scenarios:

- Existing
- Existing with Project
- Opening Year 2027
- Opening Year 2027 with Project
- Horizon Year 2062
- Horizon Year 2062 with Project

The project study area is shown in **Figure 3.9.**

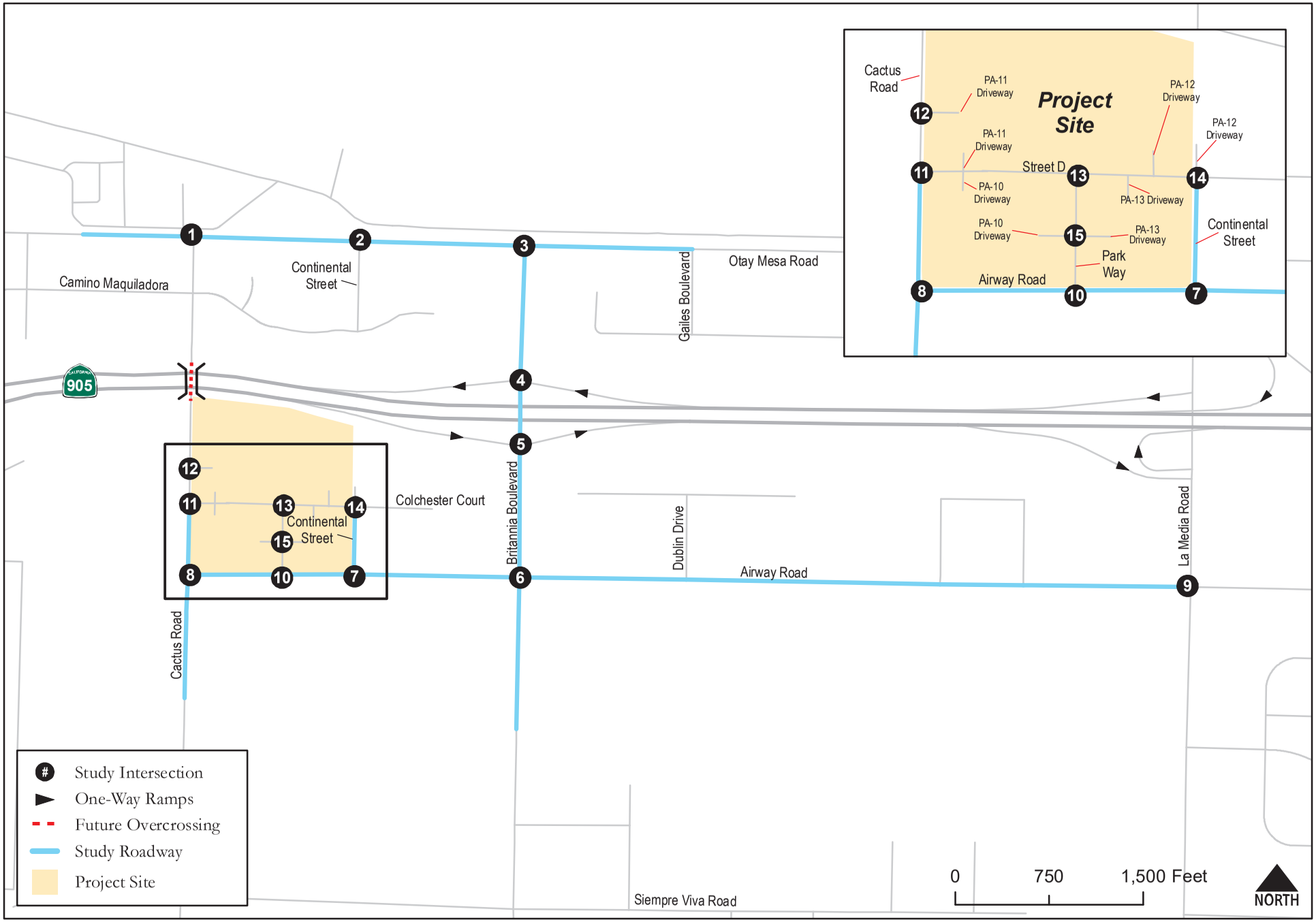

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Figure 3.9
Project Study Area

4.0 Existing Conditions

This section describes the project study area, traffic volume information, and Level of Service (LOS) analysis results under Existing conditions. The scenarios analyzed in this section include:

- Existing
- Existing with Project

4.1 Existing Transportation Network

North-South Facilities

Britannia Boulevard is a 6-lane prime arterial roadway with a raised median between Otay Mesa Road and the SR-905 Eastbound Ramps, a 5-lane prime arterial roadway (2 northbound lanes/3 southbound lanes) with a raised median between SR-905 Eastbound Ramps and Airway Road, and a 3-lane major arterial roadway (2 northbound lanes/1 southbound lane) with a raised median south of Airway Road with a 40 MPH posted speed limit. Contiguous sidewalks are present on both sides of the roadway along the entire extent of Britannia Boulevard with the exception of a segment approximately 600 feet in length on the west side of the roadway, south of Airway Road. Class II bicycle facilities are generally present on both sides of the roadway, north of Airway Road. Parking is prohibited on both sides of the roadway segment. Britannia Boulevard is classified as a 6-lane Prime Arterial between Otay Mesa Road and Airway Road and as a 6-lane Major Roadway south of Airway Road in the Otay Mesa Community Plan.

Cactus Road is a discontinuous 2-lane collector undivided roadway, bisected by SR-905 between Otay Mesa Road and Airway Road, with a 35 MPH posted speed limit. Contiguous sidewalks are only present north of SR-905. Bicycle facilities are not present, and on-street parallel parking is permitted north of SR-905. Additionally, between SR-905 and Airway Road shoulder exist without curb and gutter, where parallel parking is permitted. Cactus Road is classified as a 4-lane Major Arterial between Otay Mesa Road and Siempre Viva Road in the Otay Mesa Community Plan with a planned connection by way of an SR-905 overpass.

East-West Facilities

Otay Mesa Road is a 6-lane prime arterial roadway with a raised median between Caliente Avenue and State Route 125 southbound off-ramp with a 50 MPH posted speed limit. Between Cactus Road and Britannia Boulevard, sidewalks are present on both sides of the roadway, with the exception of a segment approximately 675 feet in length on the north side of Otay Mesa Road, just east of Cactus Road. West of Britannia Boulevard, sidewalks are only present on the south side of the roadway and segment approximately 675 feet in length on the north side of Otay Mesa Road, just east of Britannia Boulevard and segment approximately 600 feet in length on the south side of Otay Mesa Road, just west of Continental Street. West of Continental Street, Class II bicycle facilities are present along both sides of the roadway. East of Continental Street, a Class III bike route is identified via posted signage on both sides of the roadway. On-street parking is prohibited. Otay Mesa Road is classified as a 6-lane Prime Arterial in the Otay Mesa Community Plan between Caliente Avenue to Sanyo Avenue.

Airway Road is a 2-lane undivided roadway with no posted speed limit between Cactus Road and La Media Road. Contiguous sidewalks are only present on the north side of the segment, except for the segment fronting the project, on the south side 600 feet east of Britannia Boulevard for approximately 1,330 feet. Bicycle facilities are not present and parking is prohibited. Per the Otay Mesa Community Plan, Airway Road is classified as a 6-lane Major Arterial between Cactus and Britannia Boulevard and as a 4-lane Major Arterial east of Britannia Boulevard. Airway Road is planned to have a Class I bicycle facility on the south side only and buffered Class II bicycle lanes on both sides of Airway Road for its entire length to Paseo De Las Americas per the Otay Mesa Community Plan.

The roadway and bicycle classification maps from Otay Mesa Community Plan are provided in **Appendix D**. **Figure 4.1** displays roadway segment cross-sections and **Figure 4.2** displays the intersection geometrics under Existing conditions.

4.2 Active Transportation

This section discusses the project site's active transportation modes. **Figure 4.3** displays the transit facilities within the project study area while **Figure 4.4** displays active transportation facilities.

4.2.1 Multimodal System Planning

The South Bay to Sorrento Comprehensive Multimodal Corridor Plan (CMCP) (September 2022) addresses current and future multimodal needs in the South Bay to Sorrento corridor including cities of San Diego, Chula Vista, Coronado, National City, and Imperial Beach. Based on the characteristics and needs of the corridor, SANDAG and Caltrans have recommended a package of programs, policies, and projects that the region will invest in to create a safe, equitable, reliable, and intelligent transportation system of the future. Out of all 328 strategies presented in Alternative 1, believed to be the most beneficial to the corridor, the following recommended transportation solutions are situated near the vicinity of the Proposed Project:

- Reference Number 43 – Rapid Route 638: Add route from Iris Trolley to Otay Mesa via Otay, Airway Dr, SR-905 Corridor.
- Reference Number 664 – Rapid Route 638: Add transit queue jump lanes along the route from Siempre Viva Rd & Otay Center Dr to Caliente Ave & SH 905.
- Reference Number 644 – Rapid Route 638: Add transit signal priority along the route from Siempre Viva Rd & Otay Center Dr to Caliente Ave & SH 905.
- Reference Number 352 – US-Mexico Border Enhanced Service Area within the SB2S Study Corridor: Enhanced service areas around the existing San Ysidro port of entry and trolley station, the existing Cross-Border Express, and the Otay Mesa port of entry.
- Reference Number 817 – Otay Mesa Port of Entry (POE) Improvements: Otay Mesa Port of Entry Improvements for truck and commercial activity.
- Reference Number 1283 – East POE Improvements: Addition of toll lanes + Port of entry at Otay Mesa East.

Figure 4.5 displays the South Bay to Sorrento CMCP strategies near the project study area.

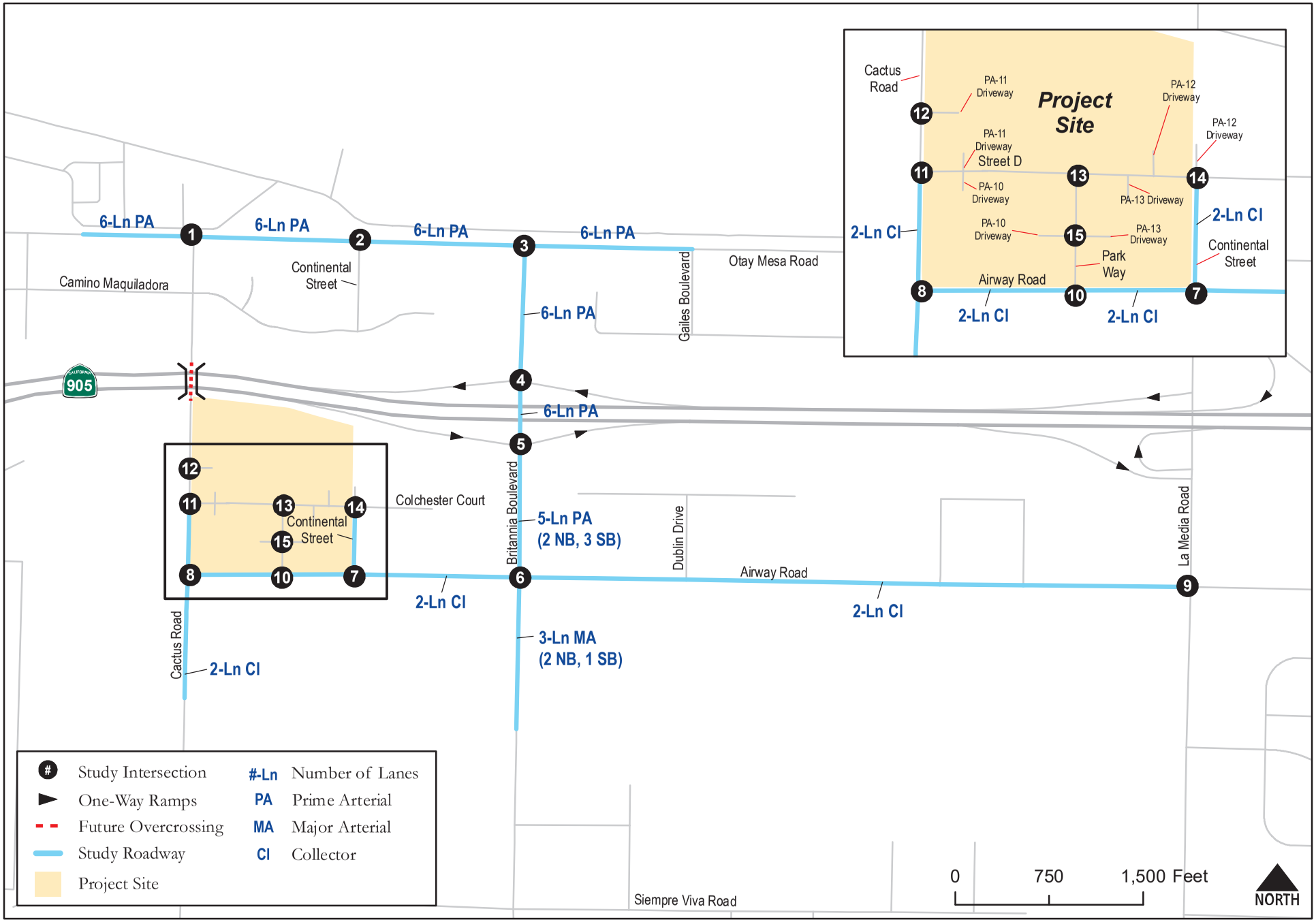

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Figure 4.1
Roadway Classification
Existing Conditions

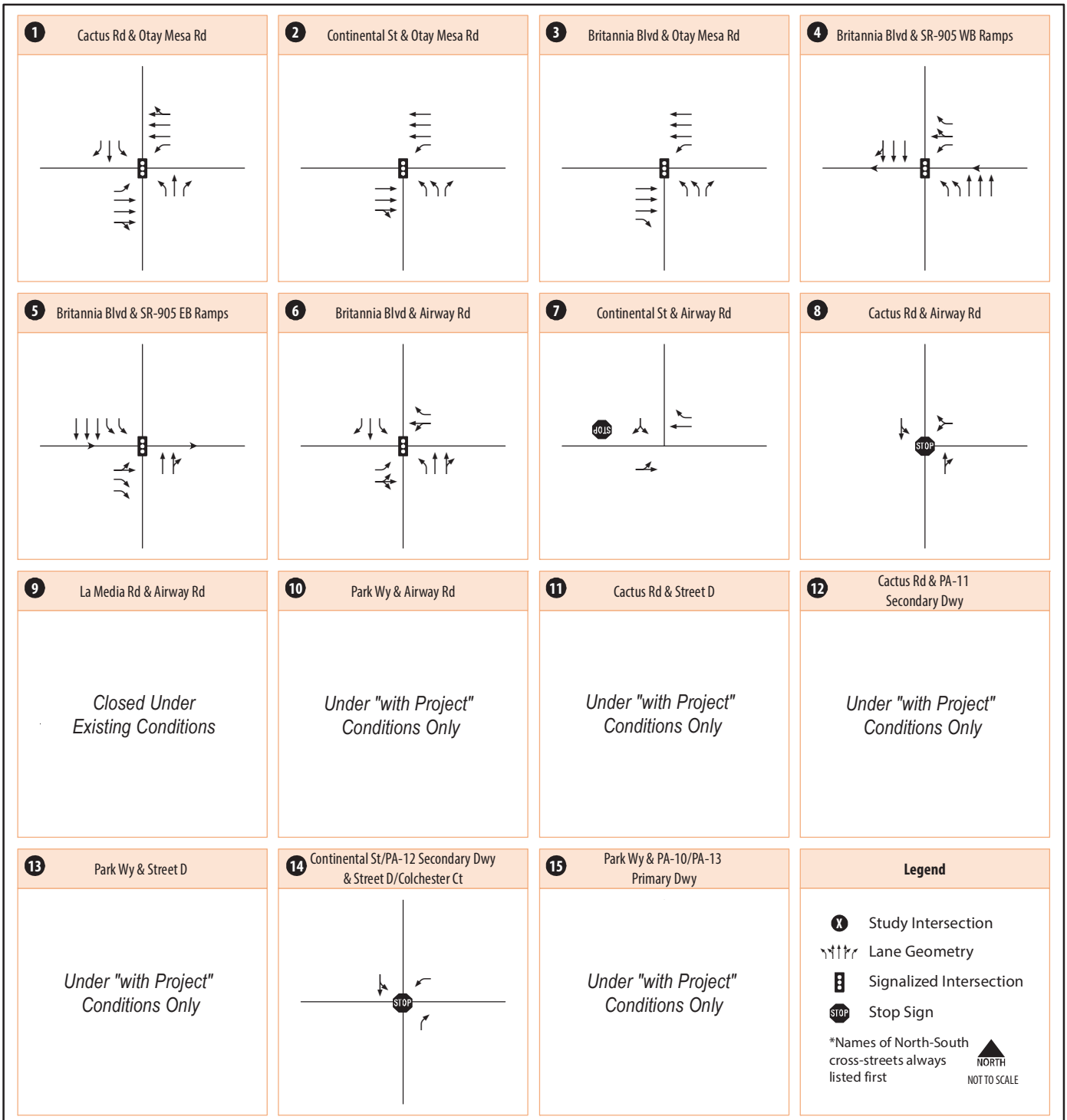

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Figure 4.2
Intersection Geometrics
Existing Conditions

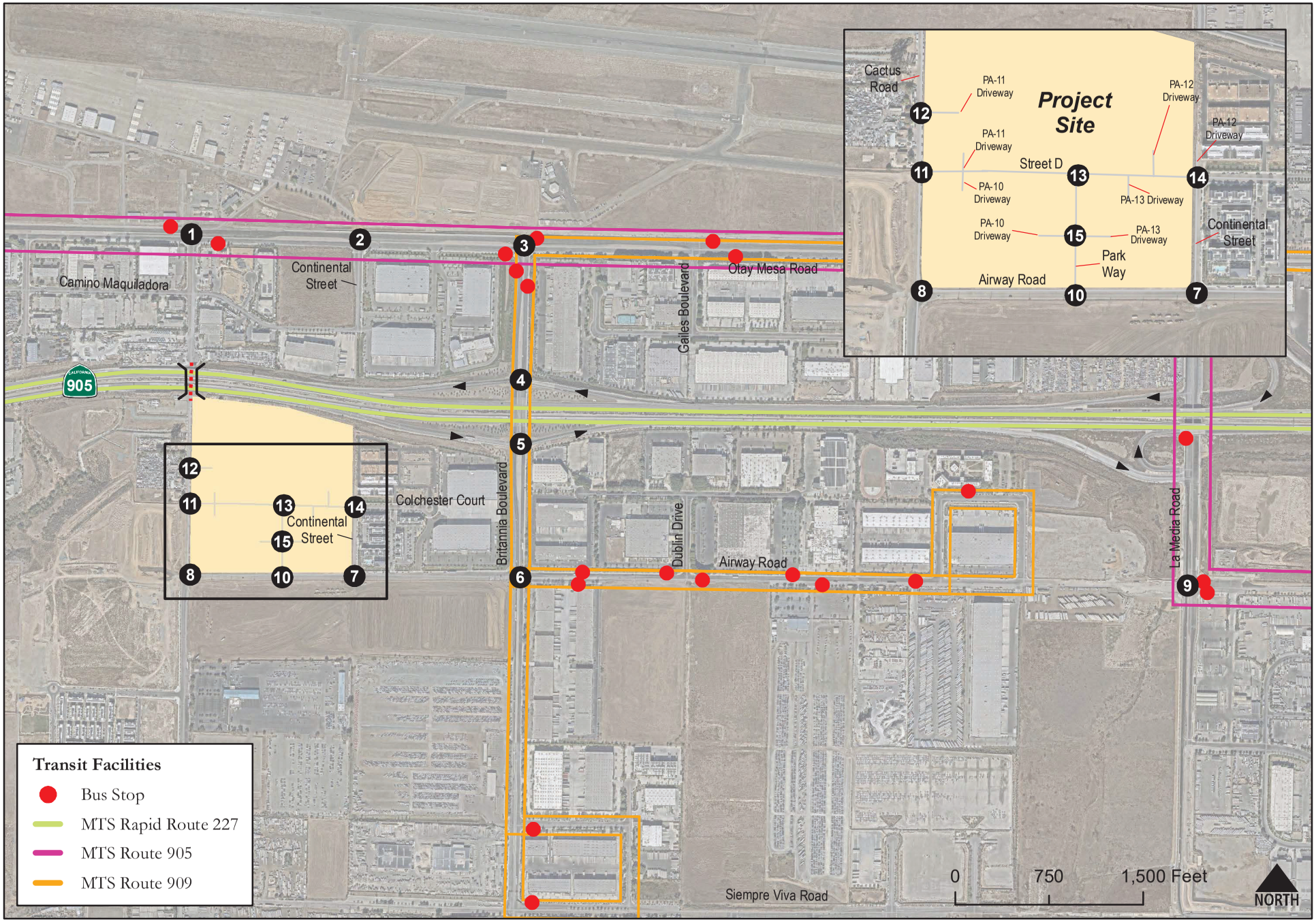

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Figure 4.3
Transit Facilities Map
Existing Conditions

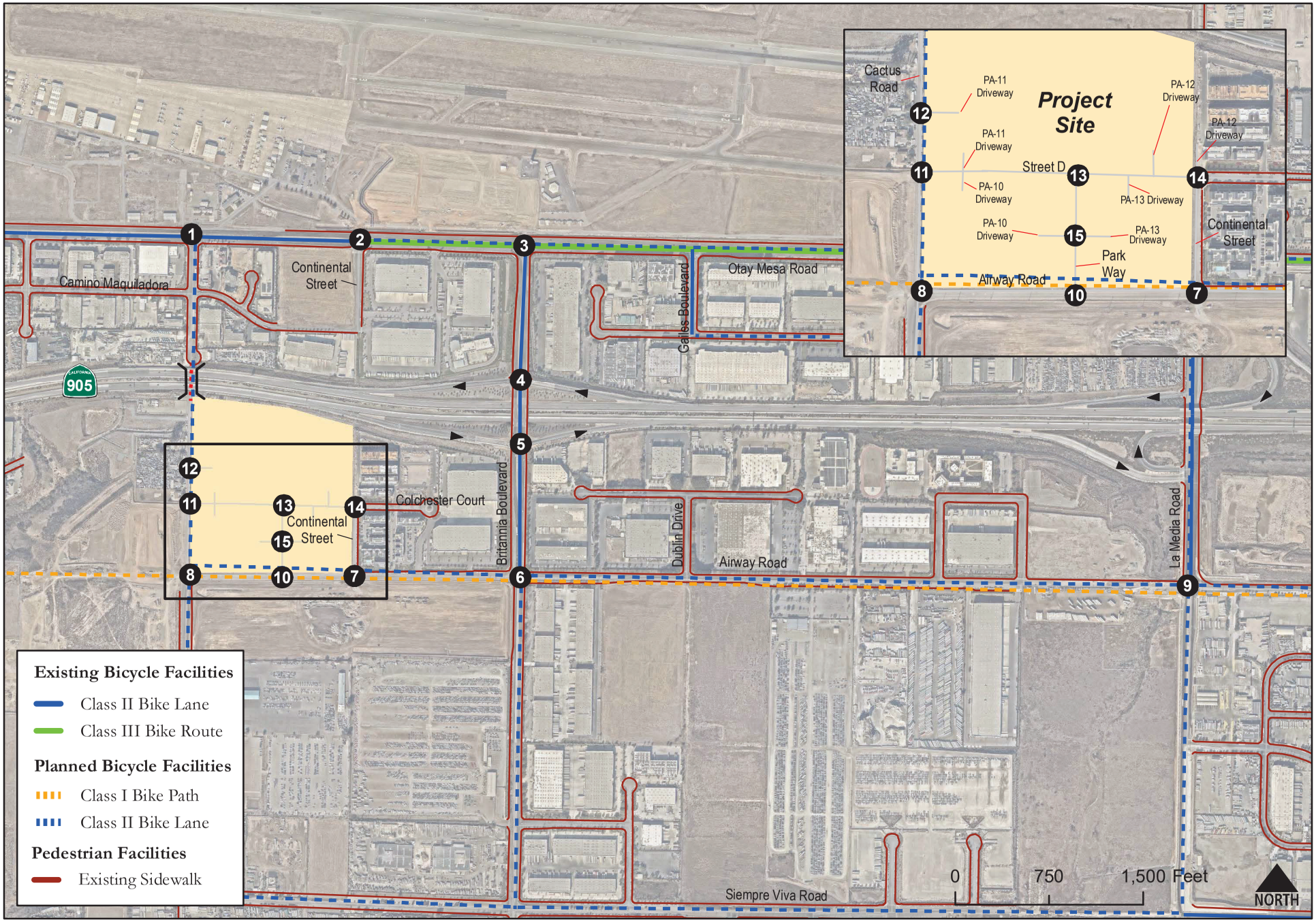

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Figure 4.4
Active Transportation Facilities Map
Existing & Planned Conditions

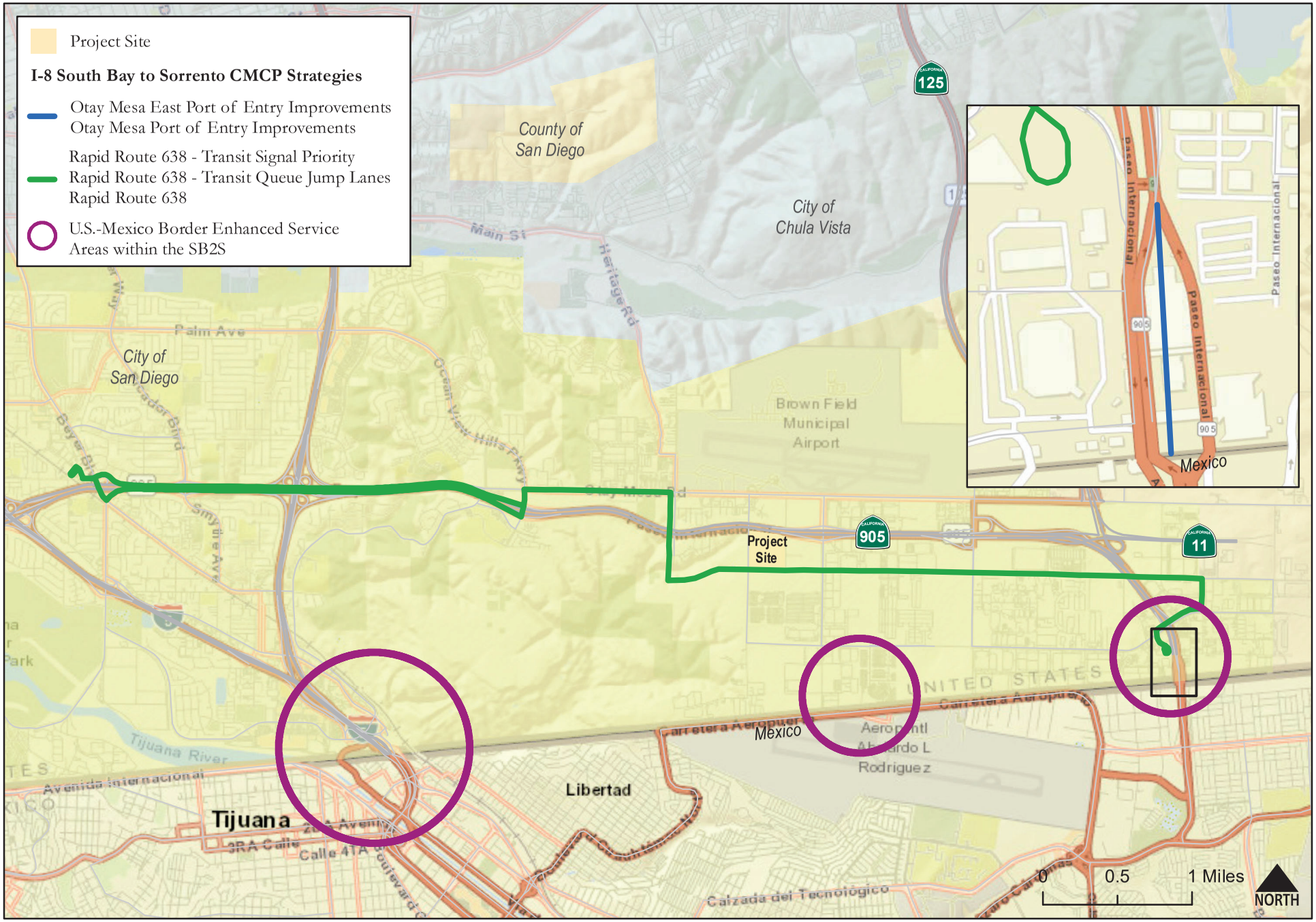

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Figure 4.5
South Bay to Sorrento CMCP Strategies

4.2.2 SANDAG 2025 Regional Plan

The SANDAG 2025 Regional Plan Transportation Network provides a roadmap for how San Diego will develop over the next 25 years to provide a network that is convenient, equitable, healthy, and safe. SANDAG focuses on a complete transportation network of transit, managed lanes, highways, local streets, bikeways, and walkways built and maintained in the network. The following planned improvements in the South County region are situated near the vicinity of the Proposed Project:

- Rapid 227: Otay Mesa East to Imperial Beach via SR-905.
- Rapid 638: Iris Trolley to Otay Mesa.
- Circulator Route 661: Otay Mesa Loop.
- Express Route 121: Cross Border Xpress (CBX) to Iris Transit Center.
- Otay Mesa East POE.
- SR-11 Roadway Connection to Otay Mesa East POE.
- Otay Mesa POE Truck Bridge to Commercial Vehicle Enforcement Facility.

Figure 4.6 displays the SANDAG 2025 Regional Plan planned improvements near the project study area.

4.2.3 Transit Access

There are currently no transit facilities near the vicinity of the project site. The transit facilities located nearest to the project site include the following:

- Bus Route 905 – This bus route runs in the east-west direction along Otay Mesa Road within the project study area and connects the Iris Avenue Transit Center to the Otay Mesa Transit Center at the terminus of Nicola Tesla Court. Operations start at 4:13 AM and end at 10:03 PM between Monday and Friday with 15- and 30-minute intervals. On weekends, operations start at 5:16 AM and end at 9:06 PM with 60-minute intervals. The nearest transit stop for this bus route is located approximately 3,920 feet from the project site.
- Bus Route 909 – This bus route runs in the north-south direction along Britannia Boulevard and in the east-west direction along Airway Road and Otay Mesa Road (east of Britannia Boulevard) within the project study area and connects the Otay Mesa Transit Center at the terminus of Nicola Tesla Court to the Southwestern College Otay Mesa. Operations start at 4:58 AM and end at 7:49 PM between Monday and Friday with 1-hour intervals. This route does not operate on weekends. The nearest transit stop for this bus route is located approximately 1,800 feet from the project site.

Based on the Proposed Project site plan, the Proposed Project would not conflict with existing or planned transit facilities. San Diego Metropolitan Transit System (MTS) bus schedules are provided in **Appendix E**.



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Figure 4.6
SANDAG 2025 Regional Plan Transportation Network

4.2.4 Bicycle

Under Existing conditions, Class II and Class III bicycle facilities exist along Otay Mesa Road and Class II bike lanes exist along Britannia Boulevard, north of Airway Road. Per the Otay Mesa Community Plan, Class II bicycle lanes are planned along Airway Road, Otay Mesa Road, Cactus Road, and Britannia Boulevard. Additionally, a Class I bicycle facility is planned on the south side only of Airway Road per the Otay Mesa Community Plan.

The Proposed Project will provide the following bicycle improvements along the project site frontage:

- Buffered Class II bicycle lane on east side only along Cactus Road between Street "D" and Airway Road
- Buffered Class II bicycles lanes on both sides of the roadway along Street "D" between Cactus Road and Park Way
- Buffered Class II bicycle lanes on both sides of Continental Street between Street "D"/Colchester Court and Airway Road
- Buffered Class II bicycle lane on the north side only along Airway Road between Cactus Road and Continental Road

Based on the Proposed Project site plan, the Proposed Project would not conflict with existing or planned bicycle facilities.

4.2.5 Pedestrian

As discussed under Section 4.1, within the project study area under Existing conditions, the following pedestrian facilities are present:

- Britannia Boulevard - Contiguous sidewalks are present on both sides of the roadway along the entire extent of Britannia Boulevard with the exception of a segment approximately 600 feet in length on the west side of the roadway, south of Airway Road.
- Cactus Road - Contiguous sidewalks are only present north of SR-905.
- Otay Mesa Road - Between Cactus Road and Britannia Boulevard, sidewalks are present on both sides of the roadway, with the exception of a segment approximately 675 feet in length on the north side of Otay Mesa Road, just east of Cactus Road. West of Britannia Boulevard, sidewalks are only present on the south side of the roadway and segment approximately 675 feet in length on the north side of Otay Mesa Road, just east of Britannia Boulevard and segment approximately 600 feet in length on the south side of Otay Mesa Road, just west of Continental Street.
- Airway Road - Contiguous sidewalks are only present on the north side between Cactus Road and La Media Road, except for the segment fronting the project, on the south side 600 feet east of Britannia Boulevard for approximately 1,330 feet.

Additionally, there are no sidewalks present along the Project's frontages. The Proposed Project will construct non-contiguous sidewalk along the project frontage along Continental Street, Airway Road, Cactus Road, Street "D", and Park Way.

Based on the Proposed Project site plan, the Proposed Project would not conflict with existing or planned pedestrian facilities.

4.3 Existing Traffic Volumes

The study area intersections and roadway traffic counts were conducted on Wednesday March 13, 2024, and Tuesday May 14, 2024, by Elite Traffic Dynamics, LLC, when schools were in session. At the time count data was collected, the intersection of La Media Road and Airway Road was closed due to construction activities related to the La Media CIP project. Therefore, the La Media Road and Airway Road intersection was not analyzed under Existing conditions.

Figure 4.7 displays the daily traffic volumes for the study area roadway segments and **Figure 4.8** displays the AM/PM peak hour turning movements for the study intersections under Existing conditions. Traffic count worksheets are provided in **Appendix F.**

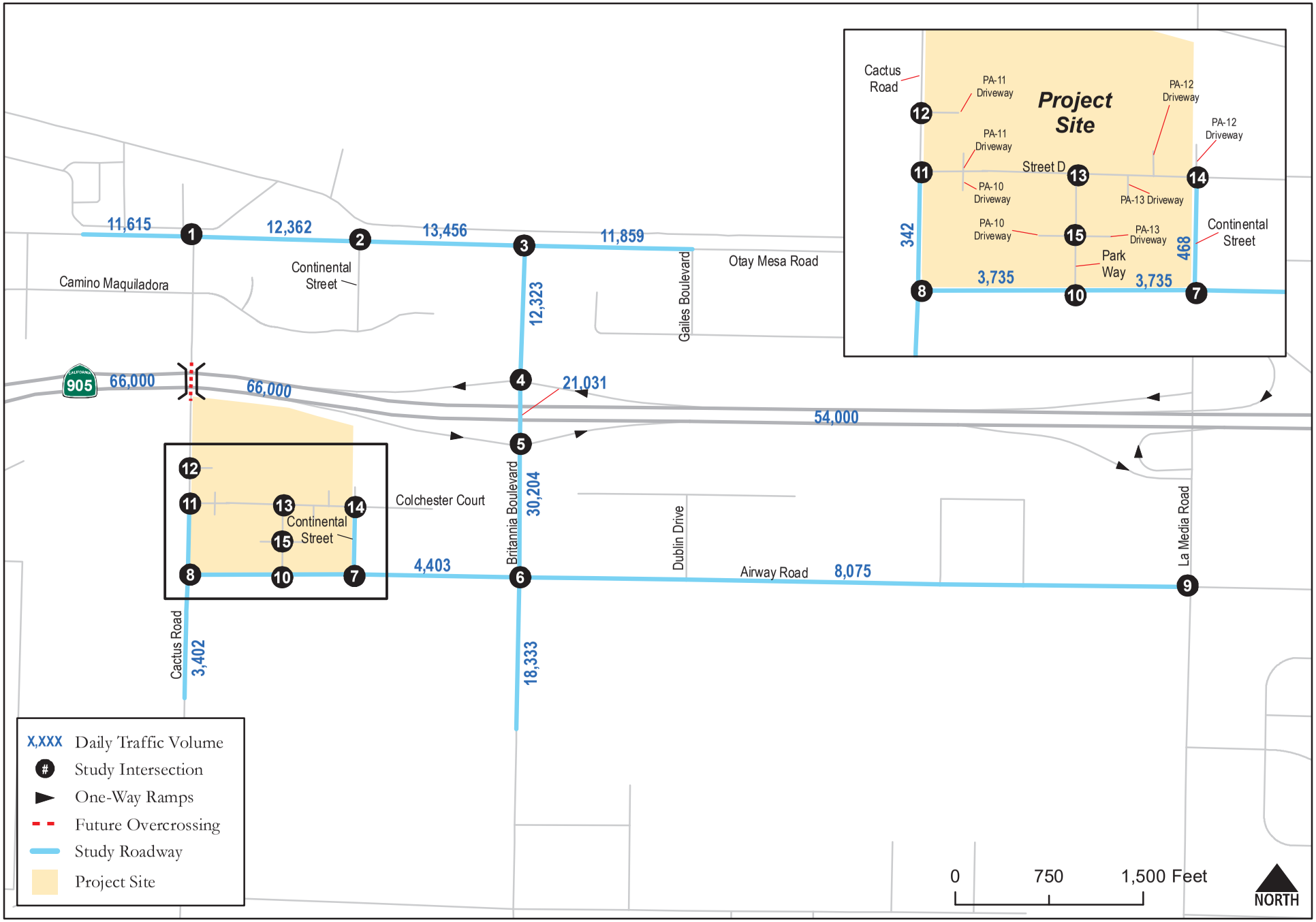

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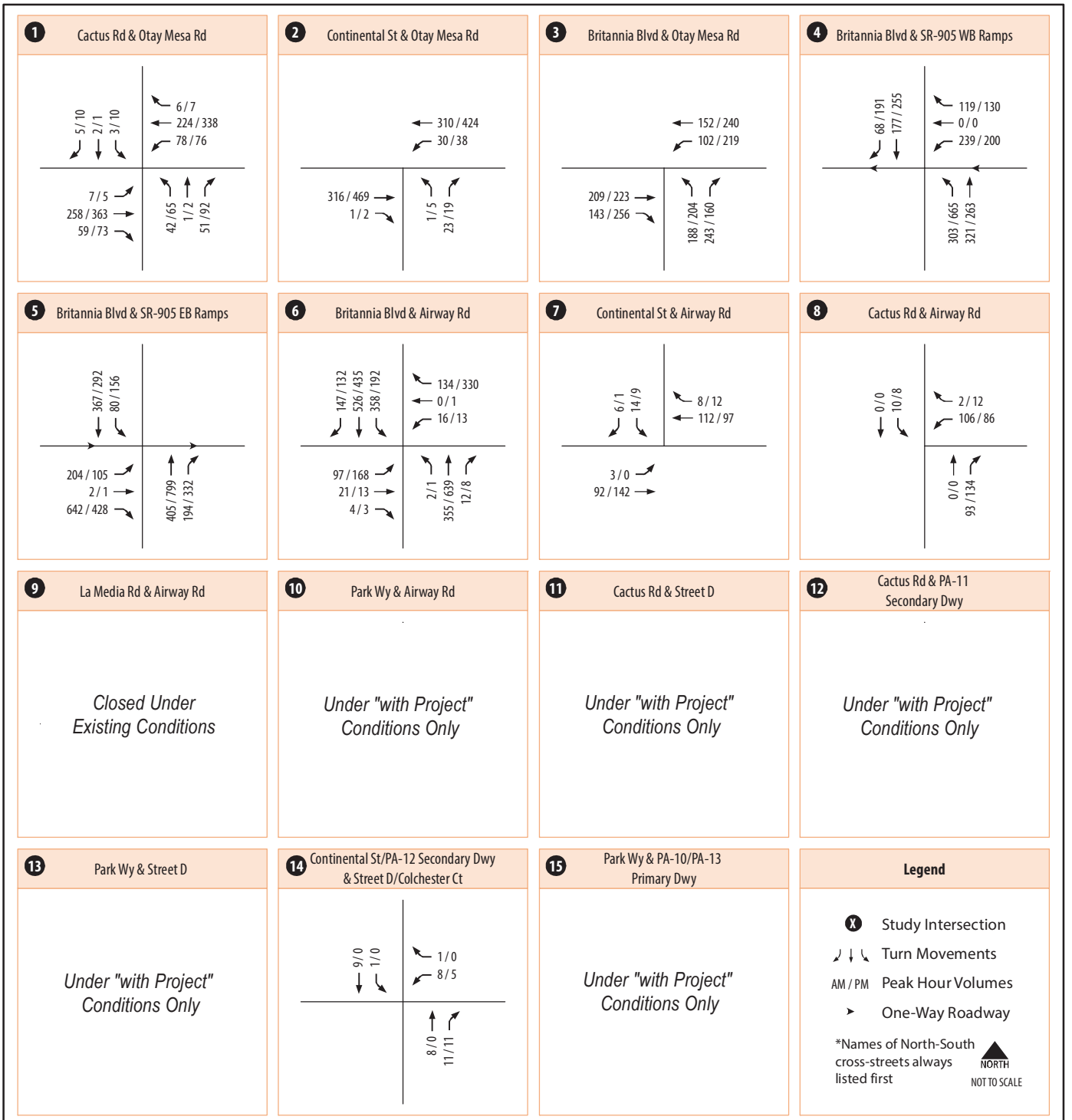
Figure 4.7
Daily Traffic Volumes
Existing Conditions



The Collection at Cactus
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Figure 4.8
Peak Hour Intersection Turning Movements
Existing Conditions

4.4 Existing Traffic Conditions

LOS analyses under Existing Conditions were conducted using the methodologies described in Chapter 2. Roadway segment and intersection LOS analysis results are discussed below.

4.4.1 Roadway Segment Analysis

Table 4.1 displays the daily roadway LOS for study roadway segments under Existing conditions.

Table 4.1 – Roadway Segment LOS Results – Existing Conditions

Roadway	Segment	Functional Classification	Capacity (LOS E)	ADT	V/C	LOS
Otay Mesa Rd	West of Cactus Rd	6-Lane Prime Arterial	60,000	11,615	0.194	A
Otay Mesa Rd	Cactus Rd to Continental St	6-Lane Prime Arterial	60,000	12,362	0.206	A
Otay Mesa Rd	Continental St to Britannia Blvd	6-Lane Prime Arterial	60,000	13,456	0.224	A
Otay Mesa Rd	East of Britannia Blvd	6-Lane Prime Arterial	60,000	11,859	0.198	A
Britannia Blvd	Otay Mesa Rd to SR-905 WB Ramps	6-Lane Prime Arterial	60,000	12,323	0.205	A
Britannia Blvd	SR-905 WB Ramps to SR-905 EB Ramps	6-Lane Prime Arterial	60,000	21,031	0.351	A
Britannia Blvd	SR-905 EB Ramps to Airway Rd	5-Lane (2NB/3SB) Prime Arterial	50,000	30,204	0.604	C
Britannia Blvd	South of Airway Rd	3-Lane (2NB/1SB) Major Arterial	30,000	18,333	0.611	C
Airway Rd	Cactus Rd to Park Wy	2-Lane Collector	8,000	3,735	0.467	C
Airway Rd	Park Wy to Continental St	2-Lane Collector	8,000	3,735	0.467	C
Airway Rd	Continental St to Britannia Blvd	2-Lane Collector	8,000	4,403	0.550	C
Airway Rd	Britannia Blvd to 50 feet west of La Media Rd	2-Lane Collector	8,000	8,075	1.009	**F**
Airway Rd	50 feet west of La Media Rd to La Media Rd	2-Lane Collector	8,000	8,075	1.009	**F**
Cactus Rd	Street D to Airway Rd	2-Lane Collector	8,000	342	0.043	A
Cactus Rd	South of Airway Rd	2-Lane Collector	8,000	3,402	0.425	B
Continental St	Street D/Colchester Ct to Airway Rd	2-Lane Collector	8,000	468	0.059	A

Source: CR Associates (2025)

Note:
ADT = Average Daily Traffic
V/C = Volume to Capacity Ratio
NB = Northbound SB = Southbound
EB = Eastbound WB = Westbound
Bold = LOS E or F

As shown, all study segments currently operate at LOS C or better under Existing conditions, with the exception of the following two (2) roadway segments:

- Airway Road, between Britannia Boulevard and 50 feet west of La Media Road – LOS F
- Airway Road, between 50 feet west of La Media Road and La Media Road – LOS F

4.4.2 Intersection Analysis

Table 4.2 displays the intersection LOS for the project study area intersections under Existing conditions. LOS calculation worksheets for Existing conditions are provided in **Appendix G.**

Table 4.2 – Intersection LOS Results – Existing Conditions

#	Intersection	Control Type	AM Peak Hour		PM Peak Hour	
			Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS
1	Cactus Rd & Otay Mesa Rd	Signal	14.7	B	18.7	B
2	Continental St & Otay Mesa Rd	Signal	14.7	B	6.2	A
3	Britannia Blvd & Otay Mesa Rd	Signal	12.9	B	15.4	B
4	Britannia Blvd & SR-905 WB Ramps	Signal	15.9	B	20.2	C
5	Britannia Blvd & SR-905 EB Ramps	Signal	15.2	B	19.8	B
6	Britannia Blvd & Airway Rd	Signal	33.7	C	32.8	C
7	Continental St & Airway Rd[1]	SSSC	10.0	A	10.4	B
8	Cactus Rd & Airway Rd[1]	AWSC	7.8	A	7.7	A
9	La Media Rd & Airway Rd	Signal	Closed[2]			
14	Continental St & Colchester Ct	AWSC	6.9	A	6.7	A

Source: CR Associates (2025)

Notes:
[1] The estimated ADT signal warrant would not be met for this intersection based on analyzed traffic volumes per the Average Traffic Estimate Form. Estimated ADT signal warrants are provided in Appendix I.
[2] Closed due to La Media Road CIP Project (CIP # S-15018)
AWSC = All-Way Stop-Controlled. For AWSC intersections, the delay shown is the average delay for the entire intersection.
SSSC = Side-Street Stop-Controlled. For SSSC intersections, the delay shown is the worst delay experienced by any of the movements.

As shown, all study intersections currently operate at LOS C or better under Existing conditions during both the AM and PM peak hours. Additionally, estimated ADT signal warrant analysis under Existing conditions was conducted for intersections identified to be improved to a signalized intersection per the Otay Mesa CVSP TFTA with results as follows:

7. Continental Street and Airway Road – A traffic signal is not warranted at this intersection under Existing conditions per the Average Traffic Estimate Form.
8. Cactus Road and Airway Road - A traffic signal is not warranted at this intersection under Existing conditions per the Average Traffic Estimate Form.

4.4.3 Ramp Meter Analysis

Per coordination with Caltrans, ramp meters are currently installed but not in operation within the project study area due to low demand during peak hours. Therefore, ramp metering analysis is not included in this scenario.

4.4.4 Freeway Segment Analysis

Table 4.3 displays freeway segment level of service results for the study area freeway mainline facilities under Existing conditions. Annual average daily traffic per Caltrans Traffic Census Program for the latest year available (2021) is provided in **Appendix H**.

As shown, all freeway segments within the study area operate at acceptable LOS B or better under Existing conditions.

Table 4.3 – Freeway Segment Analysis – Existing Conditions

Freeway	Segment	AADT[1]	Peak Hour	Direction[2]	# of Lanes	Capacity[3]	D	K	HVF	Peak Hour Volume	V/C	LOS[4]
SR-905	Caliente Ave and Heritage Rd	66,000	AM	EB	3M	7,050	68.25%	8.9%	17.54%	4,230	0.600	B
			PM	EB	3M	7,050	60.64%	10.5%	17.54%	4,440	0.630	B
	Heritage Rd and Britannia Blvd	66,000	AM	EB	3M	7,050	68.25%	8.9%	17.54%	4,230	0.600	B
			PM	EB	3M	7,050	60.64%	10.5%	17.54%	4,440	0.630	B
	Britannia Blvd and La Media Rd	54,000	AM	EB	3M+1A	8,460	68.25%	8.9%	17.54%	3,460	0.409	A
			PM	EB	3M+1A	8,460	60.64%	10.5%	17.54%	3,630	0.429	B

Source: CR Associates (2025)

Notes:
M = Mainline. A = Auxiliary Lane.
[1] AADT = Annual Average Daily Traffic. AADT is provided by Caltrans Traffic Census Program (2021).
[2] In the direction of peak hour traffic. For SR-905, per Caltrans data, the peak hour direction is eastbound for both the AM and PM peak hours.
[3] The capacity is calculated as 2,350 ADT per main lane and 1,410 ADT (60% of the main lane capacity) per auxiliary lane.
[4] LOS during highest directional demand.
D = Directional split. | K = Peak hour %. | HVF = Heavy Vehicle Factor - consistent with the OMCPU. | V/C = Volume to Capacity Ratio

4.5 Existing with Project Roadway Network

This section describes the study area, traffic volume information, and LOS analysis results under Existing with Project conditions.

The scenario is hypothetical because it assumes that the proposed project would be fully built out immediately and the corresponding full buildout traffic volumes added to existing roadway volumes and infrastructure and presume that the existing environment (existing traffic volumes, existing roadway infrastructure, and existing land uses) will not change over the buildout of the project. As a result of this presumption, future increases in traffic volumes attributable to other development projects (i.e., cumulative traffic volumes) are not accounted for in the analysis. This results in the analysis potentially understating project effects on the local transportation network because capacity that otherwise would be utilized by future development that precedes the proposed project buildout is now available to the project. On the other hand, because the scenario does not account for future planned roadway network mitigation measures that would increase roadway capacities, the analysis potentially results in overstating project effects on the local transportation network. Furthermore, because the analysis does not take into consideration future development and related changing land uses, the analysis does not account for the corresponding change in trip distribution patterns that accompany changing land uses, which could result in either understating or overstating effects on the local transportation network.

For these reasons, the analysis of the project's potential impacts as measured against the existing conditions baseline that follows is presented for information purposes only. The identification of the project's direct and cumulative impacts on the local transportation network will be based on the Opening Year 2027 Plus Project and Horizon Year 2062 Plus Project scenarios.

4.5.1 Roadway Network

The roadway network was assumed to be identical to the Existing conditions network with exemption to the project frontage improvements described in Section 1.2. Based on the project frontage improvements, the improvements will be constructed by the Proposed Project for each of the intersections along the project frontage as described below:

- Continental Street and Airway Road – The project will improve the existing side-street stop-controlled intersection with the following lane configurations:
    - Southbound approach: left-turn pocket and a right-turn pocket
    - West Leg: two receiving lanes

  This lane configuration is consistent with the Otay Mesa CVSP Transportation Facilities Trigger Analysis report (TFTA) (March 2017). It is important to note that the Otay Mesa CVSP TFTA identifies this intersection to be improved as a signalized intersection. A traffic signal is not warranted at this intersection under Existing with Project conditions per the Average Traffic Estimate Form. Estimated ADT signal warrant analysis worksheets with implementation of the Proposed Project are provided in Appendix I.
- Park Way and Airway Road – The project will construct a right-in/right out (RIRO) side-street stop-controlled intersection with Park Way stop controlled and uncontrolled movements along Airway Road. As noted in Section 1.2, Airway Road is currently not built to its ultimate roadway cross section on both the north and south side. Due to the timing uncertainty for implementation of fronting improvements by the property on the south side of Airway Road

between Cactus Road and Britanna Boulevard, the Project will install temporary delineators along Airway Road to physically restrict left-in/left-out access until Airway Road is widened and a raised median is constructed. The following lane configuration will be constructed at the intersection:

- Southbound approach: right-turn lane
- Westbound approach: one through lane and a shared through-right turn lane
- West leg: configured with two receiving lanes

This lane configuration is consistent with the Otay Mesa CVSP TFTA.

- Cactus Road and Street "D" – The project will construct a side-street stop-controlled T-intersection with Street "D" configured as stop control with uncontrolled movements along Cactus Road. The following lane configuration will be constructed at the intersection:
  - Westbound Approach: Left-turn pocket and a shared through-right lane (although the Otay Mesa CVSP TFTA analyzed this approach as a shared left-through-right lane, the updated lane configuration would be able to accommodate a worst-case condition at the intersection that may require protected left-turn phasing once signalized)
  - Northbound approach: left-turn pocket, through lane, and shared through right-turn lane.
  - North Leg: configured with two receiving lanes

  Additionally, the Otay Mesa CVSP TFTA identifies this intersection to be improved as a signalized intersection. A traffic signal is not warranted at this intersection under Existing with Project conditions per the Average Traffic Estimate Form. Estimated ADT signal warrant analysis worksheets with implementation of the Proposed Project are provided in Appendix I. It is anticipated that the traffic signal warrant would be met upon full buildout of the Central Village Specific Plan including the construction of the future SR-905 overpass which would increase traffic along Cactus Road, north of Airway Road.

  Prior to the first building permit, the Owner/Permittee shall assure by permit and bond the construction of the project improvements at the Cactus Road and Street "D" intersection along the project's frontages and that all improvements shall be completed and operational prior to first occupancy.

- Continental Street/Project Secondary Access Driveway to PA 12 and Street "D"/Colchester Court – Maintained as an all-way stop-control intersection by the Proposed Project. The following lane configuration will be constructed at the intersection:
  - North leg: shared left-through-right lane and a receiving lane (project secondary access driveway to PA 12)
  - West leg: shared left-through-right lane and a receiving lane
  - East leg: shared left-through-right lane and a receiving lane
  - South leg: shared left-through-right lane and a receiving lane
- Park Way and Street "D" – The intersection control at this new intersection is proposed to be configured as a side-street stop-controlled intersection by the Proposed Project. The minor street Park Way would be configured as the stop-controlled approach. The Project will also place delineator along Airway Road; therefore, the access at the intersection will be right-in/right-out only at Park Way. The following lane configuration will be constructed at the intersection:

- Northbound Approach: Shared left-right lane
- Eastbound Approach: Shared through-right lane
- Westbound Approach: left-turn pocket and a through lane

Figure 4.9 displays the proposed roadway classifications while **Figure 4.10** displays the proposed intersection lane geometry.

4.6 Existing with Project Traffic Volumes

Existing with Project traffic volumes were derived by combining the existing traffic volumes (Figure 4.7 and Figure 4.8) and the project trip assignment volumes (Figure 3.5 and Figure 3.6). **Figure 4.11** displays the daily traffic volumes for the study roadway segments and **Figure 4.12** displays the AM/PM peak hour turning movements for the study intersections under Existing with Project conditions.

4.7 Existing with Project Traffic Conditions

This section documents the traffic operations under Existing with Project conditions within the project study area.

4.7.1 Roadway Segment Analysis

Table 4.4 displays the daily roadway LOS for study roadway segments under Existing with Project conditions.

As shown, all study roadway segments would continue to operate at LOS C or better under Existing with Project conditions, with the exception of the following three (3) roadway segments:

- Airway Road, between Continental Street and Britannia Boulevard is projected to operate at substandard LOS F with the addition of the project traffic. The volume to capacity ratio is projected to increase by 0.730.
- Airway Road, between Britannia Boulevard and 50 feet west of La Media Road is projected to operate at substandard LOS F with the addition of the project traffic. The volume to capacity ratio is projected to increase by 0.053.
- Airway Road, between 50 feet west of La Media Road and La Media Road is projected to operate at substandard LOS F with the addition of the project traffic. The volume to capacity ratio is projected to increase by 0.053.

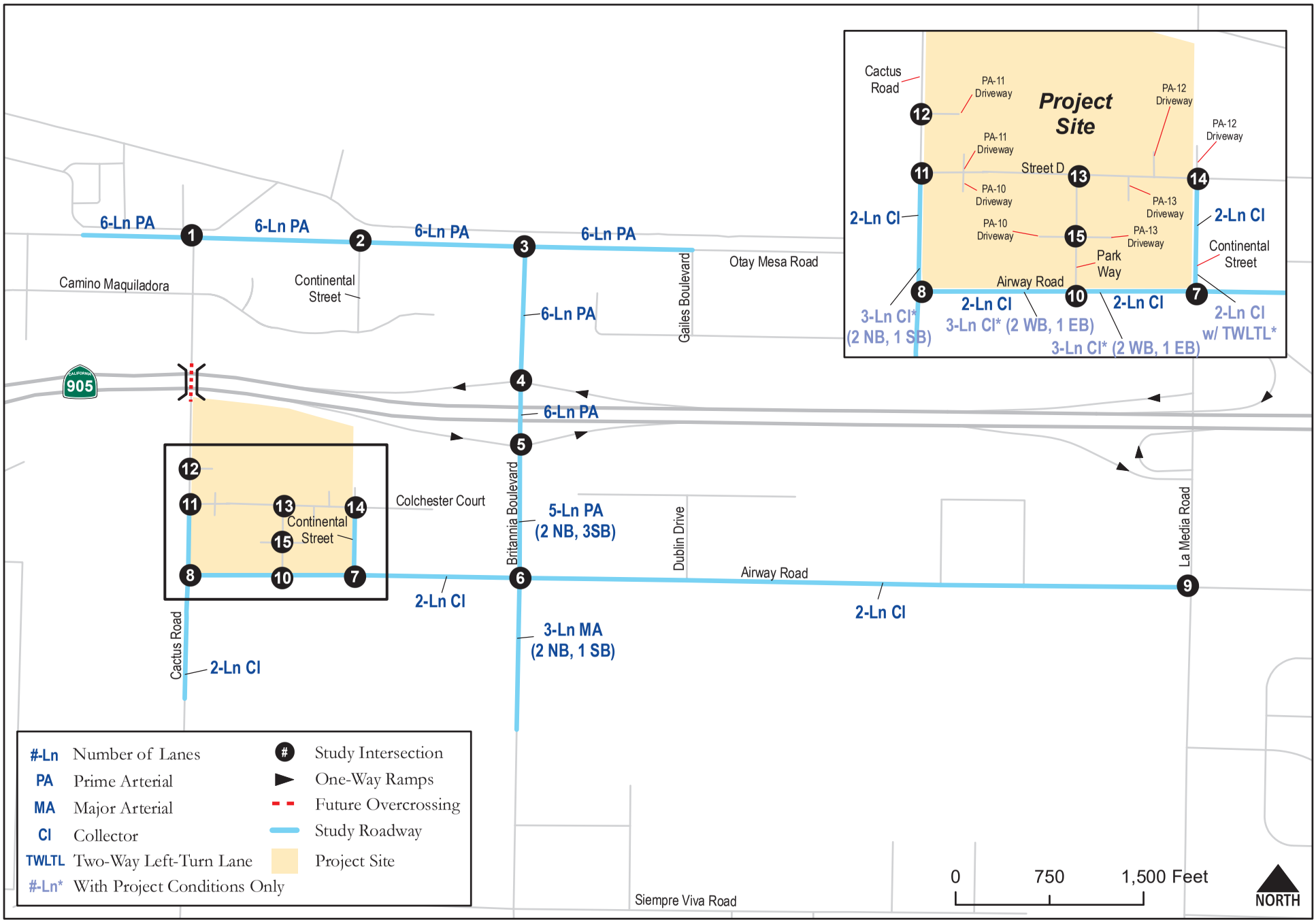

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Figure 4.9
Proposed Roadway Classifications

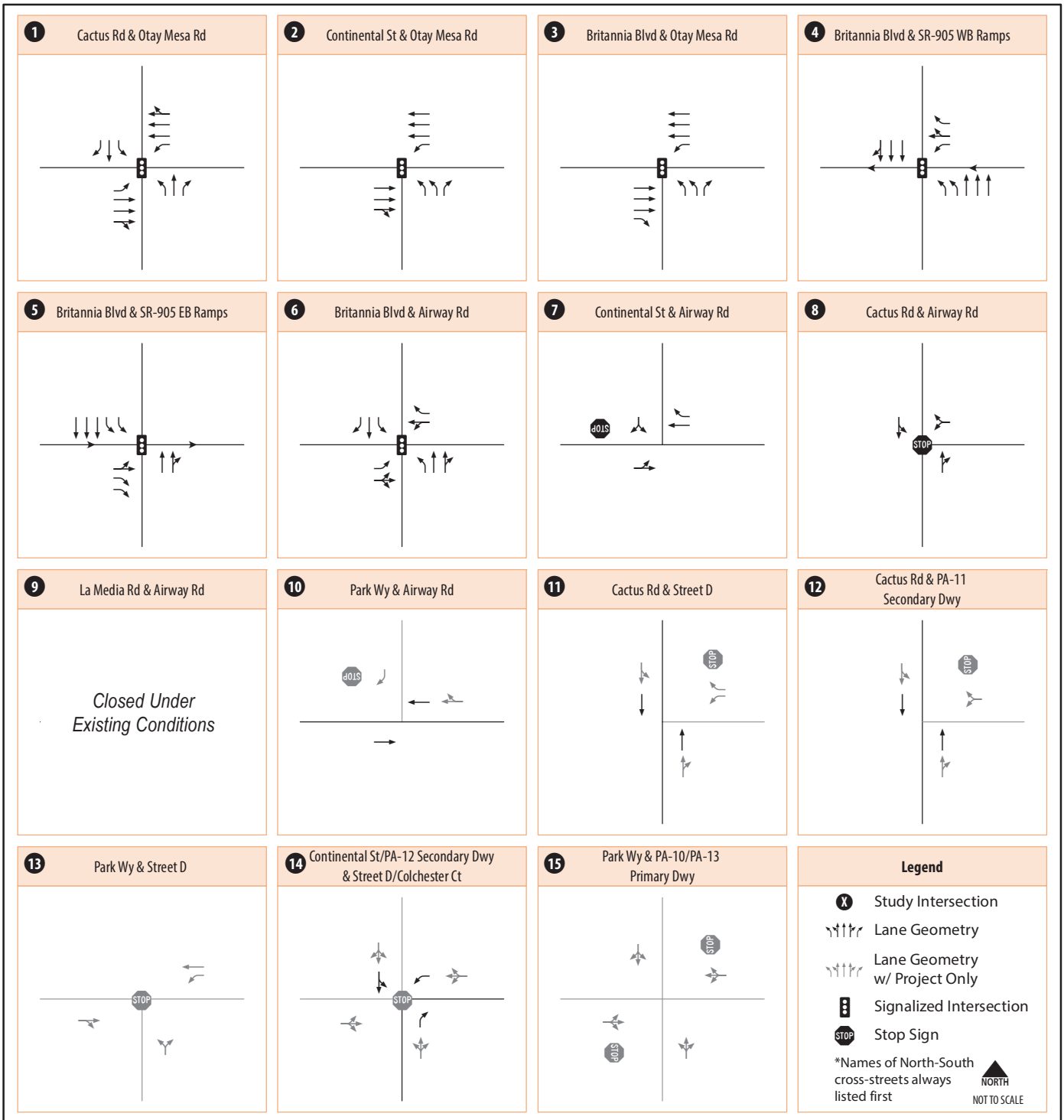

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Figure 4.10
Proposed Intersection Lane Geometry

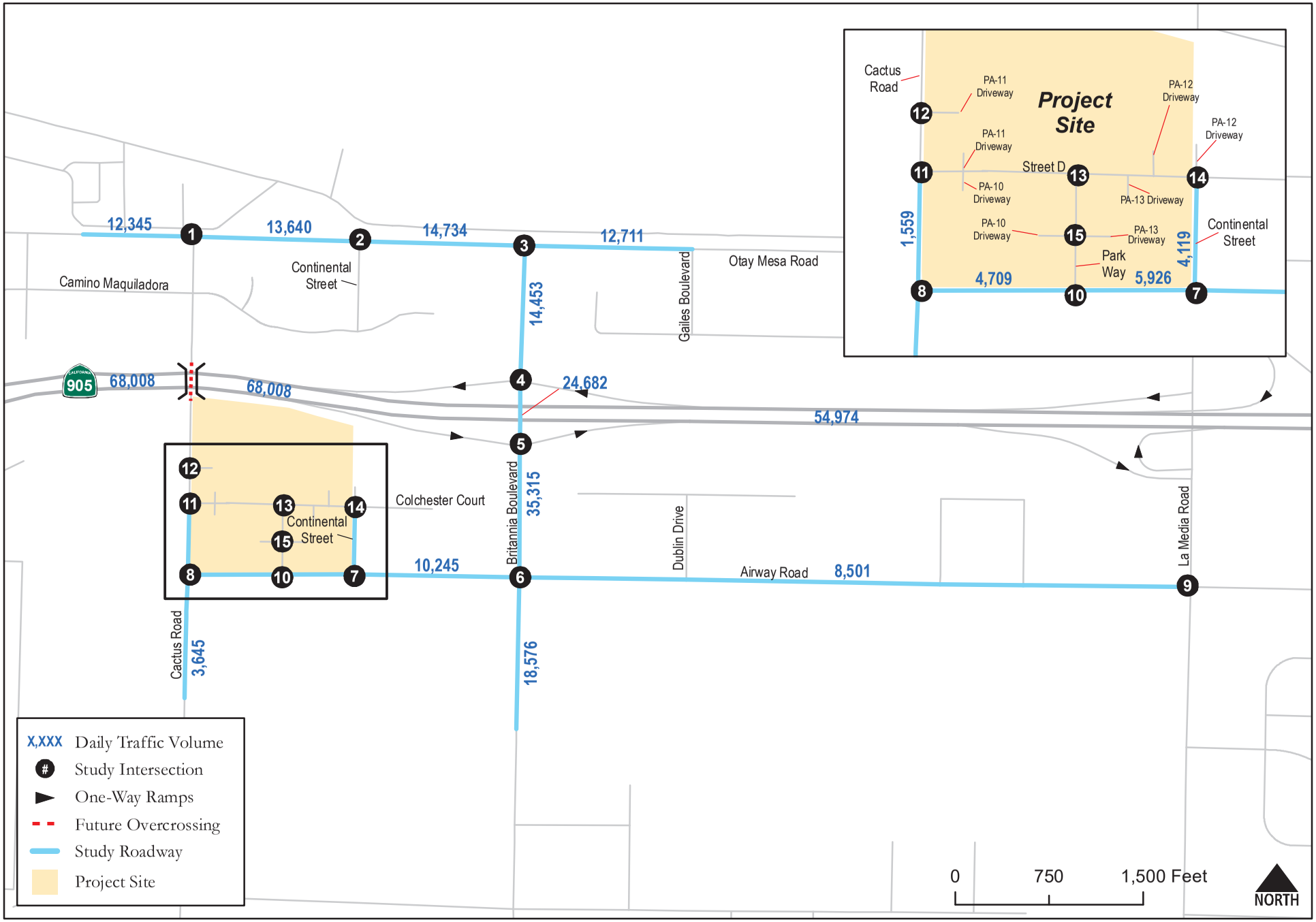

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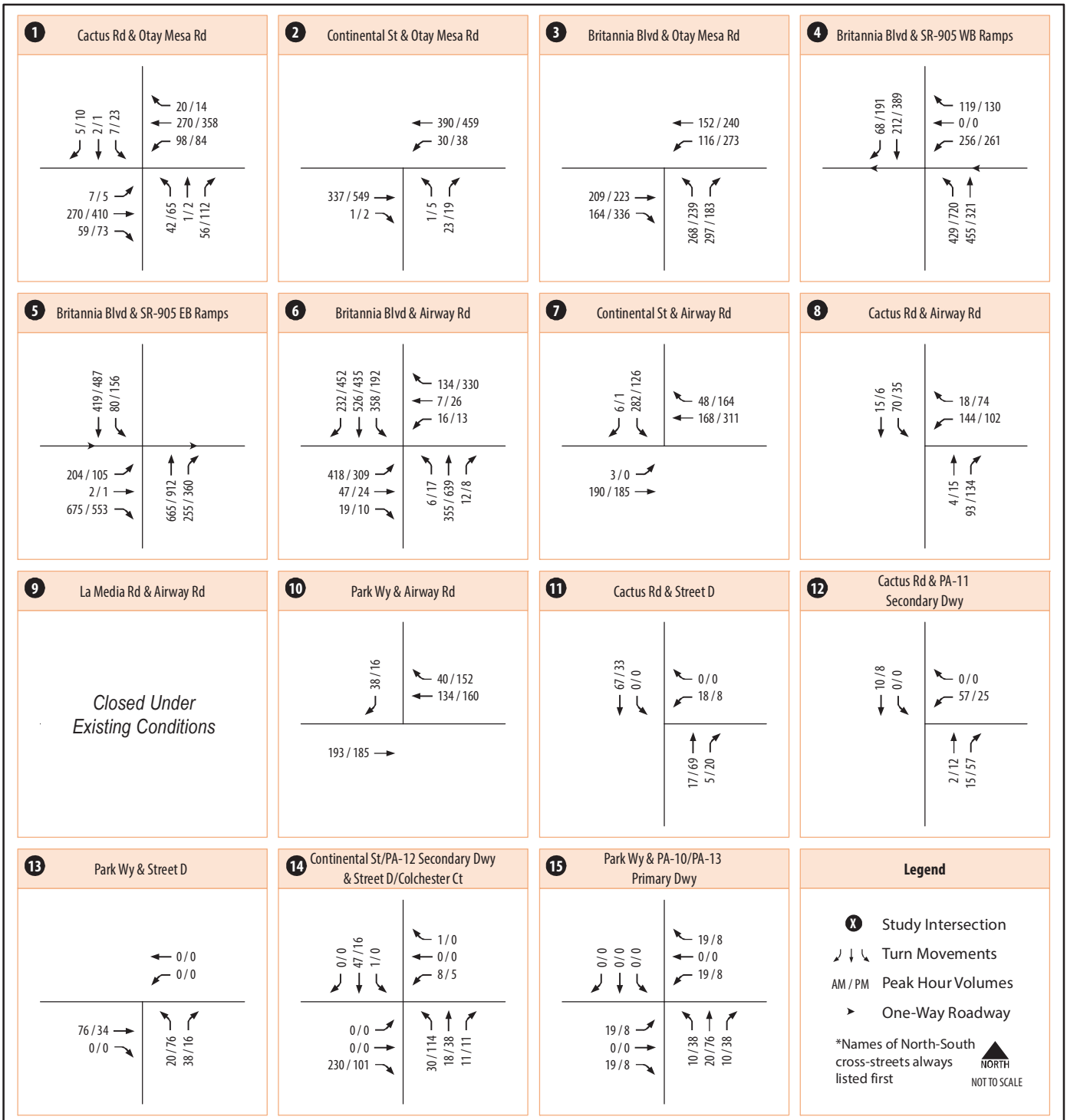
Figure 4.11
Daily Traffic Volumes Existing with Project Conditions



The Collection at Cactus
Transportation Impact Study

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Figure 4.12
Peak Hour Intersection Turning Movements
Existing with Project Conditions

Table 4.4 – Roadway Segment LOS Results – Existing with Project Conditions

Roadway	Segment	Functional Classification	Capacity (LOS E)	ADT	V/C	LOS	V/C w/o Project	LOS w/o Project	ΔV/C	SI?
Otay Mesa Rd	West of Cactus Rd	6-Lane Prime Arterial	60,000	12,345	0.206	A	0.194	A	0.012	N
Otay Mesa Rd	Cactus Rd to Continental St	6-Lane Prime Arterial	60,000	13,640	0.227	A	0.206	A	0.021	N
Otay Mesa Rd	Continental St to Britannia Blvd	6-Lane Prime Arterial	60,000	14,734	0.246	A	0.224	A	0.021	N
Otay Mesa Rd	East of Britannia Blvd	6-Lane Prime Arterial	60,000	12,711	0.212	A	0.198	A	0.014	N
Britannia Blvd	Otay Mesa Rd to SR-905 WB Ramps	6-Lane Prime Arterial	60,000	14,453	0.241	A	0.205	A	0.036	N
Britannia Blvd	SR-905 WB Ramps to SR-905 EB Ramps	6-Lane Prime Arterial	60,000	24,682	0.411	A	0.351	A	0.061	N
Britannia Blvd	SR-905 EB Ramps to Airway Rd	5-Lane (2NB/3SB) Prime Arterial	50,000	35,315	0.706	C	0.604	C	0.102	N
Britannia Blvd	South of Airway Rd	3-Lane (2NB/1SB) Major Arterial	30,000	18,576	0.619	C	0.611	C	0.008	N
Airway Rd	Cactus Rd to Park Wy	3-Lane (1EB/2WB) Collector	11,000	4,709	0.428	B	0.467	C	0.039	N
Airway Rd	Park Wy to Continental St	3-Lane (1EB/2WB) Collector	11,000	5,926	0.539	C	0.467	C	0.072	N
Airway Rd	Continental St to Britannia Blvd	2-Lane Collector	8,000	10,245	1.281	**F**	0.550	C	0.730	**Y**
Airway Rd	Britannia Blvd to 50 feet west of La Media Rd	2-Lane Collector	8,000	8,501	1.063	**F**	1.009	**F**	0.053	**Y**
Airway Rd	50 feet west of La Media Rd to La Media Rd	2-Lane Collector	8,000	8,501	1.063	**F**	1.009	**F**	0.053	**Y**
Cactus Rd	Street D to Airway Rd	3-Lane (2NB/1SB) Collector	11,000	1,559	0.142	A	0.043	A	0.099	N
Cactus Rd	South of Airway Rd	2-Lane Collector	8,000	3,645	0.456	C	0.425	B	0.030	N
Continental St	Street D / Colchester Ct to Airway Rd	2-Lane Collector w/ TWLTL	15,000	4,119	0.275	A	0.059	A	0.216	N

Source: CR Associates (2025)

Note:
ADT = Average Daily Traffic
V/C = Volume to Capacity Ratio
TWLTL = Two-Way Left-Turn Lane
NB = Northbound
SB = Southbound
EB = Eastbound
WB = Westbound
Bold = LOS E or F
SI? = Significant Impact?

4.7.2 Intersection Analysis

Table 4.5 displays the intersection LOS for the project study area intersections under Existing with Project conditions. LOS calculation worksheets for Existing with Project conditions are provided in **Appendix J**.

Table 4.5 -

#	Intersection	Control Type	AM Peak Hour		PM Peak Hour		Delay w/o Project AM/PM	LOS w/o Project AM/PM	Δ in Delay AM/PM	SI?
			Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS				
1	Cactus Rd & Otay Mesa Rd	Signal	15.1	B	20.5	C	14.7 / 18.7	B / B	0.4 / 1.8	N
2	Continental St & Otay Mesa Rd	Signal	16.0	B	6.5	A	14.7 / 6.2	B / A	1.3 / 0.3	N
3	Britannia Blvd & Otay Mesa Rd	Signal	14.3	B	18.7	B	12.9 / 15.4	B / B	1.4 / 3.3	N
4	Britannia Blvd & SR-905 WB Ramps	Signal	17.4	B	25.8	C	15.9 / 20.2	B / C	1.5 / 5.6	N
5	Britannia Blvd & SR-905 EB Ramps	Signal	19.9	B	20.7	C	15.2 / 19.8	B / B	4.7 / 0.9	N
6	Britannia Blvd & Airway Rd	Signal	77.6	**E**	42.0	D	33.7 / 32.8	C / C	43.9 / 9.2	**Y**
7	Continental St & Airway Rd[1]	SSSC	40.3	**E**	23.3	C	10.0 / 10.4	A / B	30.3 / 12.9	**Y**
8	Cactus Rd & Airway Rd[1]	AWSC	8.9	A	8.7	A	7.8 / 7.7	A / A	1.1 / 1.0	N
9	La Media Rd & Airway Rd	Signal					Closed[2]			N
10	Park Wy & Airway Rd	SSSC	9.3	A	9.7	A	DNE	DNE	9.3 / 9.7	N
11	Cactus Rd & Street D[1]	SSSC	9.1	A	9.2	A	DNE	DNE	9.1 / 9.2	N
12	Cactus Rd & PA-11 Secondary Dwy	SSSC	8.9	A	8.9	A	DNE	DNE	8.9 / 8.9	N
13	Park Wy & Street D	SSSC	9.0	A	9.1	A	DNE	DNE	9.0 / 9.1	N
14	Continental St/PA-12 Secondary Dwy & Street D/Colchester Ct	AWSC	7.9	A	8.4	A	6.9 / 6.7	A / A	1.0 / 1.7	N
15	Park Wy & PA-10/PA-13 Primary Dwy	SSSC	8.9	A	9.4	A	DNE	DNE	8.9 / 9.4	N

Source: CR Associates (2025)

Notes:
[1] The estimated ADT signal warrant would not be met for this intersection based on analyzed traffic volumes per the Average Traffic Estimate Form. Estimated ADT signal warrants are provided in Appendix I.
[2] Closed due to La Media Road CIP Project (CIP # S-15018)
AWSC = All-Way Stop-Controlled. For AWSC intersections, the delay shown is the average delay for the entire intersection.
SSSC = Side-Street Stop-Controlled. For SSSC intersections, the delay shown is the worst delay experienced by any of the movements.
DNE = Does Not Exist
Bold = LOS E or F
SI? = Significant Impact?

As shown, the study area intersections are projected to operate at LOS D or better under Existing with Project conditions, with the exception of the following two (2) intersections:

6. Britannia Boulevard & Airway Road – LOS E during the AM peak hour. The trips associated with the Proposed Project would increase the delay at the intersection by 43.9 seconds.
7. Continental Street & Airway Road – LOS E during the AM peak hour. The trips associated with the Proposed Project would increase the delay at the intersection by 30.3 seconds.

Additionally, estimated ADT signal warrant analysis under Existing with Project conditions was conducted for intersections identified to be improved as a signalized intersection per the Otay Mesa CVSP TFTA, with results as follows:

7. Continental Street and Airway Road – A traffic signal is not warranted at this intersection under Existing with Project conditions per the Average Traffic Estimate Form.
8. Cactus Road and Airway Road - A traffic signal is not warranted at this intersection under Existing with Project conditions per the Average Traffic Estimate Form.
11. Cactus Road and Street “D” - A traffic signal is not warranted at this intersection under Existing with Project conditions per the Average Traffic Estimate Form.

4.7.3 Ramp Meter Analysis

Per coordination with Caltrans, ramp meters are currently installed but not in operation within the project study area due to low demand during peak hours. Therefore, ramp metering analysis is not included in this scenario.

4.7.4 Freeway Segment Analysis

Table 4.6 displays freeway segment level of service results for the study area freeway mainline facilities under Existing with Project conditions. As shown, all freeway segments within the study area operate at acceptable LOS B or better under Existing with Project conditions.

Table 4.6 – Freeway Segment Analysis – Existing with Project Conditions

Freeway	Segment	AADT[1]	Peak Hour	Direction[2]	# of Lanes	Capacity[3]	D	K	HVF	Peak Hour Volume	V/C	LOS[4]	V/C w/o Project	LOS w/o Project	Δ V/C Ratio	SI?
SR-905	Caliente Ave and Heritage Rd	68,008	AM	EB	3M	7,050	68.25%	8.9%	17.54%	4,360	0.618	B	0.600	B	0.018	N
			PM	EB	3M	7,050	60.64%	10.5 %	17.54%	4,570	0.648	C	0.630	B	0.018	N
	Heritage Rd and Britannia Blvd	68,008	AM	EB	3M	7,050	68.25%	8.9%	17.54%	4,360	0.618	B	0.600	B	0.018	N
			PM	EB	3M	7,050	60.64%	10.5 %	17.54%	4,570	0.648	C	0.630	B	0.018	N
	Britannia Blvd and La Media Rd	54,974	AM	EB	3M+1A	8,460	68.25%	8.9%	17.54%	3,530	0.417	A	0.409	A	0.008	N
			PM	EB	3M+1A	8,460	60.64%	10.5 %	17.54%	3,700	0.437	B	0.429	B	0.008	N

Source: CR Associates (2025)

Notes:
M = Mainline. A = Auxiliary Lane.
[1] AADT = Annual Average Daily Traffic. AADT is provided by Caltrans Traffic Census Program (2021).
[2] In the direction of peak hour traffic. For SR-905, per Caltrans data, the peak hour direction is eastbound for both the AM and PM peak hours.
[3] The capacity is calculated as 2,350 ADT per main lane and 1,410 ADT (60% of the main lane capacity) per auxiliary lane.
[4] LOS during highest directional demand.
D = Directional split. | K = Peak hour %. | HVF = Heavy Vehicle Factor - consistent with the OMCPU. | V/C = Volume to Capacity Ratio
SI? = Significant Impact?

5.0 Opening Year 2027 Conditions

This section describes the study area traffic volume information, roadway network, and LOS analysis results under Opening Year 2027 conditions. The scenarios analyzed in this section include:

- Opening Year 2027 Conditions
- Opening Year 2027 with Project Conditions

5.1 Cumulative Project Traffic

Due to the proximity of the Proposed Project to the Otay Mesa BDM project (PTS# 673818), the same cumulative projects listed within the approved Otay Mesa BDM Traffic Analysis Memorandum were used as the starting point to develop the list of reasonably foreseeable projects expected to be completed by 2027. A review of the listed cumulative projects was conducted by a field review in January 2024 to determine if any projects have been fully built. Additionally, new cumulative projects which were not included at the time the Otay Mesa BDM traffic study was prepared are also included. **Table 5.1** displays trip generation for all twenty-one (21) cumulative projects included in the analysis. **Figure 5.1** displays each of the cumulative project's locations.

As shown, the cumulative projects are anticipated to generate approximately 83,569 daily trips, including 6,966 AM (3,764-in/3,202-out) peak hour trips and 7,828 PM (3,774-in/4,053-out) peak hour trips that will be dispersed throughout the Otay Mesa area and near the Proposed Project vicinity. **Figure 5.2** displays the cumulative projects trip assignment for the study area roadway segments and **Figure 5.3** displays the cumulative projects trip assignment for the study intersections. Relevant cumulative project excerpts are provided in **Appendix K** including trip assignment per respective cumulative project for both daily traffic and peak hour turning movements.

Table 5.1 – Cumulative Projects Trip Generation

Cumulative Project	Units	Land Use	Daily Trips	AM Peak Hour (In / Out)	PM Peak Hour (In / Out)	Project Status
1. Candlelight (PTS#691625)[1]	450 DU	Residential	3,600	288 (58-in / 230-out)	360 (252-in / 108-out)	Approved; not yet constructed
2. California Terraces PA 61 (Lot 1) (PTS#690358)[2]	79 DU	Residential	632	50 (10-in / 40-out)	63 (44-in / 19-out)	Under Construction
3. Metro Airpark Site Phase 1 & 2 (PTS#559378 & PTS#664354)[3]	- 172 Flights - 51.175 KSF Commercial Office - 905 KSF Industrial	Airport / Retail	8,602	951 (850-in /101-out)	936 (115-in / 821-out)	Approved; Not Yet Constructed
4. Cross Border Facility (Phase 2) (PTS#597523)[4]	- 45 KSF Cross Border Facility - 20 KSF Retail - 170 Hotel Rooms - 12-VFP Gas Station	Cross Border Facility	24,700	1,056 (606-in/450-out)	1,167 (587-in/580-out)	Not Yet Constructed
5. Plaza La Media North (Full Buildout) (PTS#334235)[5]	256.789 KSF	Large Industrial Park	2,054	226 (203-in / 23-out)	247 (49-in / 198-out)	Under Construction
6. Sunroad Otay Mesa (Phase 1 and Phase 2) (PTS#538140)[6]	845.1 KSF	Warehouse	4,225	633 (444-in / 189-out)	676 (270-in / 406-out)	Under Construction
7. Otay Mesa Lumina (PTS#555609)[7]	- 739 DU - 6.3 Acre School - 6.6 Acre Park	Mixed-Use Residential / Commercial	15,181	1,214 (390-in / 824-out)	1,532 (944-in / 588-out)	Under Construction
8. Otay Mesa Lumina III (PTS#651806)[8]	25 DU	Residential	200	16 (3-in / 13-out)	20 (14-in / 6-out)	Under Construction
9. Southwest Village VTM-1 (PTS#614791)[15]	920 DU	Residential	7,084	568 (114-in / 454-out)	692 (484-in / 208-out)	In Review
10. Plaza La Media South – Majestic Airway (PTS#632813)[9]	408.61 KSF	Warehouse	2,043	306 (215-in / 91-out)	327 (131-in / 196-out)	Under Construction
11. Otay Mesa Lumina II (PTS#625830)[10]	132 DU	Residential	792	64 (13-in / 51-out)	72 (50-in / 22-out)	Under Construction
12. BDM Mixed Use (PTS#673818)[11]	- 430 DU - 6 KSF Commercial	Residential / Commercial	2,820	215 (46-in / 169-out)	255 (174-in / 81-out)	Approved; Not Yet Constructed
13. Southwind (PRJ-1100701)[15]	100 DU	Residential	800	64 (13-in/51-out)	80 (56-in/24-out)	In Review
14. Airway Gardens (PTS#668987)	454 DU	Residential	2,724	218 (44-in/174-out)	246 (172-in/74-out)	Under Construction
15. Sanyo Logistics Center (PTS#668005)[12]	- 233 KSF Warehouse - 10 KSF Office	Warehouse / Office	1,462	214 (158-in/56-out)	229 (83-in/146-out)	Under Construction
16. Otay Truck Park (PTS#603927)	1,050 Spaces	Truck Storage Facility	2,142	193 (89-in/104-out)	198 (84-in/113-out)	In Review

Table 5.1 – Cumulative Projects Trip Generation

Cumulative Project	Units	Land Use	Daily Trips	AM Peak Hour (In / Out)	PM Peak Hour (In / Out)	Project Status
17. Cannabis Production Facility (PTS#585510)	86.4 KSF	Cannabis Production Facility	346	69 (62-in/7-out)	69 (14-in/55-out)	Approved; Constructed
18. Britannia Airway Logistics (PTS#1048583)[13]	- 32.47 Acre Truck Parking Facility - 6.48 KSF Office	Truck Parking Facility / Office	1,040	157 (112-in/45-out)	166 (63-in/103-out)	Approved; Not Yet Constructed
19. Airway Logistics (PTS#665589)[14]	- 235.48 KSF Warehouse - 12 KSF Office	Warehouse / Office	1,518	222 (165-in/57-out)	237 (86-in/151-out)	Under Construction
20. Crown (PTS#1098608)[15]	-35.7 KSF Warehouse -13.24 Acre Truck Parking Facility	Warehouse/Truck Storage Facility	1,140	172 (120-in/52-out)	182 (72-in/110-out)	In Review
21. 2350 La Media Road (PTS#1065408)[15]	-	Truck Storage Facility	464	70 (49-in/21-out)	74 (30-in/44-out)	In Review
Cumulative Total			**83,569**	**6,966 (3,764-in / 3,202-out)**	**7,828 (3,774-in / 4,053-out)**	

Source: CR Associates (2025)

Notes:
[1] Trip generation, distribution, and assignment obtained from Candlelight TIA prepared by Kimley-Horn and Associates and Schwerin and Associates, June 2013.
[2] An amendment to Lot 1 of California Terraces PA 61 to remove the previously approved 45,000 SF of retail use and propose 79 multi-family dwelling units, for a total of 282 multi-family dwelling units for the entire site. Only Lot 1 was included as part of the analysis since all other units for the California Terraces PA 61 project were constructed and occupied when existing count data was collected during the months of March and May 2024. Trip distribution obtained from the California Terraces PA 61 TIA prepared by LOS Engineering, January 2019.
[3] Trip generation, distribution, and assignment obtained from Metropolitan Airpark TIA prepared Rick Engineering, July 2021.
[4] Trip generation, distribution, and assignment obtained from Cross Border Facility TIS prepared by LSA Associates, June 2011.
[5] Trip generation, distribution, and assignment obtained from La Media Retail TIS prepared by Rick Engineering, January 2021.
[6] Trip generation, distribution, and assignment obtained from Sunroad Otay Meda TIA prepared by Kimley Horn, January 2018.
[7] Trip Generation, distribution, and assignment obtained from Otay Mesa Lumina TIS prepared by CR Associates, February 20, 2019.
[8] Trip Generation, distribution, and assignment obtained from Otay Mesa Lumina III TIS prepared by CR Associates, June 17, 2021.
[9] Trip Generation, distribution, and assignment obtained from Majestic Airway Final TIS prepared by Kimley Horn, October 2023.
[10] Trip Generation obtained from Otay Mesa Lumina II TIS prepared by CR Associates, January 14, 2021.
[11] Trip Generation, distribution, and assignment obtained from BDM Mixed Use Traffic Analysis Memorandum prepared by CR Associates, July 2022.
[12] Trip Generation, distribution, and assignment obtained from Sanyo Logistics Center Access Analysis prepared by LLG Engineers, April 2021.
[13] Trip Generation, distribution, and assignment obtained from Britannia Airway Logistics Center Access Analysis prepared by LLG Engineers, January 2023.
[14] Trip Generation, distribution, and assignment obtained from Airway Logistics Center Access Analysis prepared by LLG Engineers, October 2020.
[15] Trip Generation obtained from City of San Diego staff. The updated scope for the cumulative project is expected to generate a total of approximately 576 average daily trips, with 87 (61-in/26-out) during the AM peak hour and 93 (36-in/57-out) during the PM peak hour. However, the previously assumed trip generation displayed in table was utilized for analysis, which is a conservative approach.

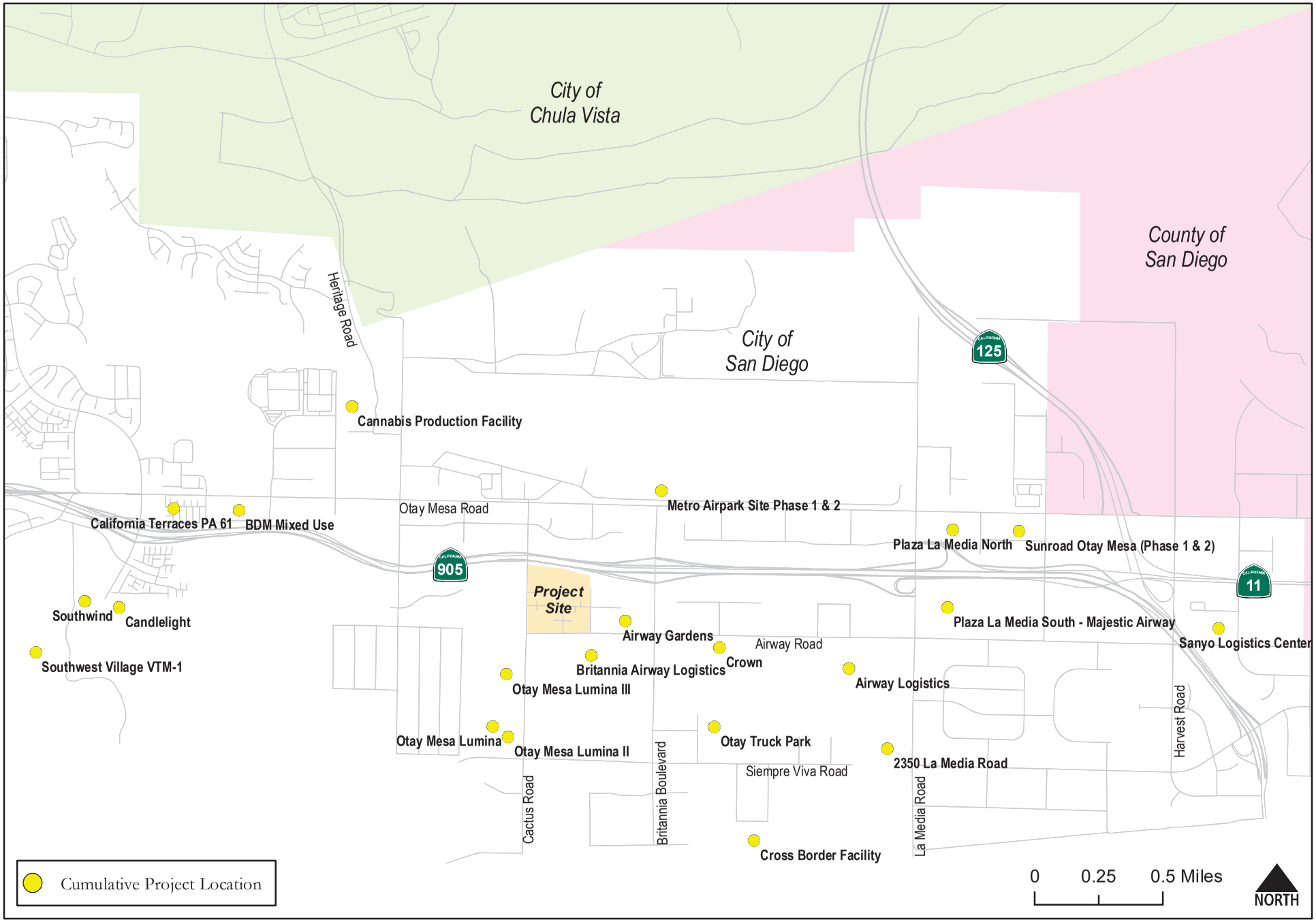

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Figure 5.1
Cumulative Project Locations

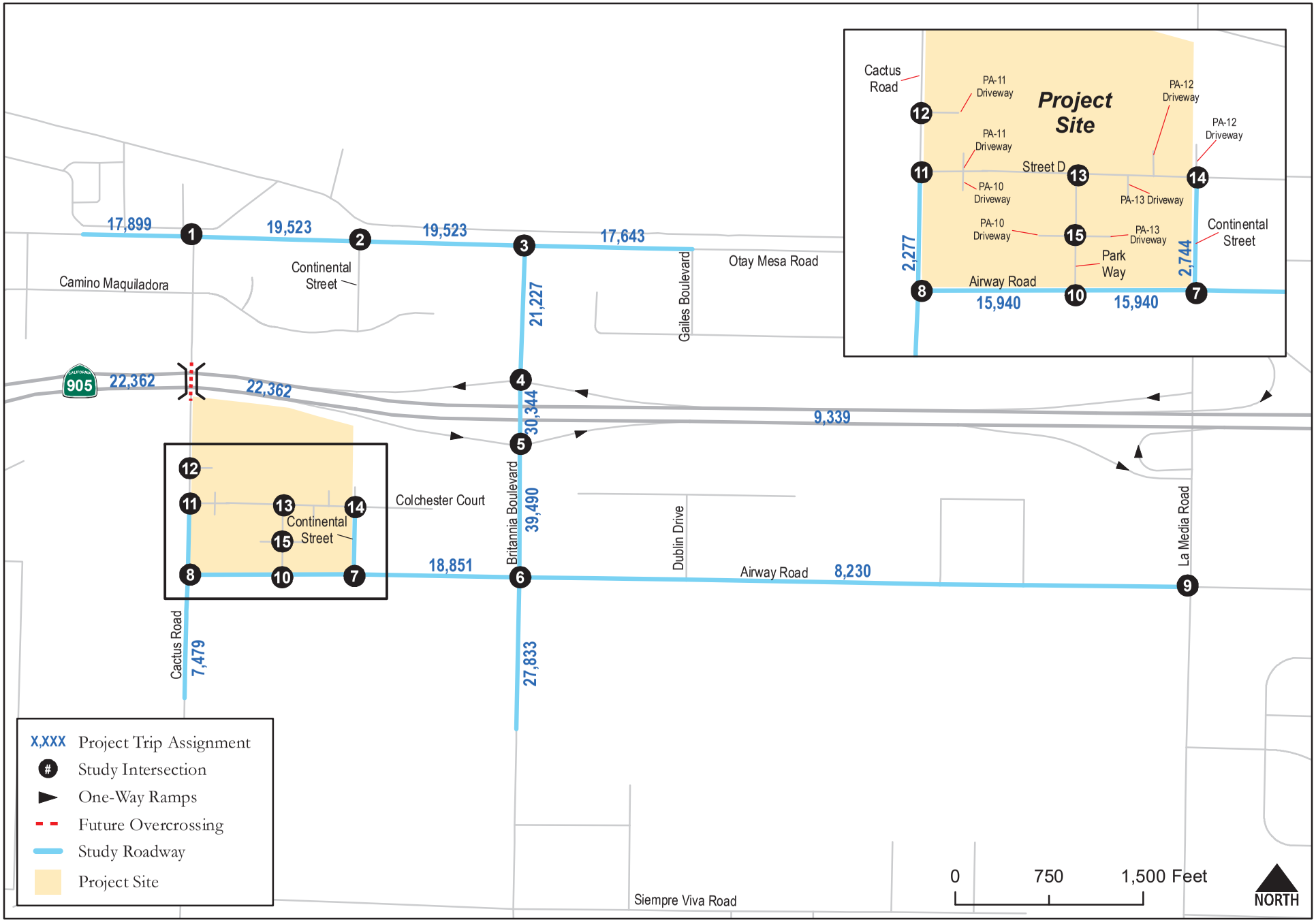

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Figure 5.2
Cumulative Project Trip Assignment
Roadway Segments

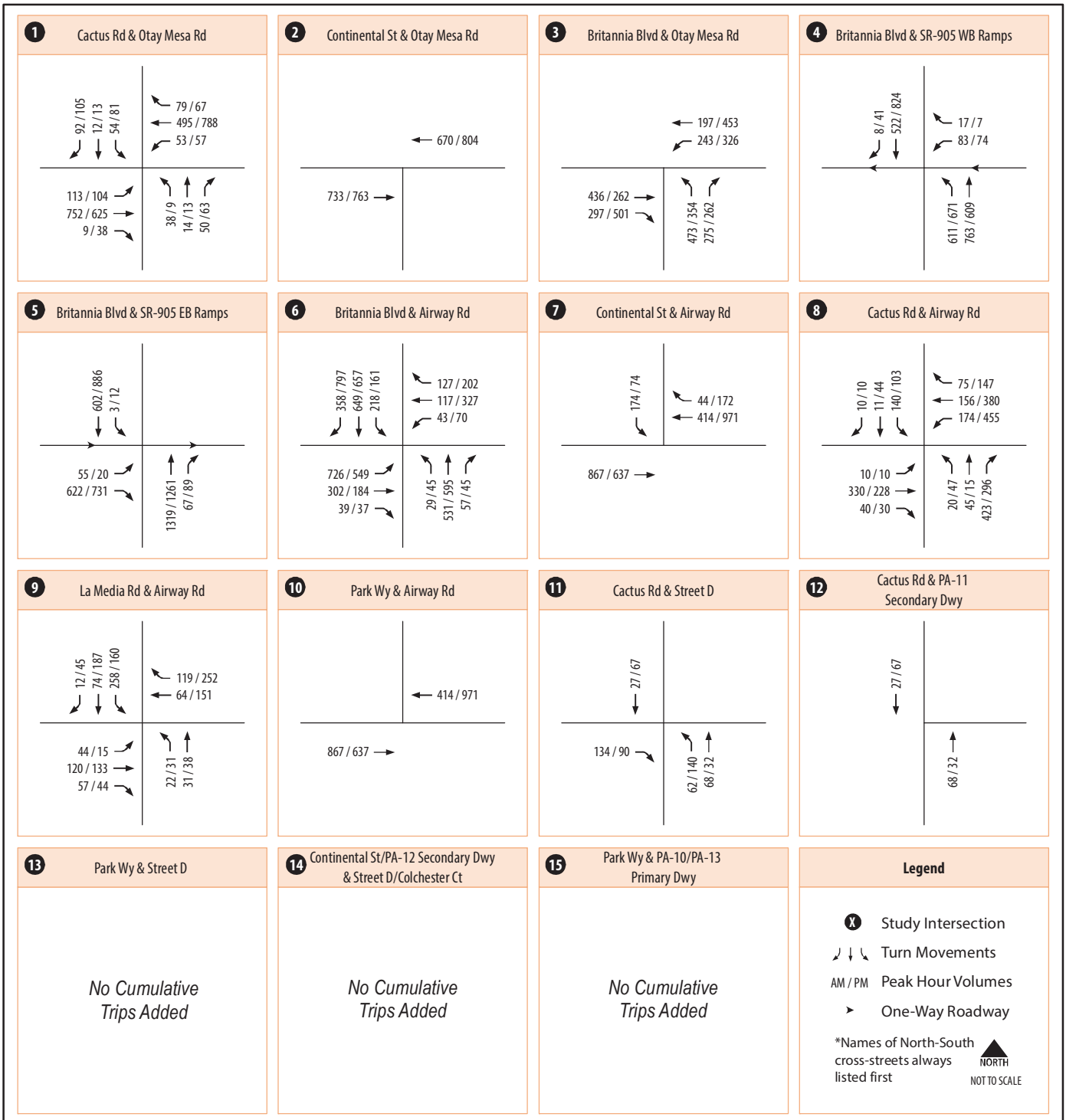

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Figure 5.3
Cumulative Project Trip Assignment
Intersections

5.2 Opening Year 2027 Roadway Network

The roadway network was assumed to be identical to the Existing conditions network as shown in Figure 4.1 and Figure 4.2, with the exception of the improved La Media Road and Airway Road signalized intersection as a result of the La Media Road CIP Project[2], which is assumed to be completed by Spring 2025. Therefore, this study intersection was analyzed per the CIP project roadway and intersection improvements under Opening Year 2027 and Horizon Year 2062 study scenarios. Per the La Media Road CIP Project, the roadway segment along Airway Road between 50 feet west of La Media Road and approximately 50 feet east of La Media Road will be improved from a 2-lane collector without a Two-Way Left-Turn Lane to a 4-lane major arterial. The associated intersection geometry and approved public improvement plans for the La Media Road CIP Project are provided in **Appendix L**.

Additionally, improvements are expected along Airway Road and Cactus Road by the adjacent cumulative project EPOCA residential development, previously known as Otay Mesa Lumina PTS#555609. However, for a conservative analysis, only one inbound and one outbound lane supporting the EPOCA project is assumed with intersection configuration described in detail below:

8. Cactus Road and Airway Road – Maintained as an existing all-way stop-controlled intersection with the following lane configuration:
    - Northbound approach – shared left-through-right lane
    - Southbound approach - shared left-through-right lane
    - Eastbound approach - shared left-through-right lane
    - Westbound approach - shared left-through-right lane

11. Cactus Road and Street "D" – Proposed as a side-street stop-controlled intersection with free uncontrolled movements along Cactus Road. The intersection is configured with the following lane configuration:
    - Northbound approach – left-turn pocket (supports vehicular traffic associated with Neighborhood A of the EPOCA residential development project) and through-right lane
    - Southbound approach – shared through-right-turn lane
    - Eastbound approach – left-right lane

It is important to note that the lane configurations described above are assumed to be striped to support vehicular traffic generated by the EPOCA residential development project. These lane configurations are analyzed under the without Proposed Project scenarios.

5.3 Opening Year 2027 Traffic Volumes

The La Media Road and Airway Road intersection is assumed to be completed and fully operating by the Proposed Project's opening year (Year 2027). Therefore, estimated intersection turning movement volumes at this location under 2024 conditions were developed based on traffic data provided on the Majestic Airway Final Transportation Impact Study (PTS# 632813) (October 2023)

[2] CIP # S-15018 La Media Road improvements include widening La Media Road between SR-905 to Siempre Viva Road. La Media Road will be widened from a two-lane collector to a six-lane primary arterial from SR-905 to Airway Road, and a five-lane major (three southbound lanes/ two northbound lanes) between Airway Road and Siempre Viva Road.

prepared by Kimley Horn including the intersection turning movement volumes at the intersection for its base year 2022. Utilizing a similar approach, a 3% growth[3] per year was estimated between the Majestic Airway TIS base year 2022 and the Proposed Project base year (Year 2024). A total of 6% was applied to each intersection movement to account for two years of traffic growth. Intersection calculations and supporting data to account for the intersection movements at the La Media Road and Airway Road intersection are provided in **Appendix M**.

Opening Year 2027 traffic volumes were derived by combining the existing traffic volumes (Figure 4.5 and Figure 4.6), including the volume estimated at the La Media Road and Airway Road intersection, and the cumulative project trip assignment (Figure 5.2 and Figure 5.3). **Figure 5.4** displays the daily traffic volumes for the study area roadway segments and **Figure 5.5** displays the AM/PM peak hour turning movements for the study intersections under Opening Year 2027 conditions.

[3] Per the Majestic Airway TIS, the growth rate was determined by comparing roadway segment volumes included in the SANDAG Model Series 14 (ABM 2+) for the 2016 baseline year and the Majestic Airway project Opening Year 2025. Based on the comparison, the annual growth was determined to be 2.9%. The 3% annual growth rate was selected for conservative analysis.

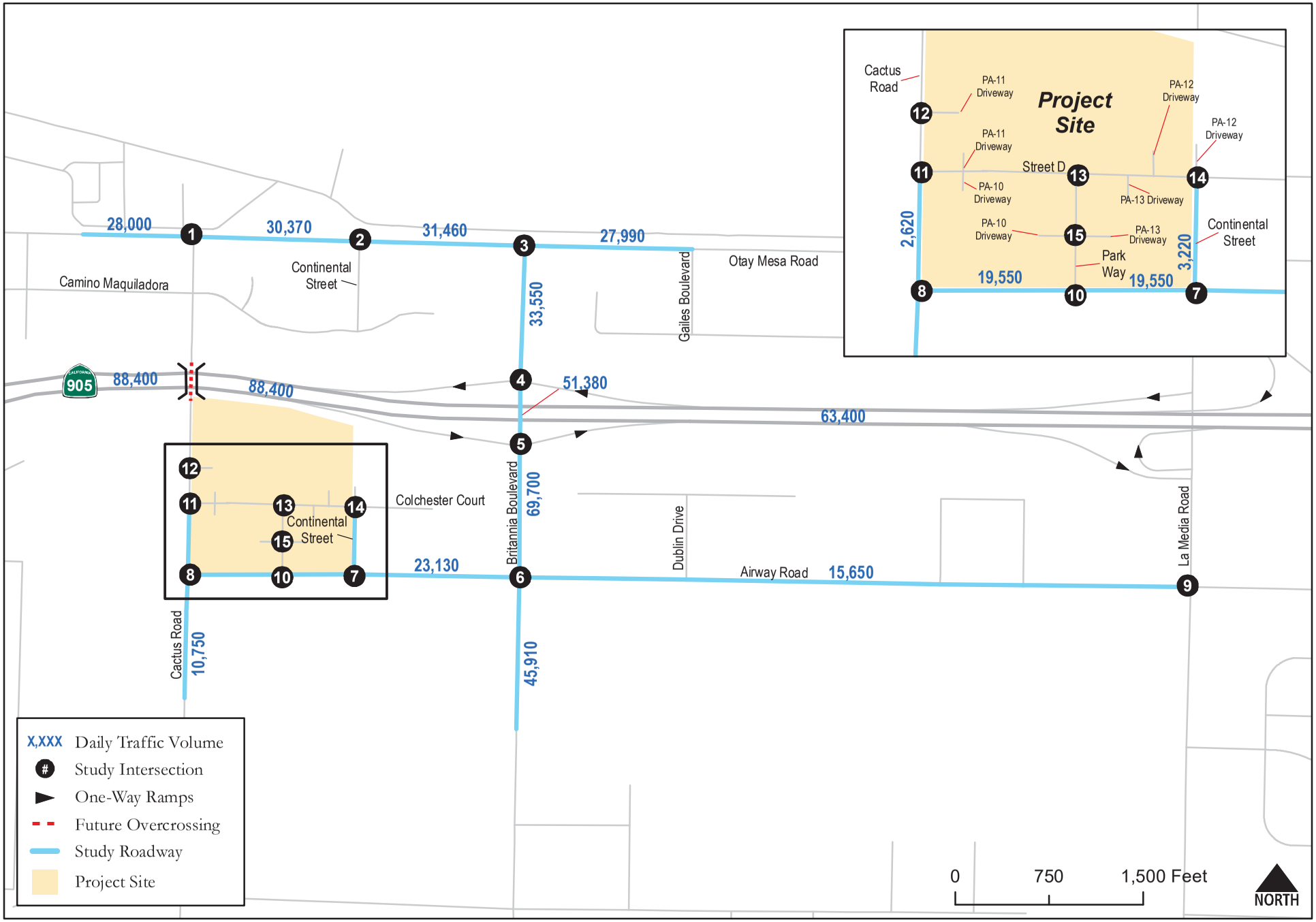

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Figure 5.4
Daily Traffic Volumes
Opening Year 2027 Conditions

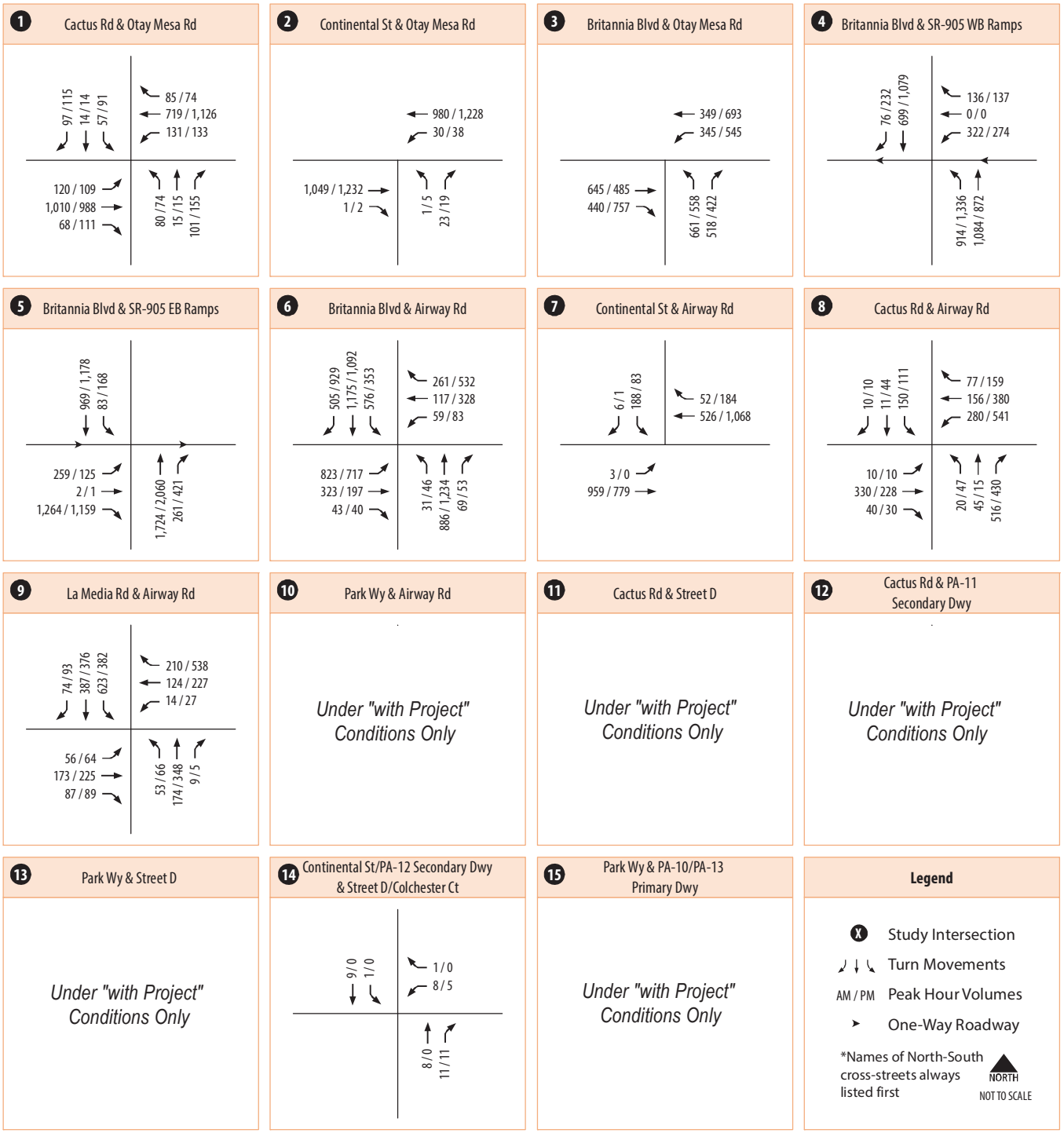

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Figure 5.5
Peak Hour Intersection Turning Movements
Opening Year 2027 Conditions

5.4 Opening Year 2027 Traffic Conditions

This section documents the traffic operations under Opening Year 2027 conditions within the project study area.

5.4.1 Roadway Segment Analysis

Table 5.2 displays the daily roadway LOS for study roadway segments under Opening Year 2027 conditions.

As shown, most study segments are projected to operate at LOS D or better under Opening Year 2027 conditions, with the exception of seven (7) roadway segments:

- Britannia Boulevard, between SR-905 EB Ramps and Airway Road – LOS F
- Britannia Boulevard south of Airway Road – LOS F
- Airway Road, between Cactus Road and Park Way – LOS F
- Airway Road, between Park Way and Continental Street – LOS F
- Airway Road, between Continental Street and Britannia Boulevard – LOS F
- Airway Road, between Britannia Boulevard and 50 feet west of La Media Road – LOS F
- Cactus Road, south of Airway Road – LOS F

Table 5.2 – Roadway Segment LOS Results – Opening Year 2027 Conditions

Roadway	Segment	Functional Classification	Capacity (LOS E)	ADT	V/C	LOS
Otay Mesa Rd	West of Cactus Rd	6-Lane Prime Arterial	60,000	28,000	0.467	B
Otay Mesa Rd	Cactus Rd to Continental St	6-Lane Prime Arterial	60,000	30,370	0.506	B
Otay Mesa Rd	Continental St to Britannia Blvd	6-Lane Prime Arterial	60,000	31,460	0.524	B
Otay Mesa Rd	East of Britannia Blvd	6-Lane Prime Arterial	60,000	27,990	0.467	B
Britannia Blvd	Otay Mesa Rd to SR-905 WB Ramps	6-Lane Prime Arterial	60,000	33,550	0.559	B
Britannia Blvd	SR-905 WB Ramps to SR-905 EB Ramps	6-Lane Prime Arterial	60,000	51,380	0.856	D
Britannia Blvd	SR-905 EB Ramps to Airway Rd	5-Lane (2NB/3SB) Prime Arterial	50,000	69,700	1.394	**F**
Britannia Blvd	South of Airway Rd	3-Lane (1NB/2SB) Major Arterial	30,000	45,910	1.530	**F**
Airway Rd	Cactus Rd to Park Wy	2-Lane Collector	8,000	19,550	2.444	**F**
Airway Rd	Park Wy to Continental St	2-Lane Collector	8,000	19,550	2.444	**F**
Airway Rd	Continental St to Britannia Blvd	2-Lane Collector	8,000	23,130	2.891	**F**
Airway Rd	Britannia Blvd to 50 feet west of La Media Rd	2-Lane Collector	8,000	15,650	1.956	**F**
Airway Rd	50 feet west of La Media Rd to La Media Rd	4-Lane Major Arterial[1]	40,000	15,650	0.391	B
Cactus Rd	Street D to Airway Rd	2-Lane Collector	8,000	2,620	0.328	B
Cactus Rd	South of Airway Rd	2-Lane Collector	8,000	10,750	1.344	**F**
Continental St	Street D/Colchester Ct to Airway Rd	2-Lane Collector	8,000	3,220	0.403	B

Source: CR Associates (2025)

Notes:
[1] To be constructed by CIP # S-15018 La Media Road improvements project
ADT = Average Daily Traffic
V/C = Volume to Capacity Ratio
NB = Northbound
SB = Southbound
EB = Eastbound
WB = Westbound
Bold = LOS E or F

5.4.2 Intersection Analysis

Table 5.3 displays the intersection LOS for the project study area intersections under Opening Year 2027 conditions. LOS calculation worksheets for Opening Year 2027 conditions are provided in **Appendix N.**

Table 5.3 – Intersection LOS Results – Opening Year 2027 Conditions

#	Intersection	Control Type	AM Peak Hour		PM Peak Hour	
			Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS
1	Cactus Rd & Otay Mesa Rd	Signal	25.7	C	29.4	C
2	Continental St & Otay Mesa Rd	Signal	5.2	A	5.7	A
3	Britannia Blvd & Otay Mesa Rd	Signal	29.1	C	50.3	D
4	Britannia Blvd & SR-905 WB Ramps	Signal	31.5	C	84.2	**F**
5	Britannia Blvd & SR-905 EB Ramps	Signal	164.8	**F**	228.5	**F**
6	Britannia Blvd & Airway Rd	Signal	284.1	**F**	288.4	**F**
7	Continental St & Airway Rd[1]	SSSC	463.4	**F**	BCD	**F**
8	Cactus Rd & Airway Rd[1]	AWSC	162.5	**F**	436.7	**F**
9	La Media Rd & Airway Rd	Signal	30.3	C	29.4	C
14	Continental St & Colchester Ct	AWSC	6.9	A	6.6	A

Source: CR Associates (2025)

Notes:
[1] The estimated ADT signal warrant would be met for this intersection based on analyzed traffic volumes per the Average Traffic Estimate Form. Estimated ADT signal warrants are provided in Appendix I.
AWSC = All-Way Stop-Controlled. For AWSC intersections, the delay shown is the average delay for the entire intersection.
SSSC = Side-Street Stop-Controlled. For SSSC intersections, the delay shown is the worst delay experienced by any of the movements.
BCD = Exceeds maximum reasonable calculable delay of 600 seconds per Synchro 11.0 traffic analysis software.
Bold = LOS E or F

As shown, most study intersections are projected to operate at LOS D or better under Opening Year 2027 conditions, with the exception of the following five (5) intersections:

4. Britannia Boulevard & SR-905 Westbound Ramps – LOS F during the PM peak hour.
5. Britannia Boulevard & SR-905 Eastbound Ramps – LOS F during the AM and PM peak hours.
6. Britannia Boulevard & Airway Road – LOS F during the AM and PM peak hours.
7. Continental Street & Airway Road – LOS F during the AM and PM Peak hours.
8. Cactus Road & Airway Road – LOS F during the AM and PM peak hours.

Additionally, estimated ADT signal warrant analysis under Opening Year 2027 conditions was conducted for intersections identified to be improved to a signalized intersection per the Otay Mesa CVSP TFTA with results as follows:

7. Continental Street and Airway Road – A traffic signal is warranted at this intersection under Opening Year 2027 conditions per the Average Traffic Estimate Form.

8. Cactus Road and Airway Road - A traffic signal is warranted at this intersection under Opening Year 2027 conditions per the Average Traffic Estimate Form. However, per

CAMUTCD, the satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal. Furthermore, EPOCA (Otay Mesa Lumina PTS#555609) is conditioned to signalize this intersection per the approved traffic signal plan (Project #673439 Plan Set 42088-19-D).

5.4.3 Ramp Meter Analysis

Table 5.4 displays ramp meter analysis results for the study area locations under Opening Year 2027 conditions.

Table 5.4 – Freeway Ramp Metering Analysis – Opening Year 2027 Conditions

Location	Peak Hour	Total Demand[1] (veh/hr)	# of SOV Lanes	SOV Demand[2]	Meter Rate[3] (veh/hr/lane)	Excess Demand[4] (veh/hr/lane)	Delay[5] (min)	Queue[6] (ft)	Exceeds 15-minutes?
SR-905 WB On-ramp @ Britannia Blvd	AM	990	2	495	960	0	0	0	N
	PM	1,568	2	784	960	0	0	0	N
SR-905 EB On-ramp @ Britannia Blvd	AM	346	2	173	960	0	0	0	N
	PM	590	2	295	960	0	0	0	N

Source: CR Associates (2025)

Notes:
SOV = Single Occupancy Vehicle
[1] Total Demand is the peak hour demand for both SOV and HOV lanes expected to use the on-ramp.
[2] SOV Demand = (Total Demand – HOV Demand) / # of SOV Lanes.
[3] Meter Rate is the peak hour capacity expected to be processed through the ramp meter per lane. This value was obtained from Caltrans. The average between the "high" and "low" meter rate was used for this analysis.
[4] Excess Demand = (Demand) – (Meter Rate) or zero, whichever is greater.
[5] Delay = (Excess Demand / Meter Rate) X 60 min/hr.
[6] Queue = (Excess Demand) X 25 ft/veh. SOV volumes were used in the calculation of Queue. A zero represents no excess queue.

As shown, none of the freeway on-ramps would experience delays under Opening Year 2027 Conditions.

5.4.4 Freeway Segment Analysis

Table 5.5 displays freeway segment level of service results for the study area freeway mainline facilities under Opening Year 2027 conditions.

As shown, all the freeway segments within the study area would be expected to operate at acceptable LOS D or better under Opening Year 2027 conditions.

Table 5.5 – Freeway Segment Analysis – Opening Year 2027 Conditions

Freeway	Segment	AADT[1]	Peak Hour	Direction[2]	# of Lanes	Capacity[3]	D	K	HVF	Peak Hour Volume	V/C	LOS[4]
SR-905	Caliente Ave and Heritage Rd	88,400	AM	EB	3M	7,050	68.25%	8.9%	17.54%	5,670	0.804	D
			PM	EB	3M	7,050	60.64%	10.5%	17.54%	5,940	0.843	D
	Heritage Rd and Britannia Blvd	88,400	AM	EB	3M	7,050	68.25%	8.9%	17.54%	5,670	0.804	D
			PM	EB	3M	7,050	60.64%	10.5%	17.54%	5,940	0.843	D
	Britannia Blvd and La Media Rd	63,400	AM	EB	3M+1A	8,460	68.25%	8.9%	17.54%	4,070	0.481	B
			PM	EB	3M+1A	8,460	60.64%	10.5%	17.54%	4,260	0.504	B

Source: CR Associates (2025)

Notes:
M = Mainline. A = Auxiliary Lane.
[1] AADT = Annual Average Daily Traffic. AADT is provided by Caltrans Traffic Census Program (2021).
[2] In the direction of peak hour traffic. For SR-905, per Caltrans data, the peak hour direction is eastbound for both the AM and PM peak hours.
[3] The capacity is calculated as 2,350 ADT per main lane and 1,410 ADT (60% of the main lane capacity) per auxiliary lane.
[4] LOS during highest directional demand.
D = Directional split. | K = Peak hour %. | HVF = Heavy Vehicle Factor - consistent with the OMCPU. | V/C = Volume to Capacity Ratio

5.5 Opening Year 2027 with Project Roadway Network

The roadway network was assumed to be identical to Opening Year 2027 conditions with exception to the project frontage improvements described in Section 1.2. Based on the project frontage improvements, the improvements will be constructed by the Proposed Project for each of the roadway segments along the project frontage as described Section 4.5.1.

5.6 Opening Year 2027 with Project Traffic Volumes

Opening Year 2027 with Project traffic volumes were derived by combining the Opening Year 2027 traffic volumes (Figure 5.4 and Figure 5.5) and the project trip assignment volumes (Figure 3.7 and Figure 3.8). **Figure 5.6** displays the daily traffic volumes for the study area roadway segments and **Figure 5.7** displays the AM/PM peak hour turning movements for the study intersections under Opening Year 2027 with Project conditions.

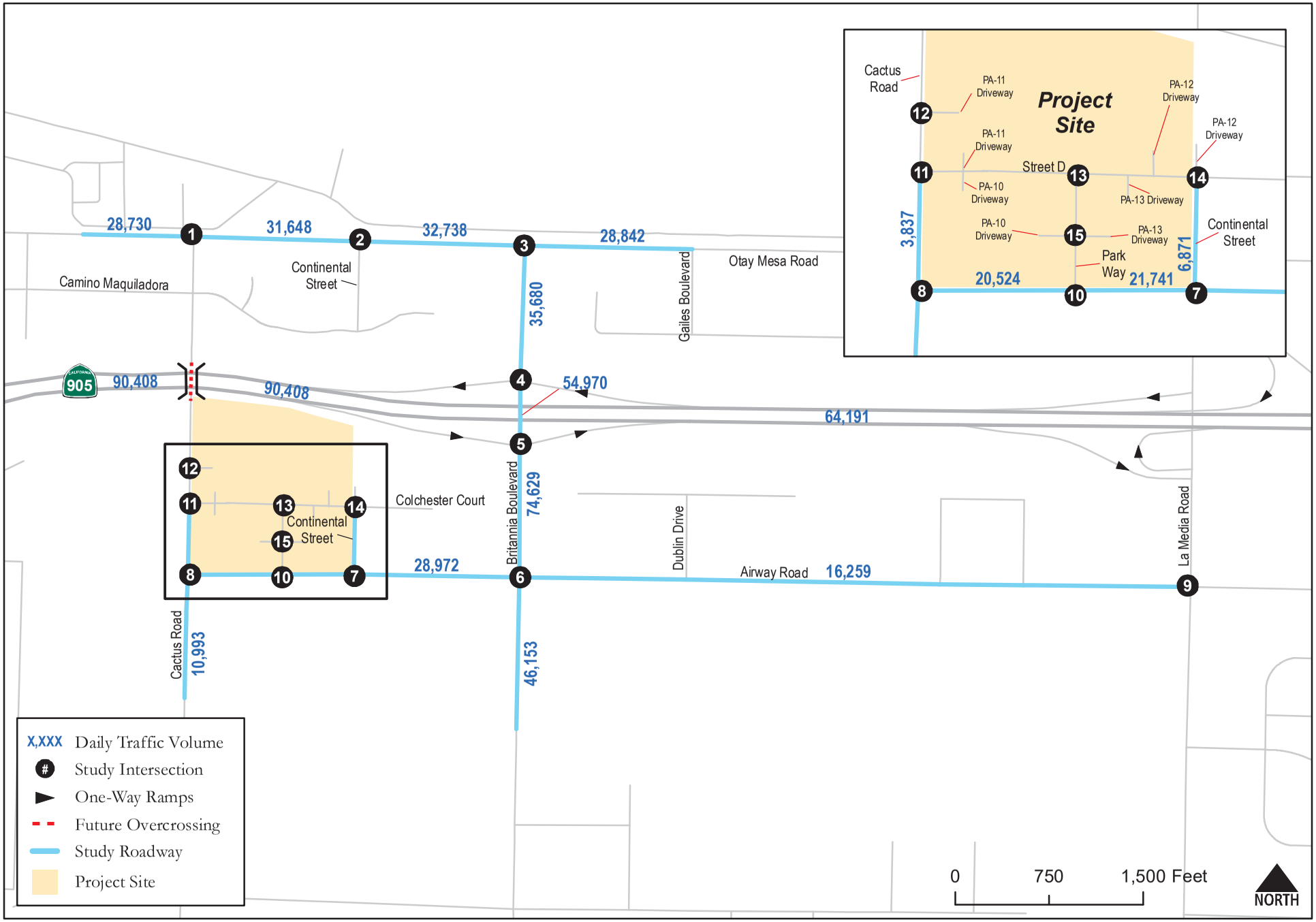

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Figure 5.6
Daily Traffic Volumes
Opening Year 2027 with Project Conditions

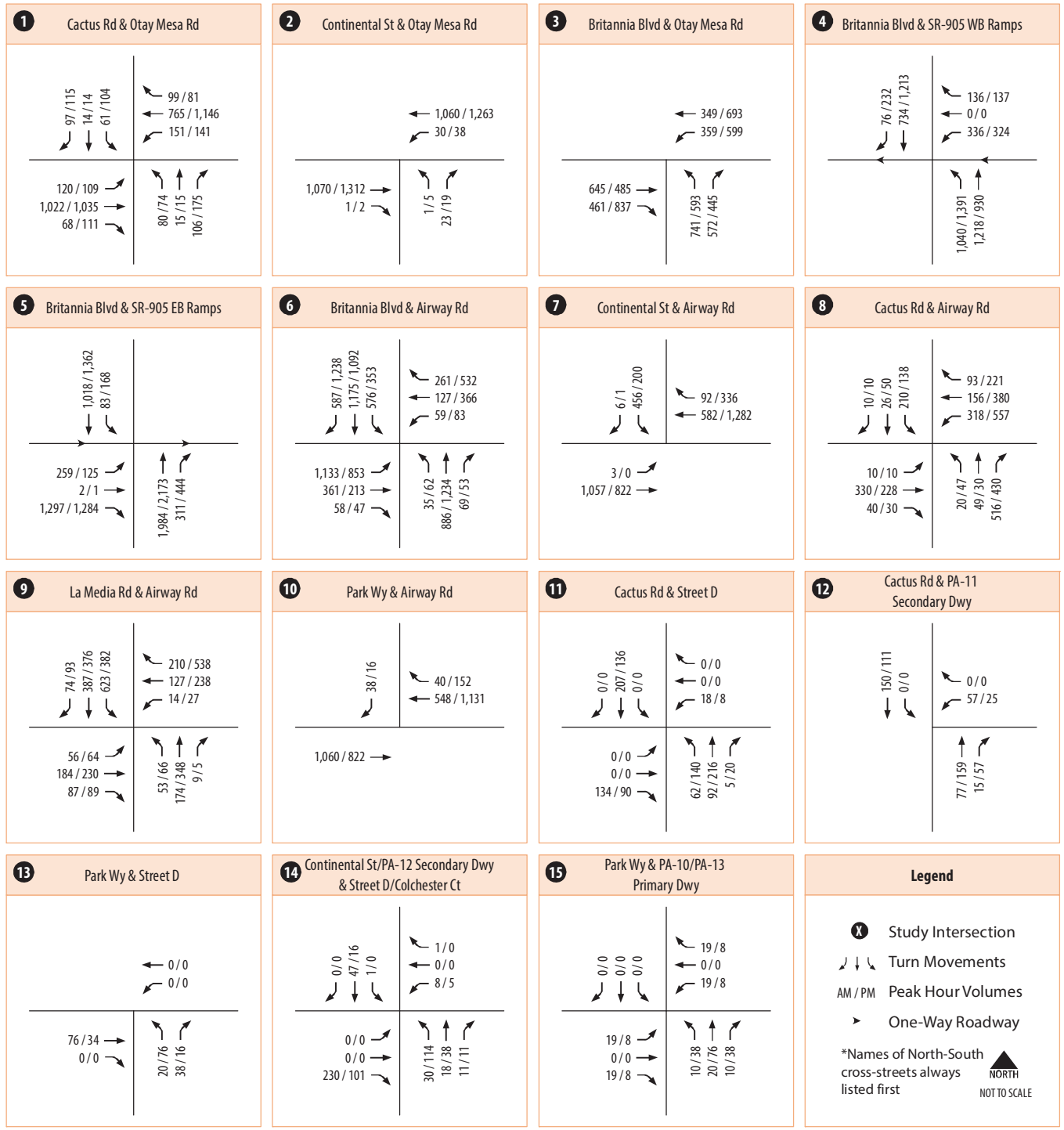

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Figure 5.7
Peak Hour Intersection Turning Movements
Opening Year 2027 with Project Conditions

5.7 Opening Year 2027 with Project Traffic Conditions

This section documents the traffic operations under Opening Year 2027 with Project conditions within the project study area.

5.7.1 Roadway Segment Analysis

Table 5.6 displays the daily roadway LOS for study roadway segments under Opening Year 2027 with Project conditions.

As shown, some of the study roadway segments would continue to operate at LOS D or better within the study area, with the implementation of the Proposed Project, except for the following seven (7) roadway segments:

- Britannia Boulevard, between SR-905 Eastbound Ramps and Airway Road is projected to operate at substandard LOS F with the addition of the project traffic. The volume to capacity ratio is projected to increase by 0.099. Based upon the significance criteria, the project would have a direct significant impact along this roadway segment under Opening Year 2027 with Project conditions and mitigation measures would be required by the project.
- Britannia Boulevard, south of Airway Road is projected to operate at substandard LOS F with the addition of the project traffic. The volume to capacity ratio is projected to increase by 0.008. Based upon the significance criteria, this roadway segment would not be significantly impacted under Opening Year 2027 with Project conditions and mitigation measures would not be required by the project.
- Airway Road, between Cactus Road and Park Way is projected to operate at substandard LOS F with the addition of the project traffic. The volume to capacity ratio is projected to decrease by 0.578 due to the widening of Airway Road from a 2-Lane Collector to a 3-Lane Collector (2 WB / 1 EB) by the Project. Based upon the significance criteria, this roadway segment would not be significantly impacted under Opening Year 2027 with Project conditions and mitigation measures would not be required by the project.
- Airway Road, between Park Way and Continental Street is projected to operate at substandard LOS F with the addition of the project traffic. The volume to capacity ratio is projected to decrease by 0.468 due to the widening of Airway Road from a 2-Lane Collector to a 3-Lane Collector (2 WB / 1 EB) by the Project. Based upon the significance criteria, this roadway segment would not be significantly impacted under Opening Year 2027 with Project conditions and mitigation measures would not be required by the project.
- Airway Road, between Continental Street and Britannia Boulevard is projected to operate at substandard LOS F with the addition of the project traffic. The volume to capacity ratio is projected to increase by 0.730. Based upon the significance criteria, the project would have a direct significant impact along this roadway segment under Opening Year 2027 with Project conditions and mitigation measures would be required by the project.
- Airway Road, between Britannia Boulevard and 50 feet west of La Media Road is projected to operate at substandard LOS F with the addition of the project traffic. The volume to capacity ratio is projected to increase by 0.076. Based upon the significance criteria, the project would have a direct significant impact along this roadway segment under Opening Year 2027 with Project conditions and mitigation measures would be required by the project.

- Cactus Road, south of Airway Road is projected to operate at substandard LOS F with the addition of the project traffic. The volume to capacity ratio is projected to increase by 0.030. Based upon the significance criteria, the project would have a direct significant impact along this roadway segment under Opening Year 2027 with Project conditions and mitigation measures would be required by the project.

Recommended mitigation measures by the Project at the study segments where the Proposed Project would have a significant direct impact are discussed in Section 7.1.1.

Additionally, the following study roadway segment is anticipated to improve in LOS with the implementation of the Proposed Project and the Proposed Project's frontage improvements:

- Cactus Road, between Street "D" to Airway Road is projected to improve from LOS B to LOS A as a result of the Proposed Project's frontage improvements. Even though the volume to capacity ratio is projected to increase by 0.021, this segment would operate better due to the widening of Cactus Road from a 2-Lane Collector to a 3-Lane Collector (2 NB / 1 SB) by the Project.

Table 5.6 – Roadway Segment LOS Results – Opening Year 2027 with Project Conditions

Roadway	Segment	Functional Classification	Capacity (LOS E)	ADT	V/C	LOS	V/C w/o Project	LOS w/o Project	ΔV/C	SI?
Otay Mesa Rd	West of Cactus Rd	6-Lane Prime Arterial	60,000	28,730	0.479	B	0.467	B	0.012	N
Otay Mesa Rd	Cactus Rd to Continental St	6-Lane Prime Arterial	60,000	31,648	0.527	B	0.506	B	0.021	N
Otay Mesa Rd	Continental St to Britannia Blvd	6-Lane Prime Arterial	60,000	32,738	0.546	B	0.524	B	0.021	N
Otay Mesa Rd	East of Britannia Blvd	6-Lane Prime Arterial	60,000	28,842	0.481	B	0.467	B	0.014	N
Britannia Blvd	Otay Mesa Rd to SR-905 WB Ramps	6-Lane Prime Arterial	60,000	35,680	0.595	C	0.559	B	0.036	N
Britannia Blvd	SR-905 WB Ramps to SR-905 EB Ramps	6-Lane Prime Arterial	60,000	54,970	0.916	D	0.856	D	0.060	N
Britannia Blvd	SR-905 EB Ramps to Airway Rd	5-Lane (2NB/3SB) Prime Arterial	50,000	74,629	1.493	**F**	1.394	**F**	0.099	**Y**
Britannia Blvd	South of Airway Rd	3-Lane (2NB/1SB) Major Arterial	30,000	46,153	1.538	**F**	1.530	**F**	0.008	N
Airway Rd	Cactus Rd to Park Wy	3-Lane (1EB/2WB) Collector	11,000	20,524	1.866	**F**	2.444	**F**	-0.578	N
Airway Rd	Park Wy to Continental St	3-Lane (1EB/2WB) Collector	11,000	21,741	1.976	**F**	2.444	**F**	-0.468	N
Airway Rd	Continental St to Britannia Blvd	2-Lane Collector	8,000	28,972	3.622	**F**	2.891	**F**	0.730	**Y**
Airway Rd	Britannia Blvd to 50 feet west of La Media Rd	2-Lane Collector	8,000	16,259	2.032	**F**	1.956	**F**	0.076	**Y**
Airway Rd	50 feet west of La Media Rd to La Media Rd	4-Lane Major Arterial[1]	40,000	16,259	0.406	B	0.391	B	0.015	N
Cactus Rd	Street D to Airway Rd	3-Lane (2NB/1SB) Collector	11,000	3,837	0.349	A	0.328	B	0.021	N
Cactus Rd	South of Airway Rd	2-Lane Collector	8,000	10,993	1.374	**F**	1.344	**F**	0.030	**Y**
Continental St	Street D / Colchester Ct to Airway Rd	2-Lane Collector w/ TWLTL	15,000	6,871	0.458	B	0.403	B	0.056	N

Source: CR Associates (2025)

Note:
[1] To be constructed by CIP # S-15018 La Media Road improvements project
ADT = Average Daily Traffic
V/C = Volume to Capacity Ratio
TWLTL = Two-Way Left-Turn Lane
NB = Northbound
SB = Southbound
EB = Eastbound
WB = Westbound
Bold = LOS E or F
SI? = Significant Impact?

5.7.2 Intersection Analysis

Table 5.7 displays the intersection LOS for the project study area intersections under Opening Year 2027 with Project conditions. LOS calculation worksheets for Opening Year 2027 with Project conditions are provided in **Appendix O**.

Table 5.7 – Intersection LOS Results – Opening Year 2027 with Project Conditions

#	Intersection	Control Type	AM Peak Hour		PM Peak Hour		Delay w/o Project AM/PM	LOS w/o Project AM/PM	Δ in Delay AM/PM	SI?
			Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS				
1	Cactus Rd & Otay Mesa Rd	Signal	26.4	C	30.5	C	25.7 / 29.4	C / C	0.7 / 1.1	N
2	Continental St & Otay Mesa Rd	Signal	5.7	A	5.9	A	5.2 / 5.7	A / A	0.5 / 0.2	N
3	Britannia Blvd & Otay Mesa Rd	Signal	31.2	C	69.4	**E**	29.1 / 50.3	C / D	2.1 / 19.1	**Y**
4	Britannia Blvd & SR-905 WB Ramps	Signal	36.4	D	112.7	**F**	31.5 / 84.2	C / **F**	4.9 / 28.5	**Y**
5	Britannia Blvd & SR-905 EB Ramps	Signal	213.3	**F**	268.1	**F**	164.8 / 228.5	**F / F**	48.5 / 39.6	**Y**
6	Britannia Blvd & Airway Rd	Signal	368.6	**F**	372.3	**F**	284.1 / 288.4	**F / F**	84.5 / 83.9	**Y**
7	Continental St & Airway Rd[1]	SSSC	BCD	**F**	BCD	**F**	463.4 / BCD	**F / F**	BCD / BCD	**Y**
8	Cactus Rd & Airway Rd[1,2]	AWSC	226.0	**F**	BCD	**F**	162.5 / 436.7	**F / F**	63.5 / BCD	**Y**
9	La Media Rd & Airway Rd	Signal	39.2	D	35.0	C	30.3 / 29.4	C / C	8.9 / 5.6	N
10	Park Wy & Airway Rd	SSSC	13.0	B	25.3	D	DNE	DNE	13.0 / 25.3	N
11	Cactus Rd & Street D[3,4]	SSSC	16.9	C	20.0	C	DNE	DNE	16.9 / 20.0	N
12	Cactus Rd & PA-11 Secondary Dwy	SSSC	10.4	B	10.6	B	DNE	DNE	10.4 / 10.6	N
13	Park Wy & Street D	SSSC	9.0	A	9.1	A	DNE	DNE	9.0 / 9.1	N
14	Continental St/PA-12 Secondary Dwy & Street D/Colchester Ct	AWSC	7.8	A	8.0	A	6.9 / 6.6	A / A	0.9 / 1.4	N
15	Park Wy & PA-10/PA-13 Primary Dwy	SSSC	8.9	A	9.4	A	DNE	DNE	8.9 / 9.4	N

Source: CR Associates (2025)

Notes:
[1] The estimated ADT signal warrant would be met for this intersection based on analyzed traffic volumes per the Average Traffic Estimate Form. Estimated ADT signal warrants are provided in Appendix I.
[2] The Proposed Project will construct full pavement width along the project's frontage on Airway Road, however, if the receiving lanes have yet to be constructed, the through lanes would not be striped as a travel lane.
[3] The estimated ADT signal warrant would not be met for this intersection based on analyzed traffic volumes per the Average Traffic Estimate Form. Estimated ADT signal warrants are provided in Appendix I.
[4] The take off point for the future SR-905 overcrossing would be just south of Street "D" at station 49+33 as shown in Figure 1.3. The Opening Year 2027 with Project estimated vehicular volumes do not assume the overcrossing.
AWSC = All-Way Stop-Controlled. For AWSC intersections, the delay shown is the average delay for the entire intersection.
SSSC = Side-Street Stop-Controlled. For SSSC intersections, the delay shown is the worst delay experienced by any of the movements.
BCD = Exceeds maximum reasonable calculable delay of 600 seconds per Synchro 11.0 traffic analysis software.
DNE = Does Not Exist
Bold = LOS E or F
SI? = Significant Impact?

As shown, some of the project study area intersections are projected to operate at LOS D or better during both the AM and PM peak hours, with the implementation of the Proposed Project, except for the following six (6) intersections:

3. Britannia Boulevard & Otay Mesa Road – LOS E during the PM peak hour. The trips associated with the Proposed Project would increase the delay at the intersection by 19.1 seconds. Based upon the significance criteria, the project would have a significant direct impact at this intersection under Opening Year 2027 with Project conditions and mitigation measures would be required by the project.
4. Britannia Boulevard & SR-905 Westbound Ramps – LOS F during the PM peak hour. The trips associated with the Proposed Project would increase the delay at the intersection by 28.5 seconds. Based upon the significance criteria, the project would have a significant direct impact at this intersection under Opening Year 2027 with Project conditions and mitigation measures would be required by the project.
5. Britannia Boulevard & SR-905 Eastbound Ramps – LOS F during both the AM and PM peak hours. The trips associated with the Proposed Project would increase the delay at the intersection by 48.5 seconds in the AM peak hour and 39.6 seconds in the PM peak hour. Based upon the significance criteria, the project would have a significant direct impact at this intersection under Opening Year 2027 with Project conditions and mitigation measures would be required by the project.
6. Britannia Boulevard & Airway Road – LOS F during both the AM and PM peak hours. The trips associated with the Proposed Project would increase the delay at the intersection by 84.5 seconds in the AM peak hour and 83.9 seconds in the PM peak hour. Based upon the significance criteria, the project would have a significant direct impact at this intersection under Opening Year 2027 with Project conditions and mitigation measures would be required by the project.
7. Continental Street & Airway Road – LOS F during both the AM and PM peak hours. The trips associated with the Proposed Project would increase the delay at the intersection beyond calculable delay during the AM and PM peak hours. Based upon the significance criteria, the project would have a significant direct impact at this intersection under Opening Year 2027 with Project conditions and mitigation measures would be required by the project.
8. Cactus Road & Airway Road – LOS F during both the AM and PM peak hours. The trips associated with the Proposed Project would increase the delay at the intersection by 63.5 seconds in the AM peak hour and beyond calculable delay during in the PM peak hour. Based upon the significance criteria, this intersection would have a significant direct impact at this intersection under Opening Year 2027 with Project conditions and mitigation measures would be required by the project.

Recommended mitigation measures by the Project at the study intersections where the Proposed Project would have a significant direct impact are discussed in Section 7.1.2.

Additionally, estimated ADT signal warrant analysis under Opening Year 2027 with Project conditions was conducted for intersections identified to be improved to a signalized intersection per the Otay Mesa CVSP TFTA with results as follows:

7. Continental Street and Airway Road – A traffic signal is warranted at this intersection under Opening Year 2027 with Project conditions per the Average Traffic Estimate Form.
8. Cactus Road and Airway Road - A traffic signal is warranted at this intersection under Opening Year 2027 with Project conditions per the Average Traffic Estimate Form. However, per CAMUTCD, the satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal. Furthermore, EPOCA (Otay Mesa Lumina PTS#555609) is conditioned to signalize this intersection per traffic signal plan (Project #673439 Plan Set 42088-19-D).
11. Cactus Road and Street "D" - A traffic signal is not warranted at this intersection under Opening Year 2027 with Project conditions per the Average Traffic Estimate Form.

5.7.3 Ramp Meter Analysis

Table 5.8 displays ramp meter analysis results for the study area locations under Opening Year 2027 with Project conditions. As shown, none of the freeway on-ramps would experience delays under Opening Year 2027 with Project conditions.

Table 5.8 – Freeway Ramp Metering Analysis – Opening Year 2027 with Project Conditions

Location	Peak Hour	Total Demand[1] (veh/hr)	# of SOV Lanes	SOV Demand[2]	Meter Rate[3] (veh/hr/lane)	Excess Demand[4] (veh/hr/lane)	Delay[5] (min)	Queue[6] (ft)	Exceeds 15-minutes?	Delay[5] w/o Project (min)	Queue[6] w/o Project (ft)	SI?
SR-905 WB On-ramp @ Britannia Blvd	AM	1,116	2	558	960	0	0	0	N	0	0	N
	PM	1,623	2	812	960	0	0	0	N	0	0	N
SR-905 EB On-ramp @ Britannia Blvd	AM	396	2	198	960	0	0	0	N	0	0	N
	PM	613	2	307	960	0	0	0	N	0	0	N

Source: CR Associates (2025)

Notes:
SOV = Single Occupancy Vehicle
[1] Total Demand is the peak hour demand for both SOV and HOV lanes expected to use the on-ramp.
[2] SOV Demand = (Total Demand – HOV Demand) / # of SOV Lanes.
[3] Meter Rate is the peak hour capacity expected to be processed through the ramp meter per lane. This value was obtained from Caltrans. The average between the "high" and "low" meter rate was used for this analysis.
[4] Excess Demand = (Demand) – (Meter Rate) or zero, whichever is greater.
[5] Delay = (Excess Demand / Meter Rate) X 60 min/hr.
[6] Queue = (Excess Demand) X 25 ft/veh. SOV volumes were used in the calculation of Queue. A zero represents no excess queue.
SI? = Significant Impact?

5.7.4 Freeway Segment Analysis

Table 5.9 displays freeway segment level of service results for the study area freeway mainline facilities under Opening Year 2027 with Project conditions.

As shown, all the freeway segments within the study area operate at acceptable LOS D or better. Based upon the significance criteria, all study freeway mainline facilities would not be significantly impacted under Opening Year 2027 with Project conditions and mitigation measures would not be required.

Table 5.9 – Freeway Segment Analysis – Opening Year 2027 with Project Conditions

Freeway	Segment	AADT[1]	Peak Hour	Direction[2]	# of Lanes	Capacity[3]	D	K	HVF	Peak Hour Volume	V/C	LOS[4]	V/C w/o Project	LOS w/o Project	Δ V/C Ratio	SI?
SR-905	Caliente Ave and Heritage Rd	90,408	AM	EB	3M	7,050	68.25%	8.9%	17.54%	5,800	0.823	D	0.804	D	0.018	N
			PM	EB	3M	7,050	60.64%	10.5%	17.54%	6,080	0.862	D	0.843	D	0.020	N
	Heritage Rd and Britannia Blvd	90,408	AM	EB	3M	7,050	68.25%	8.9%	17.54%	5,800	0.823	D	0.804	D	0.018	N
			PM	EB	3M	7,050	60.64%	10.5%	17.54%	6,080	0.862	D	0.843	D	0.020	N
	Britannia Blvd and La Media Rd	64,191	AM	EB	3M+1A	8,460	68.25%	8.9%	17.54%	4,120	0.487	B	0.481	B	0.006	N
			PM	EB	3M+1A	8,460	60.64%	10.5%	17.54%	4,310	0.509	B	0.504	B	0.006	N

Source: CR Associates (2025)

Notes:
M = Mainline. A = Auxiliary Lane.
[1] AADT = Annual Average Daily Traffic. AADT is provided by Caltrans Traffic Census Program (2021).
[2] In the direction of peak hour traffic. For SR-905, per Caltrans data, the peak hour direction is eastbound for both the AM and PM peak hours.
[3] The capacity is calculated as 2,350 ADT per main lane and 1,410 ADT (60% of the main lane capacity) per auxiliary lane.
[4] LOS during highest directional demand.
D = Directional split. | K = Peak hour %. | HVF = Heavy Vehicle Factor - consistent with the OMCPU. | V/C = Volume to Capacity Ratio
SI? = Significant Impact?

6.0 Horizon Year 2062 Conditions

This section describes the study area traffic volume information, roadway network, and LOS analysis results under Horizon Year 2062 conditions. The scenarios analyzed in this section include:

- Horizon Year 2062 Conditions
- Horizon Year 2062 with Project Conditions

6.1 Horizon Year 2062 Roadway Network

The roadway network was assumed to be identical to the Opening Year 2027 conditions network as described in Section 5.2.

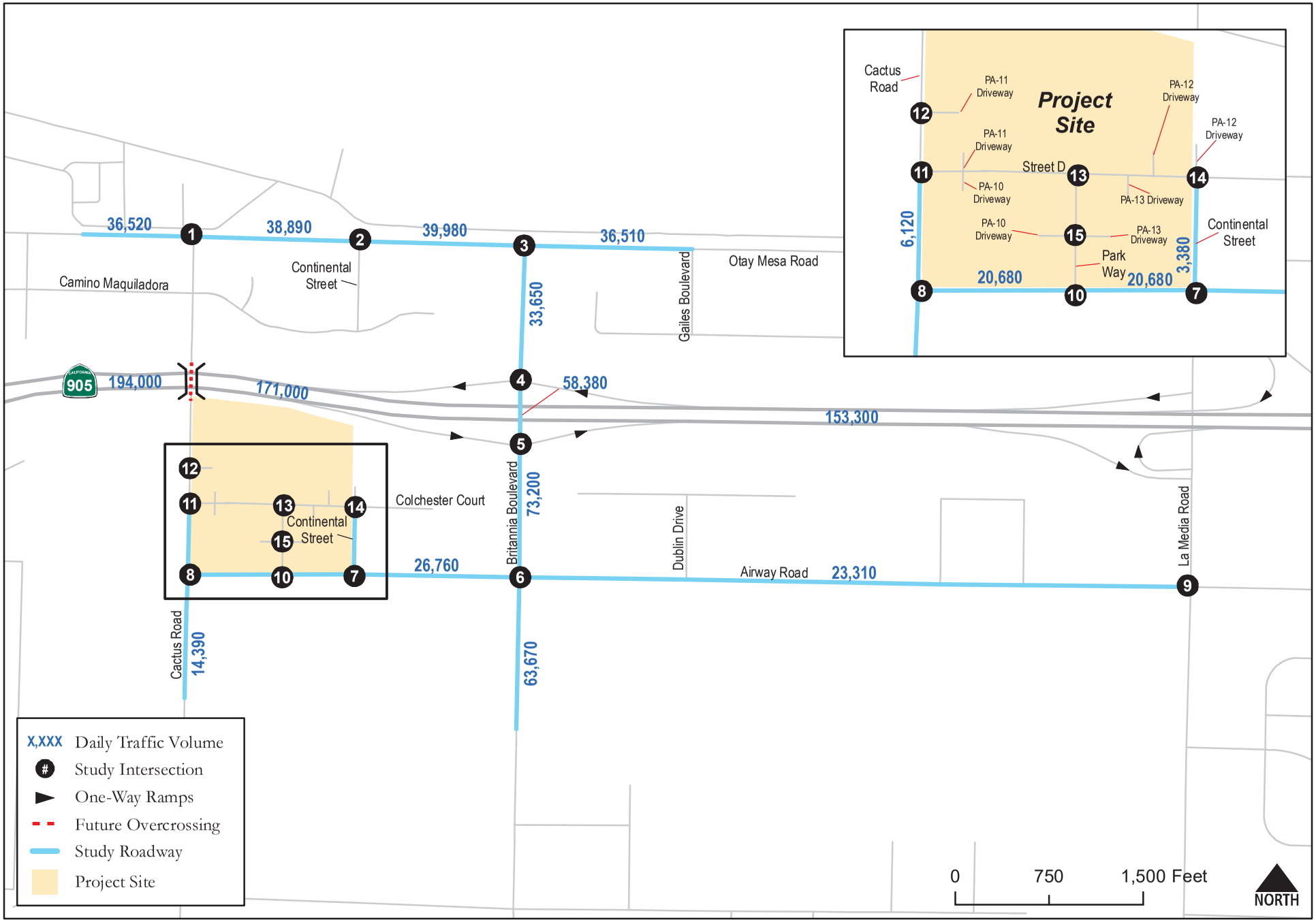
6.2 Horizon Year 2062 Traffic Volumes

Forecasted Horizon Year 2062 daily traffic volumes were developed by determining growth per year observed in the SANDAG Series 14 ABM2+/2021 RP model via the Transportation Forecast Information Center (TFIC) website and applying growth per year to Opening Year 2027[4] daily traffic volumes. The growth per year (ranging between 0.14% and 3.82%) was applied to account for a yearly growth between Opening Year 2027 and Horizon Year 2062 (35 years).

Horizon Year 2062 intersection peak hour turning movement volumes were developed by utilizing the National Cooperative Highway Research Program (NCHRP) Report 255 methodology for estimating intersection turning movements. This methodology describes the use of growth factors, based on the comparison of Opening Year 2027 daily traffic and estimated Horizon Year 2062 daily traffic, which are applied to Opening Year 2027 peak hour intersection approach and departure volumes. Manual adjustments were also made to ensure that traffic volumes among adjacent intersections were reasonably balanced.

Detailed calculations are provided in **Appendix P**. **Figure 6.1** displays the daily traffic volumes for the study area roadway segments and **Figure 6.2** displays the AM/PM peak hour turning movements for the study intersections under Horizon Year 2062 conditions.

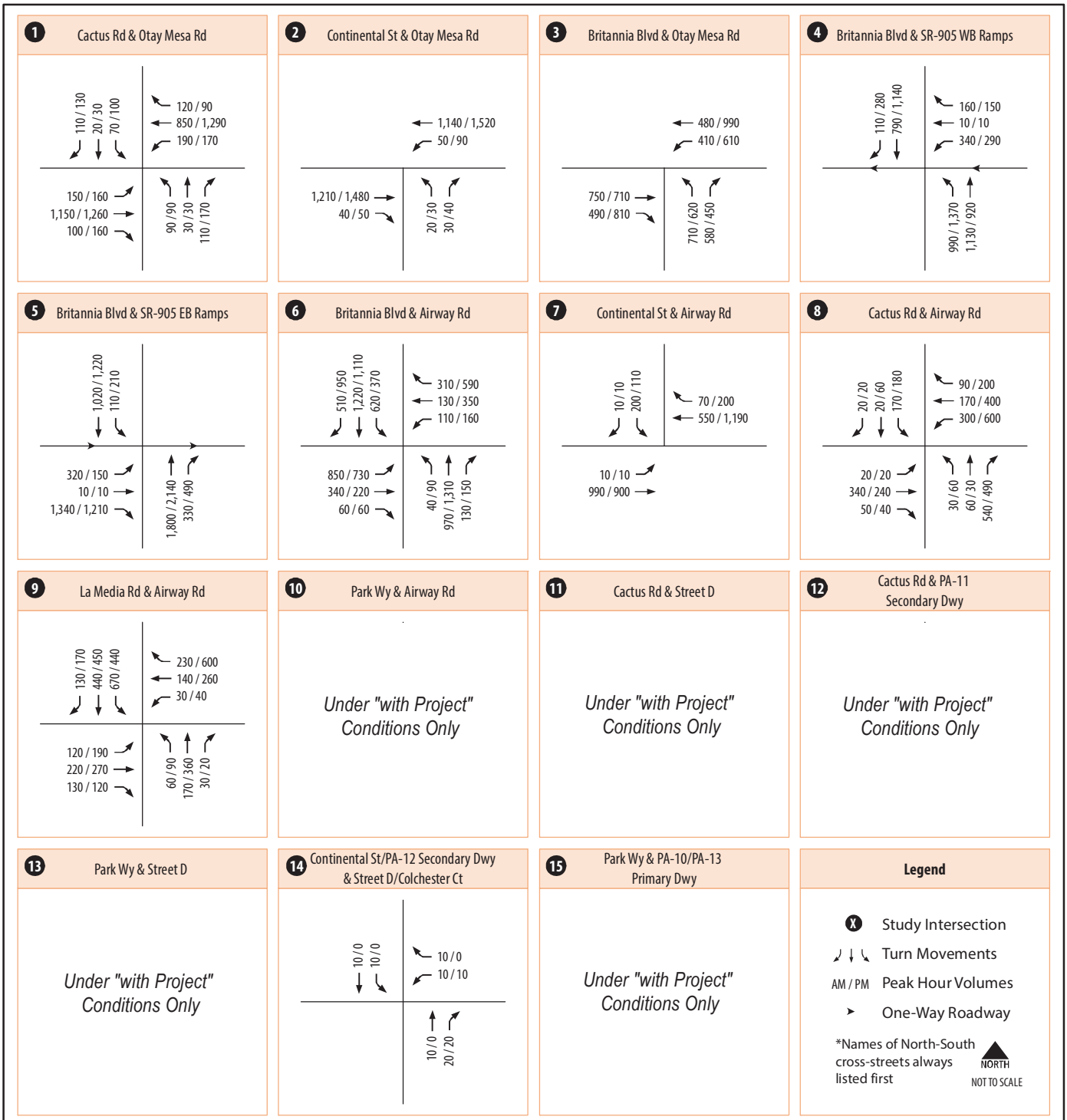
[4] Applying growth to existing traffic count data conducted in 2024 would result in Horizon Year 2062 daily traffic and peak hour turning movement volumes less than Opening Year 2027 traffic volumes. For a conservative analysis, Horizon Year 2062 traffic volumes were developed by applying the growth per year observed in the SANDAG Series 14 ABM2+/2021 RP model to Opening Year 2027 traffic volumes.



The Collection at Cactus
Transportation Impact Study

C+R

Figure 6.1
Daily Traffic Volumes
Horizon Year 2062 Conditions



The Collection at Cactus
Transportation Impact Study

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Figure 6.2
Peak Hour Intersection Turning Movements
Horizon Year 2062 Conditions

6.3 Horizon Year 2062 Traffic Conditions

This section documents the traffic operations under Horizon Year 2062 conditions within the project study area.

6.3.1 Roadway Segment Analysis

Table 6.1 displays the daily roadway LOS for study roadway segments under Horizon Year 2062 conditions.

As shown, all the project study area roadway segments are projected to operate at LOS D or better under Horizon Year 2062 conditions except for the following eight (8) roadway segments:

- Britannia Boulevard, between SR-905 WB Ramps and SR-905 EB Ramps – LOS E
- Britannia Boulevard, between SR-905 EB Ramps and Airway Road – LOS F
- Britannia Boulevard south of Airway Road – LOS F
- Airway Road, between Cactus Road and Park Way – LOS F
- Airway Road, between Park Way and Continental Street – LOS F
- Airway Road, between Continental Street and Britannia Boulevard – LOS F
- Airway Road, between Britannia Boulevard and 50 feet west of La Media Road – LOS F
- Cactus Road, south of Airway Road – LOS F

Table 6.1 – Roadway Segment LOS Results – Horizon Year 2062 Conditions

Roadway	Segment	Functional Classification	Capacity (LOS E)	ADT	V/C	LOS
Otay Mesa Rd	West of Cactus Rd	6-Lane Prime Arterial	60,000	36,520	0.609	C
Otay Mesa Rd	Cactus Rd to Continental St	6-Lane Prime Arterial	60,000	38,890	0.648	C
Otay Mesa Rd	Continental St to Britannia Blvd	6-Lane Prime Arterial	60,000	39,980	0.666	C
Otay Mesa Rd	East of Britannia Blvd	6-Lane Prime Arterial	60,000	36,510	0.609	C
Britannia Blvd	Otay Mesa Rd to SR-905 WB Ramps	6-Lane Prime Arterial	60,000	33,650	0.561	B
Britannia Blvd	SR-905 WB Ramps to SR-905 EB Ramps	6-Lane Prime Arterial	60,000	58,380	0.973	**E**
Britannia Blvd	SR-905 EB Ramps to Airway Rd	5-Lane (2NB/3SB) Prime Arterial	50,000	73,200	1.464	**F**
Britannia Blvd	South of Airway Rd	3-Lane (1NB/2SB) Major Arterial	30,000	63,670	2.122	**F**
Airway Rd	Cactus Rd to Park Wy	2-Lane Collector	8,000	20,680	2.585	**F**
Airway Rd	Park Wy to Continental St	2-Lane Collector	8,000	20,680	2.585	**F**
Airway Rd	Continental St to Britannia Blvd	2-Lane Collector	8,000	26,760	3.345	**F**
Airway Rd	Britannia Blvd to 50 feet west of La Media Rd	2-Lane Collector	8,000	23,310	2.914	**F**
Airway Rd	50 feet west of La Media Rd to La Media Rd	4-Lane Major Arterial[1]	40,000	23,310	0.583	C
Cactus Rd	Street D to Airway Rd	2-Lane Collector	8,000	6,120	0.765	D
Cactus Rd	South of Airway Rd	2-Lane Collector	8,000	14,390	1.799	**F**
Continental St	Street D/Colchester Ct to Airway Rd	2-Lane Collector	8,000	3,380	0.423	B

Source: CR Associates (2025)

Notes:
[1] To be constructed by CIP # S-15018 La Media Road improvements project
ADT = Average Daily Traffic
V/C = Volume to Capacity Ratio
NB = Northbound
SB = Southbound
EB = Eastbound
WB = Westbound
Bold = LOS E or F

6.3.2 Intersection Analysis

Table 6.2 displays the intersection LOS for the project study area intersections under Horizon Year 2062 conditions. LOS calculation worksheets for Horizon Year 2062 conditions are provided in **Appendix Q.**

Table 6.2 – Intersection LOS Results – Horizon Year 2062 Conditions

#	Intersection	Control Type	AM Peak Hour		PM Peak Hour	
			Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS
1	Cactus Rd & Otay Mesa Rd	Signal	34.2	C	36.5	D
2	Continental St & Otay Mesa Rd	Signal	6.3	A	8.9	A
3	Britannia Blvd & Otay Mesa Rd	Signal	32.2	C	54.4	D
4	Britannia Blvd & SR-905 WB Ramps	Signal	36.1	D	90.3	**F**
5	Britannia Blvd & SR-905 EB Ramps	Signal	187.7	**F**	252.1	**F**
6	Britannia Blvd & Airway Rd	Signal	323.9	**F**	326.0	**F**
7	Continental St & Airway Rd[1]	SSSC	529.1	**F**	BCD	**F**
8	Cactus Rd & Airway Rd[1]	AWSC	176.0	**F**	507.3	**F**
9	La Media Rd & Airway Rd	Signal	39.5	D	38.4	D
14	Continental St & Colchester Ct	AWSC	6.9	A	6.7	A

Source: CR Associates (2025)

Notes:
[1] The estimated ADT signal warrant would be met for this intersection based on analyzed traffic volumes per the Average Traffic Estimate Form. Estimated ADT signal warrants are provided in Appendix I.
AWSC = All-Way Stop-Controlled. For AWSC intersections, the delay shown is the average delay for the entire intersection.
SSSC = Side-Street Stop-Controlled. For SSSC intersections, the delay shown is the worst delay experienced by any of the movements.
BCD = Exceeds maximum reasonable calculable delay of 600 seconds per Synchro 11.0 traffic analysis software.
Bold = LOS E or F

As shown, the project study area intersections are projected to operate at LOS D or better during both the AM and PM peak hours under Horizon Year 2062 conditions except for the following five (5) intersections:

4. Britannia Boulevard & SR-905 Westbound Ramps – LOS F during the PM peak hour.
5. Britannia Boulevard & SR-905 Eastbound Ramps – LOS F during both the AM and PM peak hours.
6. Britannia Boulevard & Airway Road – LOS F during both the AM and PM peak hours.
7. Continental Street & Airway Road – LOS F during both the AM and PM Peak hours.
8. Cactus Road & Airway Road – LOS F during both the AM and PM peak hours.

Additionally, estimated ADT signal warrant analysis under Horizon Year 2062 conditions was conducted for intersections identified to be improved to a signalized intersection per the Otay Mesa CVSP TFTA with results as follows:

7. Continental Street and Airway Road – A traffic signal is warranted at this intersection under Horizon Year 2062 conditions per the Average Traffic Estimate Form.

8. Cactus Road and Airway Road - A traffic signal is warranted at this intersection under Horizon Year 2062 conditions per the Average Traffic Estimate Form. However, per CAMUTCD, the satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal. Furthermore, EPOCA (Otay Mesa Lumina PTS#555609) is conditioned to signalize this intersection per traffic signal plan (Project #673439 Plan Set 42088-19-D).

6.3.3 Ramp Meter Analysis

Table 6.3 displays ramp meter analysis results for the study area locations under Horizon Year 2062 conditions.

Table 6.3 – Freeway Ramp Metering Analysis – Horizon Year 2062 Conditions

Location	Peak Hour	Total Demand[1] (veh/hr)	# of SOV Lanes	SOV Demand[2]	Meter Rate[3] (veh/hr/lane)	Excess Demand[4] (veh/hr/lane)	Delay[5] (min)	Queue[6] (ft)	Exceeds 15-minutes?
SR-905 WB On-ramp @ Britannia Blvd	AM	1,110	2	555	960	0	0	0	N
	PM	1,660	2	830	960	0	0	0	N
SR-905 EB On-ramp @ Britannia Blvd	AM	500	2	250	960	0	0	0	N
	PM	710	2	355	960	0	0	0	N

Source: CR Associates (2025)

Notes:
SOV = Single Occupancy Vehicle
[1] Total Demand is the peak hour demand for both SOV and HOV lanes expected to use the on-ramp.
[2] SOV Demand = (Total Demand – HOV Demand) / # of SOV Lanes.
[3] Meter Rate is the peak hour capacity expected to be processed through the ramp meter per lane. This value was obtained from Caltrans. The average between the "high" and "low" meter rate was used for this analysis.
[4] Excess Demand = (Demand) – (Meter Rate) or zero, whichever is greater.
[5] Delay = (Excess Demand / Meter Rate) X 60 min/hr.
[6] Queue = (Excess Demand) X 25 ft/veh. SOV volumes were used in the calculation of Queue. A zero represents no excess queue.

As shown, none of the freeway on-ramps would experience delays under Horizon Year 2062 conditions.

6.3.4 Freeway Segment Analysis

Table 6.4 displays freeway segment level of service results for the study area freeway mainline facilities under Horizon Year 2062 conditions.

As shown, all the freeway segments within the study area would operate at unacceptable LOS F under Horizon Year 2062 conditions.

Table 6.4 – Freeway Segment Analysis – Horizon Year 2062 Conditions

Freeway	Segment	AADT[1]	Peak Hour	Direction[2]	# of Lanes	Capacity[3]	D	K	HVF	Peak Hour Volume	V/C	LOS[4]
SR-905	Caliente Ave and Heritage Rd	194,000	AM	EB	3M	7,050	68.25%	8.9%	17.54%	12,430	1.763	**F**
			PM	EB	3M	7,050	60.64%	10.5%	17.54%	13,030	1.848	**F**
	Heritage Rd and Britannia Blvd	171,000	AM	EB	3M	7,050	68.25%	8.9%	17.54%	10,960	1.555	**F**
			PM	EB	3M	7,050	60.64%	10.5%	17.54%	11,490	1.630	**F**
	Britannia Blvd and La Media Rd	153,300	AM	EB	3M+1A	8,460	68.25%	8.9%	17.54%	9,820	1.161	**F**
			PM	EB	3M+1A	8,460	60.64%	10.5%	17.54%	10,300	1.217	**F**

Source: CR Associates (2025)

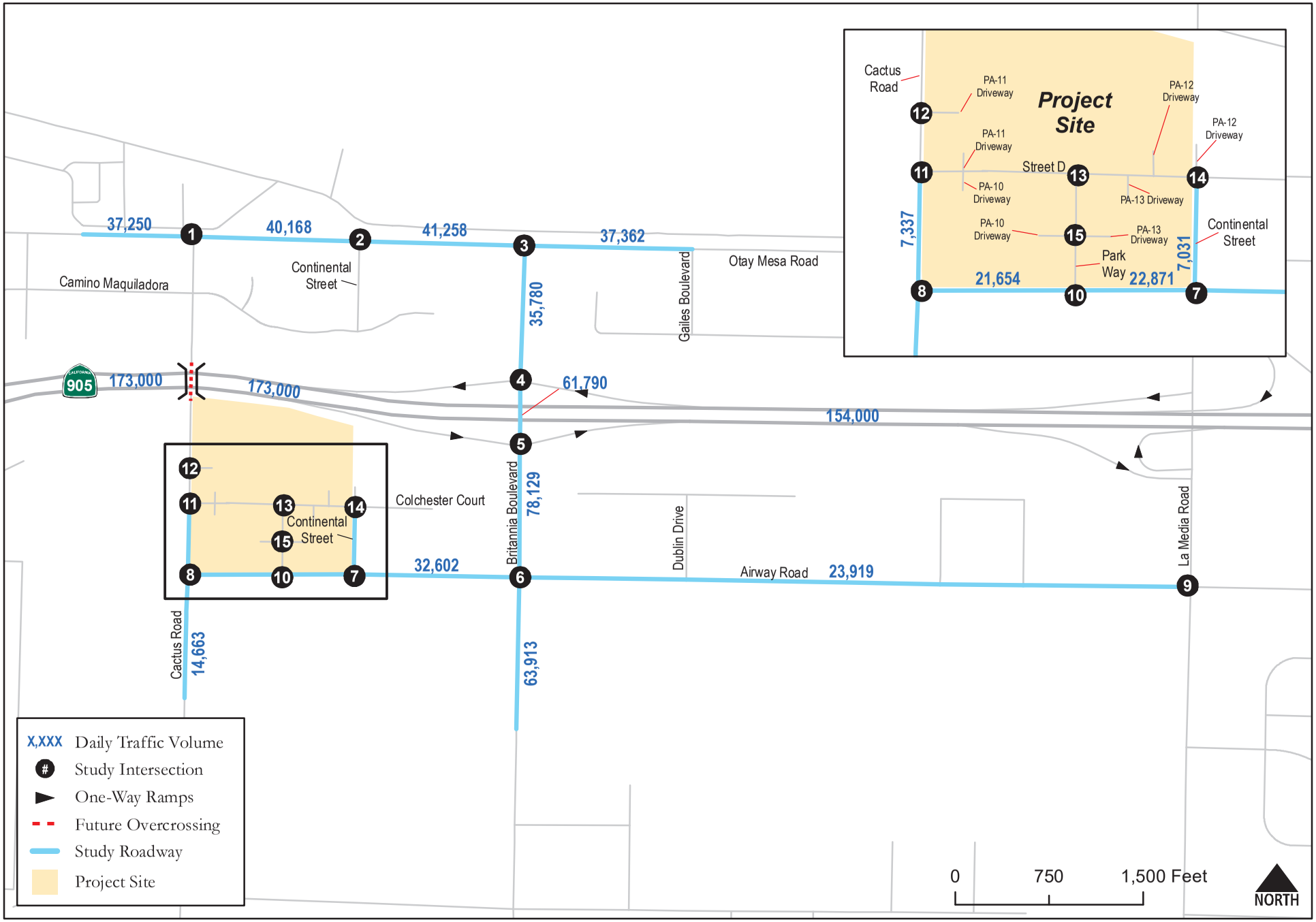
Notes:
M = Mainline. A = Auxiliary Lane.
[1] AADT = Annual Average Daily Traffic. AADT is provided by Caltrans Traffic Census Program (2021).
[2] In the direction of peak hour traffic. For SR-905, per Caltrans data, the peak hour direction is eastbound for both the AM and PM peak hours.
[3] The capacity is calculated as 2,350 ADT per main lane and 1,410 ADT (60% of the main lane capacity) per auxiliary lane.
[4] LOS during highest directional demand.
D = Directional split. | K = Peak hour %. | HVF = Heavy Vehicle Factor - consistent with the OMCPU. | V/C = Volume to Capacity Ratio
Bold = LOS E or F

6.4 Horizon Year 2062 with Project Roadway Network

The roadway network was assumed to be identical to Horizon Year 2062 conditions with exception to the project frontage improvements described in Section 1.2. Based on the project frontage improvements, the improvements will be constructed by the Proposed Project for each of the roadway segments along the project frontage as described Section 4.5.1.

6.5 Horizon Year 2062 with Project Traffic Volumes

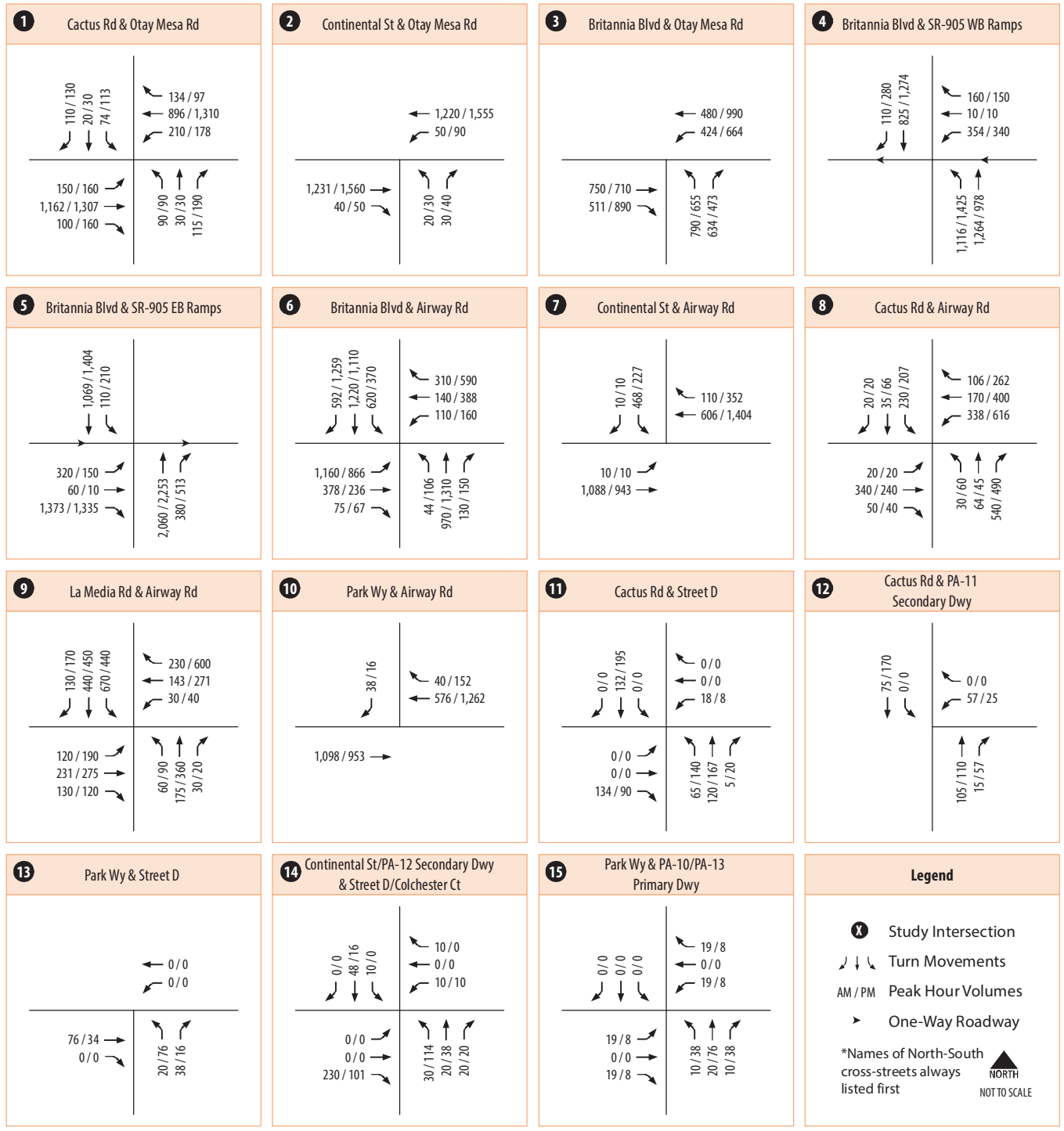
Horizon Year 2062 with Project traffic volumes were derived by combining the Horizon Year 2062 traffic volumes (Figure 6.1 and Figure 6.2) and the project trip assignment volumes (Figure 3.7 and Figure 3.8). **Figure 6.3** displays the daily traffic volumes for the study area roadway segments and **Figure 6.4** displays the AM/PM peak hour turning movements for the study intersections under Horizon Year 2062 with Project conditions.



The Collection at Cactus
Transportation Impact Study

C+R

Figure 6.3
Daily Traffic Volumes
Horizon Year 2062 with Project Conditions



The Collection at Cactus
Transportation Impact Study

C+R

Figure 6.4
Peak Hour Intersection Turning Movements
Horizon Year 2062 with Project Conditions

6.6 Horizon Year 2062 with Project Traffic Conditions

This section documents the traffic operations under Horizon Year 2062 with Project conditions within the project study area.

6.6.1 Roadway Segment Analysis

Table 6.5 displays the daily roadway LOS for study roadway segments under Horizon Year 2062 with Project conditions. As shown, all study roadway segments would operate at LOS C or better under Horizon Year 2062 with Project conditions, with the exception of the following eight (8) roadway segments:

- Britannia Boulevard, between SR-905 Westbound Ramps and SR-905 Eastbound Ramps is projected to operate at substandard LOS F with the addition of the project traffic. The volume to capacity ratio is projected to increase by 0.060. Based upon the significance criteria, the project would have a significant cumulative impact along this roadway segment under Horizon Year 2062 with Project conditions and mitigation measures would be required by the Project.
- Britannia Boulevard, between SR-905 Eastbound Ramps and Airway Road is projected to operate at substandard LOS F with the addition of the project traffic. The volume to capacity ratio is projected to increase by 0.099. Based upon the significance criteria, the project would have a significant cumulative impact along this roadway segment under Horizon Year 2062 with Project conditions and mitigation measures would be required by the Project.
- Britannia Boulevard south of Airway Road is projected to operate at substandard LOS F with the addition of the project traffic. The volume to capacity ratio is projected to increase by 0.008. Based upon the significance criteria, the project would not have a significant cumulative impact along this roadway segment under Horizon Year 2062 with Project conditions and mitigation measures would not be required.
- Airway Road, between Cactus Road and Park Way is projected to operate at substandard LOS F with the addition of the project traffic. The volume to capacity ratio is projected to decrease by 0.616 due to the widening of Airway Road from a 2-Lane Collector to a 3-Lane Collector (2 WB / 1 EB) by the Project. Based upon the significance criteria, the project would not have a significant cumulative impact along this roadway segment under Horizon Year 2062 with Project conditions and mitigation measures would not be required.
- Airway Road, between Park Way and Continental Street is projected to operate at substandard LOS F with the addition of the project traffic. The volume to capacity ratio is projected to decrease by 0.506 due to the widening of Airway Road from a 2-Lane Collector to a 3-Lane Collector (2 WB / 1 EB) by the Project. Based upon the significance criteria, the project would not have a significant cumulative impact along this roadway segment under Horizon Year 2062 with Project conditions and mitigation measures would not be required.
- Airway Road, between Continental Street and Britannia Boulevard is projected to operate at substandard LOS F with the addition of the project traffic. The volume to capacity ratio is projected to increase by 0.730. Based upon the significance criteria, the project would have a significant cumulative impact along this roadway segment under Horizon Year 2062 with Project conditions and mitigation measures would be required by the Project.

- Airway Road, between Britannia Boulevard and 50 feet west of La Media Road is projected to operate at substandard LOS F with the addition of the project traffic. The volume to capacity ratio is projected to increase by 0.076. Based upon the significance criteria, the project would have a significant cumulative impact along this roadway segment under Horizon Year 2062 with Project conditions and mitigation measures would be required by the Project.
- Cactus Road, south of Airway Road is projected to operate at substandard LOS F with the addition of the project traffic. The volume to capacity ratio is projected to increase by 0.030. Based upon the significance criteria, the project would have a significant cumulative impact along this roadway segment under Horizon Year 2062 with Project conditions and mitigation measures would be required by the project.

Recommended mitigation measures by the Project at the study segments where the Proposed Project would have a significant direct impact are discussed in Section 7.2.1.

Additionally, the following study roadway segment is anticipated to improve in LOS with the implementation of the Proposed Project and Proposed Project's frontage improvements:

- Cactus Road, between Street "D" to Airway Road is projected to improve from LOS D to LOS C as a result of the Proposed Project's frontage improvements. The volume to capacity ratio is projected to decrease by 0.098 due to the widening of Cactus Road from a 2-Lane Collector to a 3-Lane Collector (2 NB / 1 SB) by the Project.

Table 6.5 – Roadway Segment LOS Results – Horizon Year 2062 with Project Conditions

Roadway	Segment	Functional Classification	Capacity (LOS E)	ADT	V/C	LOS	V/C w/o Project	LOS w/o Project	ΔV/C	SI?
Otay Mesa Rd	West of Cactus Rd	6-Lane Prime Arterial	60,000	37,250	0.621	C	0.609	C	0.012	N
Otay Mesa Rd	Cactus Rd to Continental St	6-Lane Prime Arterial	60,000	40,168	0.669	C	0.648	C	0.021	N
Otay Mesa Rd	Continental St to Britannia Blvd	6-Lane Prime Arterial	60,000	41,258	0.688	C	0.666	C	0.021	N
Otay Mesa Rd	East of Britannia Blvd	6-Lane Prime Arterial	60,000	37,362	0.623	C	0.609	C	0.014	N
Britannia Blvd	Otay Mesa Rd to SR-905 WB Ramps	6-Lane Prime Arterial	60,000	35,780	0.596	C	0.561	B	0.036	N
Britannia Blvd	SR-905 WB Ramps to SR-905 EB Ramps	6-Lane Prime Arterial	60,000	61,970	1.033	**F**	0.973	**E**	0.060	**Y**
Britannia Blvd	SR-905 EB Ramps to Airway Rd	5-Lane (2NB/3SB) Prime Arterial	50,000	78,129	1.563	**F**	1.464	**F**	0.099	**Y**
Britannia Blvd	South of Airway Rd	3-Lane (2NB/1SB) Major Arterial	30,000	63,913	2.130	**F**	2.122	**F**	0.008	N
Airway Rd	Cactus Rd to Park Wy	3-Lane (1EB/2WB) Collector	11,000	21,654	1.969	**F**	2.585	**F**	-0.616	N
Airway Rd	Park Wy to Continental St	3-Lane (1EB/2WB) Collector	11,000	22,871	2.079	**F**	2.585	**F**	-0.506	N
Airway Rd	Continental St to Britannia Blvd	2-Lane Collector	8,000	32,602	4.075	**F**	3.345	**F**	0.730	**Y**
Airway Rd	Britannia Blvd to 50 feet west of La Media Rd	2-Lane Collector	8,000	23,919	2.990	**F**	2.914	**F**	0.076	**Y**
Airway Rd	50 feet west of La Media Rd to La Media Rd	4-Lane Major Arterial[1]	40,000	23,919	0.598	C	0.583	C	0.015	N
Cactus Rd	Street D to Airway Rd	3-Lane (2NB/1SB) Collector	11,000	7,337	0.667	C	0.765	D	-0.098	N
Cactus Rd	South of Airway Rd	2-Lane Collector	8,000	14,633	1.829	**F**	1.799	**F**	0.030	**Y**
Continental St	Street D / Colchester Ct to Airway Rd	2-Lane Collector w/ TWLTL	15,000	7,031	0.469	C	0.423	B	0.046	N

Source: CR Associates (2025)

Note:
[1] To be constructed by CIP # S-15018 La Media Road improvements project
ADT = Average Daily Traffic
V/C = Volume to Capacity Ratio
TWLTL = Two-Way Left-Turn Lane
NB = Northbound
SB = Southbound
EB = Eastbound
WB = Westbound
Bold = LOS E or F
SI? = Significant Impact?

6.6.2 Intersection Analysis

Table 6.6 displays the intersection LOS for the project study area intersections under Horizon Year 2062 with Project conditions. LOS calculation worksheets for Horizon Year 2062 with Project conditions are provided in **Appendix R**.

Table 6.6 – Intersection LOS Results – Horizon Year 2062 with Project Conditions

#	Intersection	Control Type	AM Peak Hour		PM Peak Hour		Delay w/o Project AM/PM	LOS w/o Project AM/PM	Δ in Delay AM/PM	SI?
			Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS				
1	Cactus Rd & Otay Mesa Rd	Signal	34.4	C	36.7	D	34.2 / 36.5	C / D	0.2 / 0.2	N
2	Continental St & Otay Mesa Rd	Signal	7.2	A	9.6	A	6.3 / 8.9	A / A	0.9 / 0.7	N
3	Britannia Blvd & Otay Mesa Rd	Signal	39.1	D	70.3	**E**	32.2 / 54.4	C / D	6.9 / 15.9	**Y**
4	Britannia Blvd & SR-905 WB Ramps	Signal	44.0	D	121.2	**F**	36.1 / 90.3	D / **F**	7.9 / 30.9	**Y**
5	Britannia Blvd & SR-905 EB Ramps	Signal	235.5	**F**	293.2	**F**	187.7 / 252.1	**F / F**	47.8 / 41.1	**Y**
6	Britannia Blvd & Airway Rd	Signal	398.9	**F**	403.4	**F**	323.9 / 326.0	**F / F**	75.0 / 77.4	**Y**
7	Continental St & Airway Rd[1]	SSSC	BCD	**F**	BCD	**F**	529.1 / BCD	**F / F**	BCD / BCD	**Y**
8	Cactus Rd & Airway Rd[1,2]	AWSC	227.2	**F**	584.3	**F**	176.0 / 507.3	**F / F**	51.2 / 77.0	**Y**
9	La Media Rd & Airway Rd	Signal	40.4	D	38.8	D	39.5 / 38.4	D / D	0.9 / 0.4	N
10	Park Wy & Airway Rd	SSSC	13.1	B	28.5	D	DNE	DNE	13.1 / 28.5	N
11	Cactus Rd & Street D[3,4]	SSSC	15.4	C	19.6	C	DNE	DNE	15.4 / 19.6	N
12	Cactus Rd & PA-11 Secondary Dwy	SSSC	9.9	A	10.6	B	DNE	DNE	9.9 / 10.6	N
13	Park Wy & Street D	SSSC	9.0	A	9.1	A	DNE	DNE	9.0 / 9.1	N
14	Continental St/PA-12 Secondary Dwy & Street D/Colchester Ct	AWSC	7.9	A	8.0	A	6.9 / 6.7	A / A	1.0 / 1.3	N
15	Park Wy & PA-10/PA-13 Primary Dwy	SSSC	8.9	A	9.4	A	DNE	DNE	8.9 / 9.4	N

Source: CR Associates (2025)

Notes:
[1] The estimated ADT signal warrant would be met for this intersection based on analyzed traffic volumes per the Average Traffic Estimate Form. Estimated ADT signal warrants are provided in Appendix I.
[2] The Proposed Project will construct full pavement width along the project's frontage on Airway Road, however, if the receiving lanes have yet to be constructed, the through lanes would not be striped as a travel lane.
[3] The estimated ADT signal warrant would not be met for this intersection based on analyzed traffic volumes per the Average Traffic Estimate Form. Estimated ADT signal warrants are provided in Appendix I.
[4] The take off point for the future SR-905 overcrossing would be just south of Street "D" at station 49+33 as shown in Figure 1.3. The Horizon Year 2062 with Project estimated vehicular volumes do not assume the overcrossing.
AWSC = All-Way Stop-Controlled. For AWSC intersections, the delay shown is the average delay for the entire intersection.
SSSC = Side-Street Stop-Controlled. For SSSC intersections, the delay shown is the worst delay experienced by any of the movements.
BCD = Exceeds maximum reasonable calculable delay of 600 seconds per Synchro 11.0 traffic analysis software.
DNE = Does Not Exist
Bold = LOS E or F
SI? = Significant Impact?

As shown, some study intersections are projected to operate at LOS D or better during both the AM and PM peak hours under Horizon 2062 with Project conditions, with the exception of the following six (6) intersections:

3. Britannia Boulevard & Otay Mesa Road – LOS E during the PM peak hour. The trips associated with the Proposed Project would increase the delay at the intersection by 15.9 seconds. Based upon the significance criteria, the Project would have a significant cumulative impact at this intersection under Horizon Year 2062 with Project conditions and mitigation measures would be required by the Project.
4. Britannia Boulevard & SR-905 Westbound Ramps – LOS F during the PM peak hour. The trips associated with the Proposed Project would increase the delay at the intersection by 30.9 seconds. Based upon the significance criteria, the Project would have a significant cumulative impact along at this intersection under Horizon Year 2062 with Project conditions and mitigation measures would be required by the Project.
5. Britannia Boulevard & SR-905 Eastbound Ramps – LOS F during both the AM and PM peak hours. The trips associated with the Proposed Project would increase the delay at the intersection by 47.8 seconds in the AM peak hour and 41.1 seconds in the PM peak hour. Based upon the significance criteria, the Project would have a significant cumulative impact at this intersection under Horizon Year 2062 with Project conditions and mitigation measures would be required by the Project.
6. Britannia Boulevard & Airway Road – LOS F during both the AM and PM peak hours. The trips associated with the Proposed Project would increase the delay at the intersection by 75.0 seconds in the AM peak hour and 77.4 seconds in the PM peak hour. Based upon the significance criteria, the project would have a significant cumulative impact at this under Horizon Year 2062 with Project conditions and mitigation measures would be required by the Project.
7. Continental Street & Airway Road - LOS F during both the AM and PM peak hours. The trips associated with the Proposed Project would increase the delay at the intersection beyond calculable delay during the AM and PM peak hours. Based upon the significance criteria, the project would have a significant cumulative impact at this intersection under Horizon Year 2062 with Project conditions and mitigation measures would be required by the project.
8. Cactus Road & Airway Road – LOS F during both the AM and PM peak hours. The trips associated with the Proposed Project would increase the delay at the intersection by 51.2 seconds in the AM peak hour and 77.0 seconds in the PM peak hour. Based upon the significance criteria, the Project would have a significant cumulative impact at this intersection under Horizon Year 2062 with Project conditions and mitigation measures would be required by the Project.

Recommended mitigation measures by the Project at the study intersections where the Proposed Project would have a significant cumulative impact are discussed in Section 7.2.2.

Additionally, estimated ADT signal warrant analysis under Horizon Year 2062 with Project conditions was conducted for intersections identified to be improved to a signalized intersection per the Otay Mesa CVSP TFTA with results as follows:

7. Continental Street and Airway Road – A traffic signal is warranted at this intersection under Horizon Year 2062 with Project conditions per the Average Traffic Estimate Form.
8. Cactus Road and Airway Road - A traffic signal is warranted at this intersection under Horizon Year 2062 with Project conditions per the Average Traffic Estimate Form. However, per CAMUTCD, the satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal. Furthermore, EPOCA (Otay Mesa Lumina PTS#555609) is conditioned to signalize this intersection per traffic signal plan (Project #673439 Plan Set 42088-19-D).

11. Cactus Road and Street “D” - A traffic signal is not warranted at this intersection under Horizon Year 2062 with Project conditions per the Average Traffic Estimate Form.

6.6.3 Ramp Meter Analysis

Table 6.7 displays ramp meter analysis results for the study area locations under Horizon Year 2062 with Project conditions. As shown, none of the freeway on-ramps would experience delays under Horizon Year 2062 with Project conditions.

Table 6.7 – Freeway Ramp Metering Analysis – Horizon Year 2062 with Project Conditions

Location	Peak Hour	Total Demand[1] (veh/hr)	# of SOV Lanes	SOV Demand[2]	Meter Rate[3] (veh/hr/lane)	Excess Demand[4] (veh/hr/lane)	Delay[5] (min)	Queue[6] (ft)	Exceeds 15-minutes?	Delay[5] w/o Project (min)	Queue[6] w/o Project (ft)	SI?
SR-905 WB On-ramp @ Britannia Blvd	AM	1,236	2	618	960	0	0	0	N	0	0	N
	PM	1,715	2	858	960	0	0	0	N	0	0	N
SR-905 EB On-ramp @ Britannia Blvd	AM	550	2	275	960	0	0	0	N	0	0	N
	PM	733	2	367	960	0	0	0	N	0	0	N

Source: CR Associates (2025)

Notes:
SOV = Single Occupancy Vehicle
[1] Total Demand is the peak hour demand for both SOV and HOV lanes expected to use the on-ramp.
[2] SOV Demand = (Total Demand – HOV Demand) / # of SOV Lanes.
[3] Meter Rate is the peak hour capacity expected to be processed through the ramp meter per lane. This value was obtained from Caltrans. The average between the "high" and "low" meter rate was used for this analysis.
[4] Excess Demand = (Demand) – (Meter Rate) or zero, whichever is greater.
[5] Delay = (Excess Demand / Meter Rate) X 60 min/hr.
[6] Queue = (Excess Demand) X 25 ft/veh. SOV volumes were used in the calculation of Queue. A zero represents no excess queue.
SI? = Significant Impact?

6.6.4 Freeway Segment Analysis

Table 6.8 displays freeway segment level of service results for the study area freeway mainline facilities under Horizon Year 2062 with Project conditions.

As shown, all freeway segments within the study area would continue to operate at unacceptable LOS F. Based on City guidelines, mitigation measures would be required at the aforementioned freeway segments to achieve acceptable LOS. However, these facilities are under the purview of Caltrans, and no current plans exist to widen these freeway segments; thus, this freeway segment would continue to operate at LOS F with the addition of Project traffic. It should be noted that the OMCPU EIR disclosed that these segments along SR-905 would operate at a deficient LOS F, and disclosed impacts to these freeway segments as a significant and unavoidable impact of the OMCPU. The proposed Project is consistent with the findings and conclusions of the OMCPU EIR with respect to these freeway segments.

Table 6.8 – Freeway Segment Analysis – Horizon Year 2062 with Project Conditions

Freeway	Segment	AADT[1]	Peak Hour	Direction[2]	# of Lanes	Capacity[3]	D	K	HVF	Peak Hour Volume	V/C	LOS[4]	V/C w/o Project	LOS w/o Project	Δ V/C Ratio	SI?
SR-905	Caliente Ave and Heritage Rd	196,000	AM	EB	3M	7,050	68.25%	8.9%	17.54%	12,560	1.782	**F**	1.763	**F**	0.018	**Y**
			PM	EB	3M	7,050	60.64%	10.5%	17.54%	13,160	1.867	**F**	1.848	**F**	0.018	**Y**
	Heritage Rd and Britannia Blvd	173,000	AM	EB	3M	7,050	68.25%	8.9%	17.54%	11,090	1.573	**F**	1.555	**F**	0.018	**Y**
			PM	EB	3M	7,050	60.64%	10.5%	17.54%	11,620	1.648	**F**	1.630	**F**	0.018	**Y**
	Britannia Blvd and La Media Rd	154,000	AM	EB	3M+1A	8,460	68.25%	8.9%	17.54%	9,870	1.167	**F**	1.161	**F**	0.006	**Y**
			PM	EB	3M+1A	8,460	60.64%	10.5%	17.54%	10,340	1.222	**F**	1.217	**F**	0.005	**Y**

Source: CR Associates (2025)

Notes:
M = Mainline. A = Auxiliary Lane.
[1] AADT = Annual Average Daily Traffic. AADT is provided by Caltrans Traffic Census Program (2021).
[2] In the direction of peak hour traffic. For SR-905, per Caltrans data, the peak hour direction is eastbound for both the AM and PM peak hours.
[3] The capacity is calculated as 2,350 ADT per main lane and 1,410 ADT (60% of the main lane capacity) per auxiliary lane.
[4] LOS during highest directional demand.
D = Directional split. | K = Peak hour %. | HVF = Heavy Vehicle Factor - consistent with the OMCPU. | V/C = Volume to Capacity Ratio
Bold = LOS E or F
SI? = Significant Impact?

7.0 Recommended Mitigation Measures

This section provides mitigation measures to improve LOS to acceptable or better than pre-project conditions for any study area locations and where project would have direct and cumulative impacts with implementation of the Proposed Project.

Figure 7.1 displays the proposed roadway configurations while **Figure 7.2** displays the proposed intersection lane geometry to be constructed by the Project under mitigated conditions.

7.1 State Highway System Coordination and Improvement Requirements

Several improvements identified in this report are located within the SR-905 corridor and would occur within California Department of Transportation (Caltrans) right-of-way (ROW). As the owner and operator of the State Highway System, Caltrans is the responsible agency for oversight of planning, environmental review, design, permitting, and construction of improvements within its facilities. Accordingly, any project-related improvements within the SR-905 corridor shall comply with the applicable Caltrans project development procedures and the most current Caltrans standards, policies, manuals, and design criteria in effect at the time of implementation.

7.2 Opening Year 2027 with Project Conditions

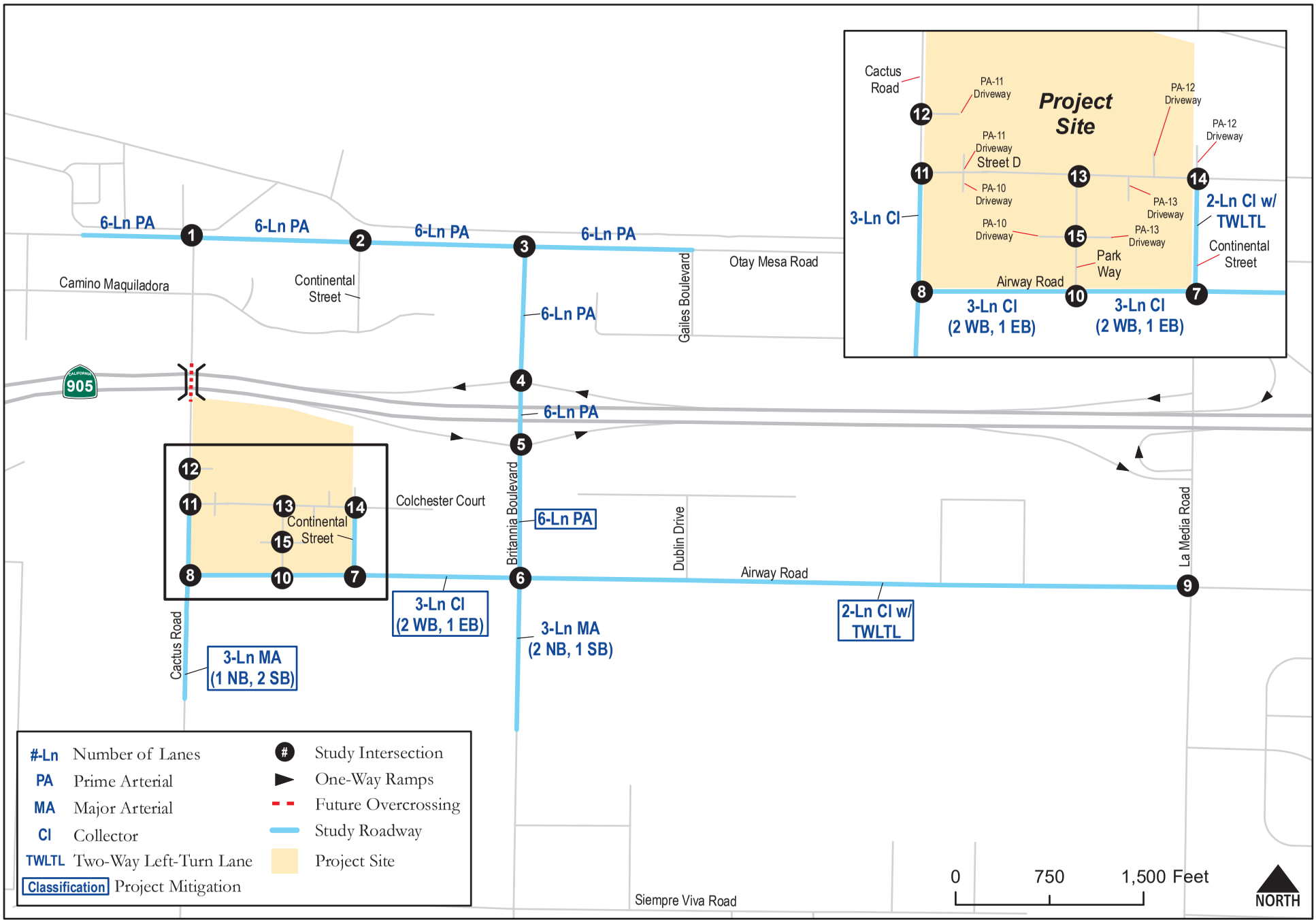
7.2.1 Roadway Segment Mitigation

Since implementation of the Proposed Project would degrade LOS to unacceptable levels or further degrade traffic operations at study area roadway segments already operating at unacceptable LOS, mitigation measures would be required by the Project at the following roadway segments:

- Britannia Boulevard, between SR-905 Eastbound Ramps and Airway Road – This segment would operate at LOS F with the addition of project traffic. Prior to the issuance of any building permit, the Owner/Permittee shall assure by permit and bond to improve Britannia Boulevard between SR-905 Eastbound Ramps and Airway Road from a 5-Lane Prime Arterial (2 NB/3 SB) to a 6-Lane Prime Arterial per current City standards and Caltrans standard, satisfactory to the City Engineer and Caltrans. All improvements shall be completed and operational prior to first occupancy. This improvement would require the reconstruction of the existing raised median to provide an additional northbound lane, and restriping the existing pavement to accommodate this roadway configuration. The improvement does not require widening the existing curb-to-curb width along the segment. This mitigation measure is consistent with the OMCPU EIR at buildout of the OMCPU.
- Airway Road, between Continental Street and Britannia Boulevard – This segment would operate at LOS F with the addition of project traffic. Prior to the issuance of any building permit, the Owner/Permittee shall assure by permit and bond to improve Airway Road between Continental Street and Britannia Boulevard from a 2-Lane Collector to a 3-Lane (1EB/2WB) Collector per current City standards, satisfactory to the City Engineer. This improvement would require restriping the existing pavement to accommodate this roadway configuration. All improvements shall be completed and operational prior to first occupancy. This mitigation measure is consistent with the OMCPU EIR at buildout of the OMCPU.

- Airway Road, between Britannia Boulevard and 50 feet west of La Media Road – This segment would operate at LOS F with the addition of project traffic. Prior to the issuance of any building permit, the Owner/Permittee shall assure by permit and bond to improve Airway Road between Britannia Boulevard and 50 feet west of La Media Road from a 2-Lane Collector to a 2-Lane Collector with a two-way left-turn lane per current City standards, satisfactory to the City Engineer. This improvement would require restriping the existing pavement to accommodate this roadway configuration and removal of parking along the roadway. Furthermore, this improvement does not require widening of existing right-of-way. All improvements shall be completed and operational prior to first occupancy. This mitigation measure is consistent with the OMCPU EIR at buildout of the OMCPU.
- Cactus Road, south of Airway Road – This segment would operate at LOS F with the addition of project traffic. Prior to the issuance of any building permit, the Owner/Permittee shall assure by permit and bond to improve Cactus Road south of Airway Road from a 2-Lane Collector to a 3-Lane (1NB/2SB) Major Arterial per current City standards, satisfactory to the City Engineer. This improvement would require the construction of a raised median and restriping the existing pavement to accommodate this roadway. All improvements shall be completed and operational prior to first occupancy. This mitigation measure is consistent with the OMCPU EIR at buildout of the OMCPU.

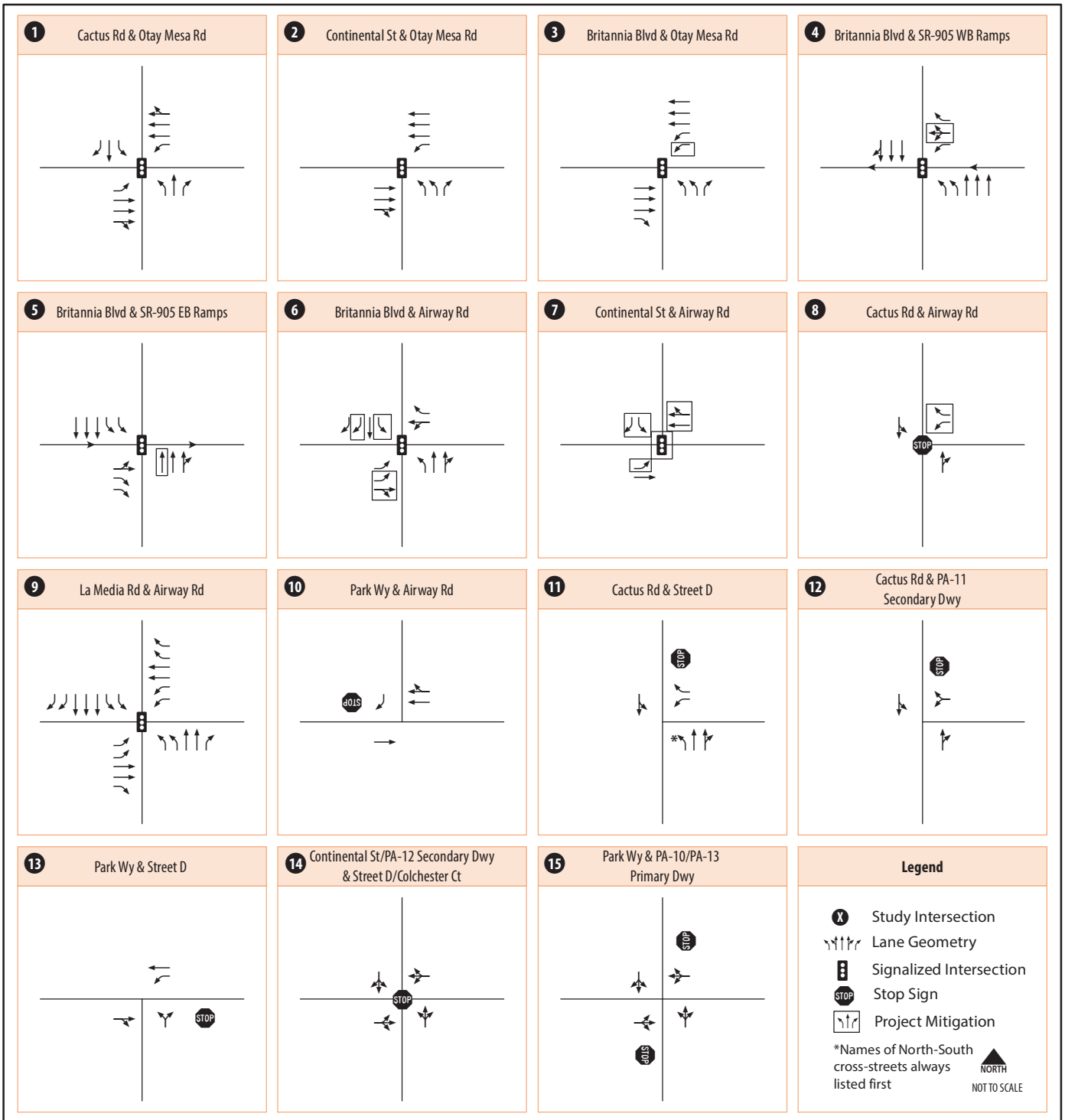
  Cactus Road south of Airway Road is being improved by the EPOCA (Otay Mesa Lumina, PTS#555609) project. Although EPOCA is conditioned for an ultimate 4-lane major arterial, right-of-way constraints on the east side require a temporary 3-lane (1 NB/2 SB) major arterial. As of October 2025, the segment between Airway Road and Secano Street has been widened from 20 ft to 40 ft to accommodate a 3-lane major roadway, however, the construction of a raised median and striping to a 3-lane (1 NB/2 SB) major arterial roadway has yet to be completed. If EPOCA has not completed the 3-lane interim improvements prior to the Proposed Project's opening year, the Owner/Permittee for the Proposed Project will implement the remaining improvements.



The Collection at Cactus
Transportation Impact Study

C+R

Figure 7.1
Geometrics with Recommended Mitigation Measures (Roadways)
Opening Year 2027/Horizon Year 2062 with Project Conditions



*The northbound left-turn lane will be striped out by the Proposed Project once EPOCA Neighborhood A has been constructed since the turn lane is not constructed under existing conditions.

Figure 7.2
Geometrics with Recommended Mitigation Measures (Intersections)
Opening Year 2027/Horizon Year 2062 with Project Conditions

Table 7.1 displays level of service analysis results with implementation of the recommended mitigation measures at the impacted roadway segments under Opening Year 2027 with Project with Mitigation Conditions. Conceptual improvement and striping plans are provided in Appendix S.

As shown, the significant impacts associated with the following four (4) roadway segments would be mitigated with the implementation of the recommended mitigation measures:

- Britannia Boulevard, between SR-905 Eastbound Ramps and Airway Road - This roadway segment is expected to continue to operate at LOS F with the recommended mitigation. However, since the roadway segment would operate at better than pre-project conditions, the Proposed Project's direct significant impact would be mitigated by the recommended mitigation measure.
- Airway Road, between Continental Street and Britannia Boulevard - This roadway segment is expected to continue to operate at LOS F with the recommended mitigation. However, since the roadway segment would operate at better than pre-project conditions, the Proposed Project's direct significant impact would be mitigated by the recommended mitigation measure.
- Airway Road, between Britannia Boulevard and 50 feet west of La Media Road - This roadway segment is expected to continue to operate at LOS F with the recommended mitigation. However, since the roadway segment would operate at better than pre-project conditions, the Proposed Project's direct significant impact would be mitigated by the recommended mitigation measure.
- Cactus Road, south of Airway Road – This roadway segment is expected to improve from LOS F to LOS A with the recommended mitigation. The Proposed Project's direct significant impact would be mitigated by the recommended mitigation measure.

Table 7.1 – Roadway Segment LOS Results – Opening Year 2027 with Project with Mitigation Conditions

Roadway	Segment	Without Project					With Project Before Mitigation					With Project After Mitigation					Δ in V/C[1]	Δ in V/C[2]
		Functional Classification	Capacity (LOS E)	ADT	V/C	LOS	Functional Classification	Capacity (LOS E)	ADT	V/C	LOS	Functional Classification	Capacity (LOS E)	ADT	V/C	LOS		
Britannia Blvd	SR-905 EB Ramps to Airway Rd	5-Lane (2NB/3SB) Prime Arterial	50,000	69.700	1.394	**F**	5-Lane (2NB/3SB) Prime Arterial	50,000	74,629	1.493	**F**	6-Lane Prime Arterial	60,000	74,629	1.244	**F**	-0.150	-0.249
Airway Rd	Continental St to Britannia Blvd	2-Lane Collector	8,000	23,130	2.891	**F**	2-Lane Collector	8,000	28,972	3.622	**F**	3-Lane (1EB/2WB) Collector	11,000	28,972	2.634	**F**	-0.257	-0.988
Airway Rd	Britannia Blvd to 50 feet west of La Media Rd	2-Lane Collector	8,000	15,650	1.956	**F**	2-Lane Collector	8,000	16,259	2.032	**F**	2-Lane Collector w/ TWLTL	15,000	16,259	1.084	**F**	-0.872	-0.948
Cactus Rd	South of Airway Road	2-Lane Collector	8,000	10,750	1.344	**F**	2-Lane Collector	8,000	10,993	1.374	**F**	3-Lane (1NB/2SB) Major Arterial	30,000	10,993	0.366	A	-0.978	-1.008

Sources: CR Associates (2025)

Notes:
[1] V/C under With Project After Mitigation Conditions – V/C under Without Project Conditions
[2] V/C under With Project After Mitigation Conditions – V/C under With Project Before Mitigation Conditions
Bold = LOS E or F
V/C = Volume to Capacity Ratio

7.2.2 Intersection Mitigation

Since implementation of the Proposed Project would degrade LOS to unacceptable levels or further degrade traffic operations at study area intersections already operating at unacceptable LOS, mitigation measures would be required at the following intersections:

3. Britannia Boulevard & Otay Mesa Road – Prior to the issuance of the first building permit, the Owner/Permittee shall assure by permit and bond the restriping of the westbound approach to accommodate dual left-turn lanes and three through lanes and associated traffic signal modification per current City standards, satisfactory to the City Engineer. All improvements shall be completed and operational prior to first occupancy. These recommended mitigation measures are consistent with the ultimate intersection geometrics assumption of the OMCPU EIR's analysis of traffic at OMCPU buildout.

   With implementation of the mitigation measure above, the intersection delay would be expected to decrease by 33.7 seconds during the PM peak hour and the LOS would improve from LOS E to LOS D. Therefore, the Proposed Project's direct significant impact would be mitigated by the recommended mitigation measure.

4. Britannia Boulevard & SR-905 Westbound Ramps – Prior to the issuance of the first building permit, the Owner/Permittee shall assure by permit and bond the restriping of the westbound off-ramp approach to accommodate an exclusive left-turn lane, a shared left-through-right lane, an exclusive right-turn, and associated traffic signal modification per current City standards and Caltrans standards, satisfactory to the City Engineer and Caltrans. All improvements shall be completed and operational prior to first occupancy. These recommended mitigation measures are consistent with the ultimate intersection geometrics assumption of the OMCPU EIR's analysis of traffic at OMCPU buildout.

   With implementation of the mitigation measure above, the intersection delay would be expected to decrease by 29.0 seconds during the PM peak hour. Although the LOS would remain at LOS F, the intersection delay would be less than pre-project conditions; therefore, the Proposed Project's direct significant impact would be mitigated by the recommended mitigation measure.

5. Britannia Boulevard & SR-905 Eastbound Ramps – Prior to the issuance of the first building permit, the Owner/Permittee shall assure by permit and bond the reconfiguration of the northbound approach to accommodate two through lanes and a shared through-right lane and associated traffic signal modification and reconstruction of existing raised median per current City standards and Caltrans standards, satisfactory to the City Engineer and Caltrans. All improvements shall be completed and operational prior to first occupancy. These recommended mitigation measures are consistent with the ultimate intersection geometrics assumption of the OMCPU EIR's analysis of traffic at OMCPU buildout.

   With implementation of the mitigation measure above, the intersection delay would be expected to decrease by 87.4 seconds during the AM peak hour and by 105.1 seconds during the PM peak hour. Although the LOS would remain at LOS F, the intersection delay would be less than pre-project conditions; therefore, the Proposed Project's direct significant impact would be mitigated by the recommended mitigation measure.

6. Britannia Boulevard & Airway Road – Prior to the issuance of the first building permit, the Owner/Permittee shall assure by permit and bond to restripe the eastbound approach to accommodate 400-foot dual left-turn lanes and a shared through-right turn lane and restripe the southbound approach to accommodate a left-turn lane, one through lane and dual right-turn lanes and associated traffic signal modification per current City standards, satisfactory to the City Engineer. All improvements shall be completed and operational prior to first occupancy. These recommended mitigation measures are consistent with the ultimate intersection geometrics assumption of the OMCPU EIR's analysis of traffic at OMCPU buildout.

   With implementation of the mitigation measure above, the intersection delay would be expected to decrease by 110.2 seconds during the AM peak hour and by 129.0 seconds during the PM peak hour. Although the LOS would remain at LOS F, the intersection delay would be less than pre-project conditions; therefore, the Proposed Project's direct significant impact would be mitigated by the recommended mitigation measure.

7. Continental Street & Airway Road - Prior to the issuance of the first building permit, the Owner/Permittee shall assure by permit and bond the signalization of the Continental Street and Airway Road intersection. The following minimum lane configuration shall be constructed at the intersection:
   - Southbound approach: left-turn pocket and a right-turn lane
   - Eastbound approach: left-turn pocket and one through lane
   - West Leg: configured with two receiving lanes
   - Westbound approach: one through lane and shared through right-turn lane

   All improvements shall be satisfactory to the City Engineer and shall be completed and operational prior to first occupancy.

   The estimated ADT signal warrant would be met for this intersection based on analyzed traffic volumes under Opening Year 2027 with Project conditions per the California Manual on Uniform Traffic Control Devices (CAMUTCD) Average Traffic Estimate Form, Figure 4C-103 (Average Traffic Estimate Form). The signal warrants are provided in Appendix I.

   These recommended mitigation measures are consistent with the lane configuration per the Otay Mesa Central Village Specific Plan Transportation Facilities Trigger Analysis.

   With implementation of the mitigation measure above, the intersection delay would decrease from beyond calculable delay during both the AM and PM peak hours to 43.6 seconds and 11.9 seconds, respectively. The LOS would improve from LOS F to LOS D during the AM peak hour and LOS B during the PM peak hour. Therefore, the Proposed Project's direct significant impact would be mitigated by the recommended mitigation measure.

8. Cactus Road and Airway Road – Prior to the issuance of the first building permit, the Owner/Permittee shall assure by permit and bond the reconfiguration of the intersection with the following lane configuration:
   - North leg: configured with two receiving lanes
   - Westbound approach: one left-turn lane and one right-turn lane

   All improvements shall be satisfactory to the City Engineer and shall be completed and operational prior to first occupancy. These recommended mitigation measures are consistent

with the ultimate intersection geometrics assumption of the OMCPU EIR's analysis of traffic at OMCPU buildout.

It is important to note that the intersection is identified to be improved to a signalized intersection as a project feature for the Otay Mesa Lumina (PTS#555609)/EPOCA Project. Furthermore, the EPOCA project Mitigation, Monitoring, and Reporting Program identifies cumulative traffic impacts at this intersection and would require the following improvements:

- Widen the westbound approach to accommodate dual left-turn lanes, three through lanes, and dual right-turn lanes
- Widen the eastbound approach to accommodate dual left-turn lanes, three through lanes with a shared right-turn lane, and an exclusive right-turn lane
- Widen the southbound approach to accommodate dual left-turn lanes, two through lanes with a shared right-turn lane, and an exclusive right-turn lane
- Widen the northbound approach to accommodate dual left-turn lanes, two through lanes, and an exclusive right-turn lane
- West Leg: configured with three receiving lanes

The improvements mentioned above are to be implemented at the start of construction of the Otay Mesa Lumina (PTS#555609)/EPOCA Project and when proper right-of-way is acquired to fully build out the intersection. With implementation of the mitigation measures implemented by the Proposed Project, the intersection delay would be expected to decrease by 73.9 seconds during the AM peak hour and beyond calculable delay during the PM peak hour. Although the LOS would remain at LOS F, the intersection delay would be less than pre-project conditions; therefore, the Proposed Project's direct significant impact would be mitigated by the recommended mitigation measure.

Table 7.2 displays intersection LOS and average vehicle delay results under Opening Year 2027 with Project with Mitigations Conditions. LOS calculation worksheets and relevant excerpts from the OM CPU EIR are provided in **Appendix T**. Conceptual improvement plans are provided in Appendix S.

As shown, all study area intersections would operate at LOS D or better than pre-project conditions with implementation of the recommended mitigation measures.

Table 7.2 – Intersection LOS Results – Opening Year 2027 with Project with Mitigation Conditions

#	Intersection	Control Type	Without Project				With Project Before Mitigation				With Project After Mitigation				Δ in Delay AM/PM[2]	Δ in Delay AM/PM[3]
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
			Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS		
3	Britannia Blvd & Otay Mesa Rd	Signal	29.1	C	50.3	D	31.2	C	69.4	**E**	22.9	C	35.7	D	-6.2 / -14.6	-8.3 / -33.7
4	Britannia Blvd & SR-905 WB Ramps	Signal	31.5	C	84.2	**F**	36.4	D	112.7	**F**	27.0	C	83.7	**F**	-4.5 / -0.5	-9.4 / -29.0
5	Britannia Blvd & SR-905 EB Ramps	Signal	164.8	**F**	228.5	**F**	213.3	**F**	268.1	**F**	125.9	**F**	163.0	**F**	-38.9 / -65.5	-87.4 / -105.1
6	Britannia Blvd & Airway Rd	Signal	284.1	**F**	288.4	**F**	368.6	**F**	372.3	**F**	258.4	**F**	243.3	**F**	-25.7 / -45.1	-110.2 / -129.0
7	Continental St & Airway Rd	Signal[1]	463.4	**F**	BCD	**F**	BCD	**F**	BCD	**F**	43.6	D	11.9	B	-419.8 / BCD	BCD / BCD
8	Cactus Rd & Airway Rd	AWSC	162.5	**F**	436.7	**F**	226.0	**F**	BCD	**F**	152.1	**F**	158.2	**F**	-10.4 / -278.5	-73.9 / BCD

Source: CR Associates (2025)

Notes:
[1] Improved from existing side-street stop-controlled intersection to a signalized intersection
[2] Delay under With Project After Mitigation Conditions – Delay under Without Project Conditions
[3] Delay under With Project After Mitigation Conditions – Delay under With Project Before Mitigation Conditions
Bold = LOS E or F
AWSC = All-Way Stop-Control
BCD = Exceeds maximum reasonable calculable delay of 600 seconds per Synchro 11.0 traffic analysis software.

7.2.3 Ramp Meter Analysis

No significant impacts were identified at any of the analyzed freeway metered ramps.

7.2.4 Freeway Segment Analysis

No significant impacts were identified at any of the analyzed freeway segments.

7.3 Horizon Year 2062 with Project Conditions

7.3.1 Roadway Segment Mitigation

Since implementation of the Proposed Project would degrade LOS to unacceptable levels or further degrade traffic operations at study area roadway segments already operating at an unacceptable LOS, mitigation measures would be required by the Project for its cumulative impacts at the following roadway segments:

- Britannia Boulevard, between SR-905 Westbound Ramps and SR-905 Eastbound Ramps – This roadway segment would operate at LOS F with the addition of project traffic and the OMCPU EIR disclosed its operations as LOS F, both of which exceed the LOS D threshold. This roadway is currently built to its ultimate classification as a 6-Lane Prime Arterial as identified in the currently adopted Otay Mesa Community Plan, thus no mitigation is proposed. The impact is considered significant and unavoidable, consistent with the OM CPU EIR.
- Britannia Boulevard, between SR-905 Eastbound Ramps and Airway Road – This segment would operate at LOS F with the addition of project traffic. It should be noted that the Project will improve this roadway segment from a 5-Lane Prime Arterial (2 lanes NB/3 lanes SB) to its ultimate classification as a 6-Lane Prime Arterial per the currently adopted Otay Mesa Community Plan under Opening Year 2027 with Project Conditions. With this improvement, LOS is expected to remain at LOS F under the Horizon Year 2062 Plus Project scenario. Therefore, no additional fair share contribution would be required by the Project. This impact is considered significant and unavoidable, consistent with the OM CPU EIR.
- Airway Road, between Continental Street and Britannia Boulevard – This segment would operate at LOS F with the addition of project traffic. It should be noted that the Proposed Project will improve this roadway segment from a 2-Lane Collector to a 3-Lane (1 lane EB/2 lanes WB) Collector under Opening Year 2027 Plus Project. With this improvement, LOS is expected to remain at LOS F under the Horizon Year 2062 Plus Project scenario, however, the roadway segment would operate at better than pre-project conditions. Therefore, the cumulative impact would be mitigated by the recommended mitigation measure and no additional mitigation measures would be required by the Project. This mitigation measure is consistent with the OMCPU EIR at buildout of the OMCPU.
- Airway Road, between Britannia Boulevard and 50 feet west of La Media Road – This segment would operate at LOS F with the addition of project traffic. It should be noted that the Project will improve this roadway segment from a 2-Lane Collector to a 2-Lane Collector with a two-way left-turn lane under Opening Year 2027 Plus Project conditions. With this improvement, LOS is expected to remain at LOS F under the Horizon Year 2062 Plus Project scenario, however, the roadway segment would operate at better than pre-project conditions.

Therefore, the cumulative impact would be mitigated by the recommended mitigation measure and no additional mitigation measures would be required by the Project. This mitigation measure is consistent with the OMCPU EIR at buildout of the OMCPU.

- Cactus Road, south of Airway Road – This segment would operate at LOS F with the addition of project traffic. It should be noted that the Project will improve this roadway segment from a 2-Lane Collector to a 3-Lane (1NB/2SB) Major Arterial under Opening Year 2027 Plus Project conditions. With this improvement, LOS is expected to improve from LOS F to LOS B. Therefore, the cumulative impact would be mitigated by the recommended mitigation measure and no additional mitigation measures would be required by the Project. This mitigation measure is consistent with the OMCPU EIR at buildout of the OMCPU.

  It is anticipated that Cactus Road south of Airway Road would be improved to a 3-lane (1NB/2SB) Major Arterial prior to the Proposed Project's opening year by the EPOCA (Otay Mesa Lumina PTS#555609) project. However, should EPOCA not complete the improvement to Cactus Road south of Airway Road before the Proposed Project's opening year, the Owner/Permittee for the Proposed Project will be responsible for implementation of the improvement.

  Additionally, Cactus Road south of Airway Road is anticipated to be improved by the EPOCA residential development, previously known as Otay Mesa Lumina PTS#555609. The EPOCA project has the responsibility to widen the roadway to a 4-lane major arterial, however, due to right-of-way constraints, the roadway can only be widened temporarily to accommodate a 3-lane (1NB/2SB) Major Arterial. As of December 2024, Cactus Road between Airway Road and Secano Street has been widened from approximately 20-feet to 40-feet to accommodate a 3-lane major arterial roadway, however, the construction of a raised median and striping to a 3-lane (1NB/2B) major arterial roadway has yet to be completed.

Table 7.3 displays level of service analysis results with implementation of the recommended mitigation measures at the impacted roadway segments under Horizon Year 2062 with Project with Mitigation Conditions. Conceptual improvement and striping plans are provided in Appendix S.

Table 7.3 – Roadway Segment LOS Results – Horizon Year 2062 with Project with Mitigation Conditions

Roadway	Segment	Without Project					With Project Before Mitigation					With Project After Mitigation					Δ in V/C[1]	Δ in V/C[2]
		Functional Classification	Capacity (LOS E)	ADT	V/C	LOS	Functional Classification	Capacity (LOS E)	ADT	V/C	LOS	Functional Classification	Capacity (LOS E)	ADT	V/C	LOS		
Britannia Blvd	SR-905 EB Ramps to Airway Rd	5-Lane (2NB/3SB) Prime Arterial	50,000	73,200	1.464	**F**	5-Lane (2NB/3SB) Prime Arterial	50,000	78,129	1.563	**F**	6-Lane Prime Arterial	60,000	78,129	1.302	**F**	-0.162	-0.261
Airway Rd	Continental St to Britannia Blvd	2-Lane Collector	8,000	26,760	3.345	**F**	2-Lane Collector	8,000	32,602	4.075	**F**	3-Lane (1EB/2WB) Collector	11,000	32,602	2.964	**F**	-0.381	-1.111
Airway Rd	Britannia Blvd to 50 feet west of La Media Rd	2-Lane Collector	8,000	23,310	2.914	**F**	2-Lane Collector	8,000	23,919	2.990	**F**	2-Lane Collector w/ TWLTL	15,000	23,919	1.595	**F**	-1.319	-1.395
Cactus Rd	South of Airway Rd	2-Lane Collector	8,000	14,390	1.799	**F**	2-Lane Collector	8,000	14,633	1.829	**F**	3-Lane (1NB/2SB) Major Arterial	30,000	14,633	0.488	B	-1.311	-1.341

Sources: CR Associates (2025)

Notes:
[1] V/C under With Project After Mitigation Conditions – V/C under Without Project Conditions
[2] V/C under With Project After Mitigation Conditions – V/C under With Project Before Mitigation Conditions
Bold = LOS E or F
V/C = Volume to Capacity Ratio

As shown in Table 7.3, the cumulative impacts associated with the following four (4) roadway segments would be mitigated with the implementation of the recommended mitigation measures:

- Britannia Boulevard, between SR-905 Eastbound Ramps and Airway Road - This roadway segment would operate at LOS F and the OMCPU EIR disclosed its operations as LOS F, both of which exceed the LOS D threshold. However, since the roadway segment would operate better than pre-project conditions, the significant impact would be considered mitigated in the Opening Year 2027 Plus Project condition. Since this roadway would be built to its ultimate classification as a 6-Lane Prime Arterial in the currently adopted Otay Mesa Community Plan by the Project in Opening Year 2027 with Project conditions, no additional mitigation measures would be required, and the cumulative impact would remain significant and unavoidable, consistent with the OM CPU EIR.
- Airway Road, between Continental Street and Britannia Boulevard - This roadway segment would operate at LOS F which exceeds the LOS D threshold. However, since the roadway segment would operate at better than pre-project conditions, the cumulative impact would be mitigated by the recommended mitigation measure.
- Airway Road, between Britannia Boulevard and 50 feet west of La Media Road - This roadway segment would operate at LOS F which exceeds the LOS D threshold. However, since the roadway segment would operate at better than pre-project conditions, the cumulative impact would be mitigated by the recommended mitigation measure.
- Cactus Road, south of Airway Road – This roadway segment would be mitigated by the improvements constructed by the project in the Opening Year 2027 with Project condition and operate at LOS B in the Horizon year 2062 with Project condition after mitigation. Therefore, the Proposed Project's cumulative impact would be mitigated by the recommended mitigation measure.

7.3.2 Intersection Mitigation

Since implementation of the Proposed Project would degrade LOS to unacceptable level of service or further degrade traffic operations at study area intersections already operating at unacceptable LOS, mitigation measures would be required by the Project for its cumulative impacts at the following intersections:

3. Britannia Boulevard & Otay Mesa Road – The intersection would operate at LOS E during the PM peak hour under Horizon Year 2062 with Project conditions if the project were not already providing improvements at the Opening Year 2027 with Project scenario. It should be noted that the Proposed Project will restripe the westbound approach to accommodate dual left-turn lanes and three through lanes as identified under Opening Year 2027 with Project Mitigation section. With this improvement, LOS is expected to operate at LOS D during the PM peak hour under the Horizon Year 2062 Plus Project scenario; therefore, the project's cumulative impact would be mitigated by the recommended mitigation measure, and no additional mitigation measures would be required by the Project. This mitigation measure is consistent with the ultimate intersection geometrics assumption of the OMCPU EIR's analysis of traffic at OMCPU buildout.

4. Britannia Boulevard & SR-905 Westbound Ramps – The intersection would operate at LOS F during the PM peak hour with the addition of project traffic. It should be noted that the Proposed Project shall restripe the westbound approach to accommodate an exclusive left-turn lane, a shared left-through-right lane, and an exclusive right-turn as identified under Opening Year 2027 with Project Mitigation section. This mitigation measure is consistent with the ultimate intersection geometrics assumption of the OMCPU EIR's analysis of traffic at OMCPU buildout. With this improvement, LOS is expected to remain at LOS F during the PM peak hour under the Horizon Year 2062 Plus Project scenario and would remain significant and unavoidable, consistent with the OM CPU EIR.
5. Britannia Boulevard & SR-905 Eastbound Ramps – The intersection would operate at LOS F during both the AM and PM peak hours with the addition of project traffic. It should be noted that the Proposed Project will reconfigure the northbound approach to accommodate two through lanes and a shared through-right lane as identified under Opening Year 2027 with Project Mitigation section. This mitigation measure is consistent with the ultimate intersection geometrics assumption of the OMCPU EIR's analysis of traffic at OMCPU buildout. With this improvement, LOS is expected to remain at LOS F under Horizon Year 2062 with Project conditions and would remain significant and unavoidable, consistent with the OM CPU EIR.
6. Britannia Boulevard & Airway Road – The intersection would operate at LOS F during both the AM and PM peak hours with the addition of project traffic. It should be noted that the Proposed Project will restripe the eastbound approach to provide 400-foot dual left-turn lanes and a shared through-right turn lane and restripe the southbound approach to accommodate a left-turn lane, one through lane and dual right-turn lanes as identified under Opening Year 2027 with Project Mitigation section. This mitigation measure is consistent with the ultimate intersection geometrics assumption of the OMCPU EIR's analysis of traffic at OMCPU buildout. With this improvement, LOS is expected to remain at LOS F during the AM and PM peak hours under Horizon Year 2062 with Project conditions and would remain significant and unavoidable, consistent with the OM CPU EIR.
7. Continental Street & Airway Road - The intersection would operate at LOS F during both the AM and PM peak hours under Horizon Year 2062 with Project conditions if the project were not already providing improvements at the Opening Year 2027 with Project scenario. It should be noted that the Proposed Project will improve the existing side-street stop-controlled intersection to a signalized intersection as identified under Opening Year 2027 with Project Mitigation section. The estimated ADT signal warrant would be met for this intersection based on analyzed traffic volumes under both Opening Year 2027 with Project conditions and Horizon Year 2062 with Project conditions per the Average Traffic Estimate Form (estimated ADT signal warrants are provided in Appendix I). With this improvement, LOS is expected to operate at LOS D during the AM peak hour and LOS B during the PM peak hour under the Horizon Year 2062 Plus Project scenario; therefore, the cumulative impact would be mitigated by the recommended mitigation measure, and no additional mitigation measures would be required by the Project.
8. Cactus Road & Airway Road - The intersection would operate at LOS F during both the AM and PM peak hours with the addition of project traffic. It should be noted that the Proposed Project will reconfigure the north leg with two receiving lanes and the westbound approach with one left-turn lane and one right-turn lane as identified under Opening Year 2027 with

Project Mitigation section. With this improvement, LOS is expected to remain at LOS F under Horizon Year 2062 with Project conditions. However, the intersection would operate at better than pre-project conditions. Therefore, the cumulative impact would be mitigated by the recommended mitigation measure, and no additional mitigation measures would be required by the Project. This mitigation measure is consistent with the OMCPU EIR at buildout of the OMCPU.

Table 7.4 displays intersection LOS and average vehicle delay results under Horizon Year 2062 with Project with Mitigations Conditions. LOS calculation worksheets are provided in **Appendix U**. Conceptual improvement plans are provided in Appendix S.

As shown, all study area intersections would operate at LOS D or better than pre-project conditions with implementation of the recommended mitigation measures.

Table 7.4 – Intersection LOS Results – Horizon Year 2062 with Project with Mitigation Conditions

#	Intersection	Control Type	Without Project				With Project Before Mitigation				With Project After Mitigation				Δ in Delay AM/PM[2]	Δ in Delay AM/PM[3]
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
			Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS		
3	Britannia Blvd & Otay Mesa Rd	Signal	32.2	C	54.4	D	39.1	D	70.3	**E**	27.3	C	38.0	D	-4.9 / -16.4	-11.8 / -32.3
4	Britannia Blvd & SR-905 WB Ramps	Signal	36.1	D	90.3	**F**	44.0	D	121.2	**F**	31.9	C	89.4	**F**	-4.2 / -0.9	-12.1 / -31.8
5	Britannia Blvd & SR-905 EB Ramps	Signal	187.7	**F**	252.1	**F**	235.5	**F**	293.2	**F**	142.3	**F**	182.9	**F**	-45.4 / -69.2	-93.2 / -110.3
6	Britannia Blvd & Airway Rd	Signal	323.9	**F**	326.0	**F**	398.9	**F**	403.4	**F**	300.5	**F**	282.0	**F**	-23.4 / -44.0	-98.4 / -121.4
7	Continental St & Airway Rd	Signal[1]	529.1	**F**	BCD	**F**	BCD	**F**	BCD	**F**	42.4	D	19.7	B	-486.7 / BCD	BCD / BCD
8	Cactus Rd & Airway Rd	AWSC	176.0	**F**	507.3	**F**	227.2	**F**	584.3	**F**	140.0	**F**	236.3	**F**	-36.0 / -271.0	-87.2 / -348.0

Source: CR Associates (2025)

Notes:
[1] Improved from existing side-street stop-controlled intersection to a signalized intersection
[2] Delay under With Project After Mitigation Conditions – Delay under Without Project Conditions
[3] Delay under With Project After Mitigation Conditions – Delay under With Project Before Mitigation Conditions
Bold = LOS E or F
AWSC = All-Way Stop-Control
BCD = Exceeds maximum reasonable calculable delay of 600 seconds per Synchro 11.0 traffic analysis software.

7.3.3 Ramp Meter Analysis

No significant impacts were identified at any of the analyzed freeway metered ramps.

7.3.4 Freeway Segment Analysis

Based on City guidelines, mitigation measures would be required at the aforementioned freeway segments to achieve acceptable LOS. However, these facilities are under the purview of Caltrans, and no current plans exist to widen these freeway segments; thus, this freeway segment would continue to operate at LOS F with the addition of Project traffic. It should be noted that the OMCPU EIR disclosed that these segments along SR-905 would operate at a deficient LOS F, and disclosed impacts to these freeway segments as a significant and unavoidable impact of the OMCPU. The proposed Project is consistent with the findings and conclusions of the OMCPU EIR with respect to these freeway segments.

8.0 Queue Analysis

A 95th percentile queue analysis was conducted at all intersections where the Proposed Project contributes project trips to exclusive turn lanes including freeway off-ramp locations. The queue analysis takes into consideration project frontage improvements as well as mitigation measures discussed in Chapter 7. The queue analysis was conducted for all study scenarios with the Simtraffic simulation software utilizing the following parameters:

- 60-minute recording time
- 15-minute seeding time
- 10 simulation runs

Table 8.1 displays the 95th percentile queue analysis results under all study scenarios. Intersection queue reports are provided in **Appendix V.**

<u>Opening Year 2027 with Project Conditions</u>

As shown, the Proposed Project would contribute project traffic to the following turn movements exceeding available storage and project improvements would be required:

1. Cactus Road & Otay Mesa Road
   - Northbound Right-Turn – The trips associated with the Proposed Project would not increase the 95th percentile queue for this movement when compared to Opening Year 2027 without Project conditions. However, the trips associated with the Proposed Project would increase the 95th percentile queue for this movement by 25 feet during both the AM and PM peak periods in the Horizon Year 2062 with Project conditions, when compared to Horizon Year 2062 without Project conditions. Based on the analysis, the Proposed Project would require extending the northbound right-turn pocket from its existing 110-foot length by approximately 40 feet to achieve a total length of 150 feet to accommodate the projected queue. However, an existing full-access driveway serving a gas station is located along Cactus Road approximately 150 feet south of Otay Mesa Road. Extending the right-turn pocket to the full 150 feet would interfere with this driveway and its existing full-access operations. Therefore, the northbound right-turn pocket will be extended to the extent feasible without affecting driveway access, resulting in an assumed total length of approximately 130 feet from the intersection stop line. Accordingly, the Proposed Project will restripe the northbound right-turn pocket from 110 feet to approximately 130 feet to better accommodate the projected queue while preserving full access to the existing gas station driveway.

     Prior to the issuance of the first building permit, the Owner/Permittee shall assure by permit and bond to lengthen the existing 110-foot northbound right turn lane by 20 feet to provide a total of 130 feet northbound right turn lane storage length under Opening Year 2027 with Project conditions to accommodate the expected 95th percentile queue in the Horizon Year 2062 with Project condition via a signing and striping plan per current City standards, satisfactory to the City Engineer. All improvements shall be completed and operational prior to first occupancy.

   - Southbound Left-Turn – The trips associated with the Proposed Project would increase the 95th percentile queue for this movement by 25 feet during the AM and PM peak

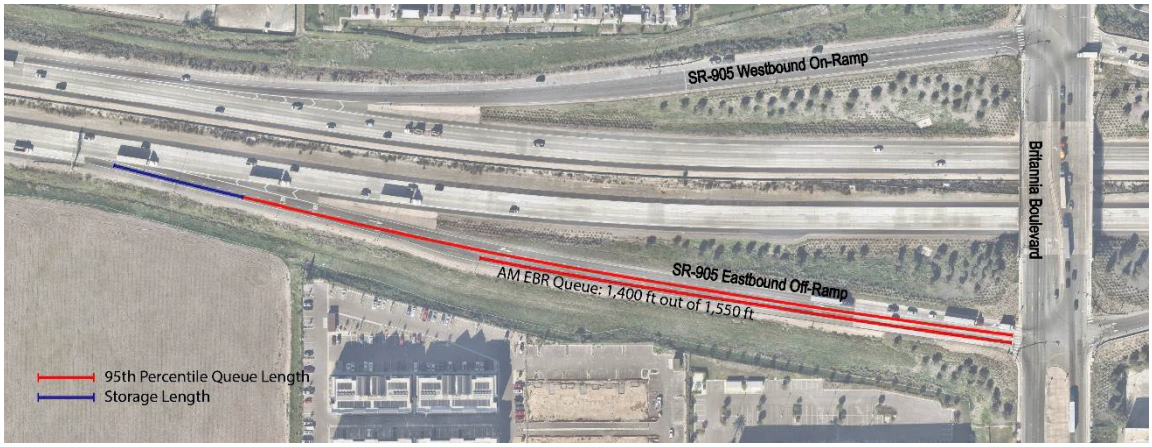
periods when compared to Opening Year 2027 without Project conditions. This turning movement is configured on the north leg of an intersection where right-of-way constraints exist due to existing parking lots and structures associated with the Brown Field Municipal Airport. Therefore, improvements are not recommended for this exclusive turn lane.

3. Britannia Boulevard & Otay Mesa Road
   - Eastbound Right-Turn – The 95th percentile queue would decrease for this movement by 250 feet during the PM peak hour. This reduction is primarily due to the traffic signal modification associated with the intersection mitigation measures as identified under Opening Year 2027 with Project Mitigation conditions. The existing exclusive eastbound right turn lane storage length is expected to accommodate the 95th percentile queue for both AM and PM peak hours under the Opening Year 2027 with Project conditions; therefore, no additional improvements are recommended for this exclusive turning lane.
   - Westbound Left-Turn – The 95th percentile queue would decrease for this movement by 275 feet during the PM peak hour when compared to Opening Year 2027 without Project conditions. This reduction is primarily due to the intersection mitigation measures as identified under Opening Year 2027 with Project Mitigation conditions. The existing exclusive westbound left turn lane storage length is expected to accommodate the 95th percentile queue for both AM and PM peak hours under the Opening Year 2027 with Project conditions; therefore, no additional improvements are not recommended for this exclusive turn lane.
4. Britannia Boulevard & SR-905 Westbound Ramps
   - Northbound Left-Turn – The trips associated with the Proposed Project would not increase the 95th percentile queue for this movement when compared to Opening Year 2027 without Project conditions. Although project trips are contributed to this movement, the intersection will be improved with intersection mitigation measures identified under Opening Year 2027 with Project Mitigation conditions. Additionally, extending the left-turn pocket is not feasible due to existing southbound left-turn pocket located directly to the south. Therefore, improvements are not recommended for this exclusive turning lane.
   - Westbound Left-Turn – The 95th percentile queue would decrease for this movement by 125 feet during the AM peak hour and increase by 50 feet during the PM peak hour when compared to Opening Year 2027 without Project conditions. The reduction during the AM peak hour is primarily due to the intersection mitigation measures as identified under Opening Year 2027 with Project Mitigation conditions. Although the 95th percentile queue is expected to decrease when compared to Opening Year 2027 with Project conditions, the expected 95th percentile queue in the Opening Years 2027 Plus Project condition would exceed the existing westbound left turn lane storage. To accommodate the additional 95th percentile queue, the westbound left-turn lane would require to be lengthened from the existing 330-feet to 425-feet. However, under Horizon Year 2062 with Project Conditions, the westbound left-turn lane would require a storage length of 450 feet to accommodate the expected 95th percentile queue in Horizon Year 2062 with Project Conditions. Therefore, it is recommended that the Proposed Project extend the westbound left-turn lane from the existing 330-feet to 450 feet. Since this intersection is located within Caltrans right-of-way, additional coordination would be required to implement this improvement.

Prior to the issuance of the first building permit, the Owner/Permittee shall assure by permit and bond to lengthen the existing 330-foot westbound left turn lane on the offramp by 120 feet to provide a total of 450 feet westbound left turn lane length with appropriate transition at the intersection of Britannia Boulevard and SR-905 Westbound Ramps per current City standards and Caltrans standards, satisfactory to the City Engineer and Caltrans. All improvements shall be completed and operational prior to first occupancy.

5. Britannia Boulevard & SR-905 Eastbound Ramps
   - Eastbound Right-Turn –The trips associated with the Proposed Project would increase the 95th percentile queue length for the eastbound right-turn movement by approximately 275 feet in the AM peak and 225 feet in the PM peak when compared to Opening Year 2027 without Project conditions. This would result in 95th percentile queue lengths of approximately 1,400 feet in the AM peak and 1,350 feet in PM peak.

     The off-ramp provides two dedicated eastbound right-turn lanes at this intersection. The shorter lane offers approximately 930 feet of storage, while the longer lane provides up to 1,550 feet of queueing capacity before reaching the freeway mainline. Under Opening Year 2027 with Project conditions, the projected queue is expected to exceed the storage length of the shorter right-turn lane. However, the total off-ramp storage capacity is sufficient to accommodate the projected queue, which would remain within the ramp limits and would not extend to the freeway mainline, as shown in the image below.



The existing geometric lane configuration at the SR-905 EB off-ramp is consistent with the buildout lane configuration shown in the OM CPU EIR (Figure 5.12-4c, intersection #19).

6. Britannia Boulevard & Airway Road
   - Northbound Left-Turn – The 95th percentile queue would decrease for this movement by 25 feet in the AM peak period when compared to Opening Year 2027 without Project conditions. This reduction is primarily due to the signal modification associated with intersection mitigation measures as identified under Opening Year 2027 with Project Mitigation conditions. Although the 95th percentile queue is expected to decrease when compared to Opening Year 2027 without Project conditions, the expected 95th percentile queue in the Opening Year 2027 with Project conditions would exceed the existing northbound left turn lane storage. To accommodate the expected 95th percentile queue, the northbound left-turn lane would require to be lengthened from the existing 210-feet

length to 300 feet. Table 8.1 demonstrates the expected 95th percentile queue in both Opening Year 2027 with project conditions and Horizon Year with Project Conditions with a maximum queue of 300-feet. Therefore, it is recommended that the Proposed Project lengthen the northbound left-turn lane from the existing 210-feet length to 300-feet, which would require reconfiguration of an existing raised median along Britannia Boulevard.

Prior to the issuance of the first building permit, the Owner/Permittee shall assure by permit and bond to lengthen the existing 210 feet long northbound left turn lane by 90 feet to provide a total of 300 feet northbound left turn lane storage length with appropriate transition at the intersection of Britannia Boulevard and Airway Road, satisfactory to the City Engineer. All improvements shall be completed and operational prior to first occupancy.

- Southbound Right-Turn – The 95th percentile queue would decrease for this movement by 750 feet during the AM peak hour and 1,050 feet during the PM peak hour when compared to Opening Year without Project conditions and is expected to be accommodated within the existing southbound right-turn lane storage length. This reduction is primarily due to the intersection mitigation measures as identified under Opening Year 2027 with Project Mitigation conditions. Therefore, improvements are not recommended for this exclusive turn lane.
- Eastbound Left-Turn - The 95th percentile queue would decrease for this movement by 850 feet during the AM peak hour and PM peak hour when compared to Opening Year without Project conditions. This reduction is primarily due to the intersection mitigation measures as identified under Opening Year 2027 with Project Mitigation conditions. Although the 95th percentile queue is expected to decrease when compared to Opening Year 2027 without Project Conditions, the expected 95th percentile queue in the Opening Year 2027 with Project conditions would exceed the existing eastbound left turn lane storage. To accommodate the expected 95th percentile queue, the eastbound left-turn lane would require to be lengthened from the existing 300-feet length to 350 feet. However, under Horizon Year 2062 with Project Conditions, the eastbound left turn lane would require a storage length of 400 feet to accommodate the expected 95th percentile queue in the Horizon Year 2062 with Project Conditions. Therefore, it is recommended that the Proposed Project lengthen the eastbound left-turn lane from the existing 300-feet length to 400-feet, which would require reconfiguration of an existing road striping along Airway Road.

  Prior to the issuance of the first building permit, the Owner/Permittee shall assure by permit and bond to lengthen the existing 300 feet long eastbound left turn lane by 100 feet to provide a total of 400 feet eastbound left turn lane storage length with appropriate transition at the intersection of Britannia Boulevard and Airway Road, satisfactory to the City Engineer. All improvements shall be completed and operational prior to first occupancy.

7. Continental Street & Airway Road
   - Southbound Left-Turn - The 95th percentile queue would decrease for this movement by 250 feet in the AM peak hour and 200 feet in PM peak hour. This reduction is primarily due to the intersection mitigation measures as identified under Opening Year 2027 with Project Mitigation conditions. Additionally, the proposed exclusive southbound left turn

lane with 430 feet of storage length to be constructed by the Project under Opening Year 2027 with Project Mitigation is expected to accommodate the 95th percentile queue for both AM and PM peak hours under Opening Year 2027 with Project condition. Therefore, no additional improvements are recommended for this exclusive turning lane.

Horizon Year 2062 with Project Conditions

As shown, the Proposed Project would contribute project traffic to the following turn movements exceeding available storage and improvements would be required:

1. Cactus Road & Otay Mesa Road
   - Northbound Right-Turn – The trips associated with the Proposed Project would increase the 95th percentile queue for this movement by 25 feet during both the AM and PM peak periods, when compared to Horizon Year 2062 without Project conditions. Based on the analysis, the Proposed Project would require extending the northbound right-turn pocket from its existing 110-foot length by approximately 40 feet to achieve a total length of 150 feet to accommodate the projected queue. However, an existing full-access driveway serving a gas station is located along Cactus Road approximately 150 feet south of Otay Mesa Road. Extending the right-turn pocket to the full 150 feet would interfere with this driveway and its existing full-access operations. Therefore, the northbound right-turn pocket will be extended to the extent feasible without affecting driveway access, resulting in an assumed total length of approximately 130 feet from the intersection stop line. Accordingly, the Proposed Project will restripe the northbound right-turn pocket from 110 feet to approximately 130 feet to better accommodate the projected queue while preserving full access to the existing gas station driveway.

     Prior to the issuance of the first building permit, the Owner/Permittee shall assure by permit and bond to lengthen the existing 110-foot northbound right turn lane by 20 feet to provide a total of 130 feet northbound right turn lane storage length under Opening Year 2027 with Project conditions to accommodate the expected 95th percentile queue in the Horizon Year 2062 with Project condition via signing and striping plans per current City standards, satisfactory to the City Engineer. All improvements shall be completed and operational prior to first occupancy.

   - Southbound Left-Turn – The trips associated with the Proposed Project would not increase the 95th percentile queue for this movement during the AM and PM peak periods when compared to Horizon Year 2062 without Project conditions. This turning movement is configured on the north leg of an intersection where right-of-way constraints exist due to existing parking lots and structures associated with the Brown Field Municipal Airport. Therefore, improvements are not recommended for this exclusive turn lane.

3. Britannia Boulevard & Otay Mesa Road
   - Eastbound Right-Turn – The 95th percentile queue would decrease for this movement by 650 feet during the PM peak hour when compared to Horizon Year 2062 without Project conditions. This reduction is primarily due to the traffic signal modification associated with the intersection mitigation measures identified under Opening Year 2027 with Project Mitigation conditions. The existing exclusive eastbound right turn lane storage length is expected to accommodate the 95th percentile queue for both AM and PM peak

hours during the Horizon Year 2062 with Project conditions. Therefore, no additional improvements are recommended for this exclusive turning lane.

- Westbound Left-Turn – The 95th percentile queue would decrease for this movement by 200 feet during the PM peak hour when compared to Horizon Year 2062 without Project conditions. This reduction is primarily due to the intersection mitigation measures as identified under Opening Year 2027 with Project Mitigation conditions. The existing exclusive westbound left turn lane storage length is expected to accommodate the 95th percentile queue for both AM and PM peak hours during the Horizon Year 2062 with Project conditions. Therefore, no additional improvements are recommended for this exclusive left-turn lane.

4. Britannia Boulevard & SR-905 Westbound Ramps
   - Northbound Left-Turn – The 95th percentile queue would decrease for westbound left-turn movement at the intersection of Britannia Boulevard & SR-905 Westbound Ramps by 25 feet during the AM peak hour and increase by 25 feet during the PM peak hour when compared to Horizon Year 2062 without Project conditions. Extending the left-turn pocket is not feasible due to existing southbound left-turn pocket located directly to the south. Therefore, improvements are not recommended for this exclusive turning lane.
   - Westbound Left-Turn – The trips associated with the Proposed Project would increase the 95th percentile queue for this movement by 25 feet during both the AM and PM peak hour when compared to Horizon Year 2062 without Project conditions. The Proposed Project will extend the westbound left-turn pocket from the existing 330-foot length by 120 feet to provide a total of 450 feet in the Opening Year 2027 with Project Conditions, which would accommodate the expected 95th percentile queue in Horizon Year 2062 with Project conditions. Since this intersection is located within Caltrans right-of-way, additional coordination would be required to implement this improvement.

     Prior to the issuance of the first building permit, the Owner/Permittee shall assure by permit and bond to lengthen the existing 330-foot westbound left turn lane on the offramp by 120 feet to provide a total of 450 feet westbound left turn lane storage length with appropriate transition at the intersection of Britannia Boulevard and SR-905 Westbound Ramps per current City standards and Caltrans standards, satisfactory to the City Engineer and Caltrans. All improvements shall be completed and operational prior to first occupancy.

5. Britannia Boulevard & SR-905 Eastbound Ramps

   Eastbound Right-Turn – The trips associated with the Proposed Project would increase the 95th percentile queue length for the eastbound right-turn movement by approximately 350 feet during the AM and PM peak period when compared to Horizon Year 2062 without Project conditions. This would result 95th percentile queue lengths of approximately 1,475 feet in the AM and PM peak.

   The off-ramp provides two dedicated eastbound right-turn lanes at this intersection. The shorter lane offers approximately 930 feet of storage, while the longer lane provides up to 1,550 feet of queueing capacity before reaching the freeway mainline. Under Horizon Year 2062 with Project conditions, the projected queue is expected to exceed the storage length of the shorter right-turn lane. However, the total off-ramp storage capacity is

sufficient to accommodate the projected queue, which would remain within the ramp limits and would not extend to the freeway mainline, as shown in the image below.



The existing geometric lane configuration at the SR-905 EB off-ramp is consistent with the buildout lane configuration shown in the OM CPU EIR (Figure 5.12-4c, intersection #19).

6. Britannia Boulevard & Airway Road
   - Northbound Left-Turn – The trips associated with the Proposed Project would decrease the 95th percentile queue for this movement during the AM peak hour by 25 feet and would increase by 25 feet during the PM peak hour. Although the 95th percentile queue is expected to decrease in the AM peak hour when compared to Horizon Year 2062 without Project conditions, the expected 95th percentile queue in the Horizon Year 2062 with Project conditions would exceed the existing northbound left turn lane storage by 90 feet. The Proposed Project will lengthen the northbound left-turn pocket from the existing 210 feet to 300 feet in the Opening Year 2027 with Project conditions, which would accommodate the expected 95th percentile queue in Horizon Year 2062 with Project conditions.

     Prior to the issuance of the first building permit, the Owner/Permittee shall assure by permit and bond to lengthen the existing 210 feet long northbound left turn lane by 90 feet to provide a total of 300 feet northbound left turn lane storage length with appropriate transition at the intersection of Britannia Boulevard and Airway Road, satisfactory to the City Engineer. All improvements shall be completed and operational prior to first occupancy.

   - Southbound Right-Turn – The 95th percentile queue would decrease for this movement by 875 feet during the AM peak hour and 825 feet during the PM peak hour when compared to Horizon Year 2062 without Project conditions. This reduction is primarily due to the intersection mitigation measures as identified under Opening Year 2027 with Project Mitigation conditions. Therefore, improvements are not recommended for this exclusive turn lane.

   - Eastbound Left-Turn - The 95th percentile queue would decrease for this movement by 800 feet during the AM peak hour and PM peak hour when compared to Horizon Year 2062 without Project conditions. This reduction is primarily due to the intersection mitigation measures as identified under Opening Year 2027 with Project Mitigation

conditions. Although the 95th percentile queue is expected to decrease when compared to Horizon Year 2062 without Project Conditions, the expected 95th percentile queue in the Horizon Year 2062 with Project conditions would exceed the existing eastbound left turn lane storage. The proposed Project will extend the eastbound left turn lane from the existing 300-feet length by 100 feet to provide a total of 400 feet in the Opening Year 2027 with Project Conditions, which would accommodate the existing 95th percentile queue in the Horizon Year 2062 with Project conditions. This improvement would require reconfiguration of an existing striping along Airway Road.

Prior to the issuance of the first building permit, the Owner/Permittee shall assure by permit and bond to lengthen the existing 300 feet long eastbound left turn lane by 100 feet to provide a total of 400 feet eastbound left turn lane storage length with appropriate transition at the intersection of Britannia Boulevard and Airway Road, satisfactory to the City Engineer. All improvements shall be completed and operational prior to first occupancy.

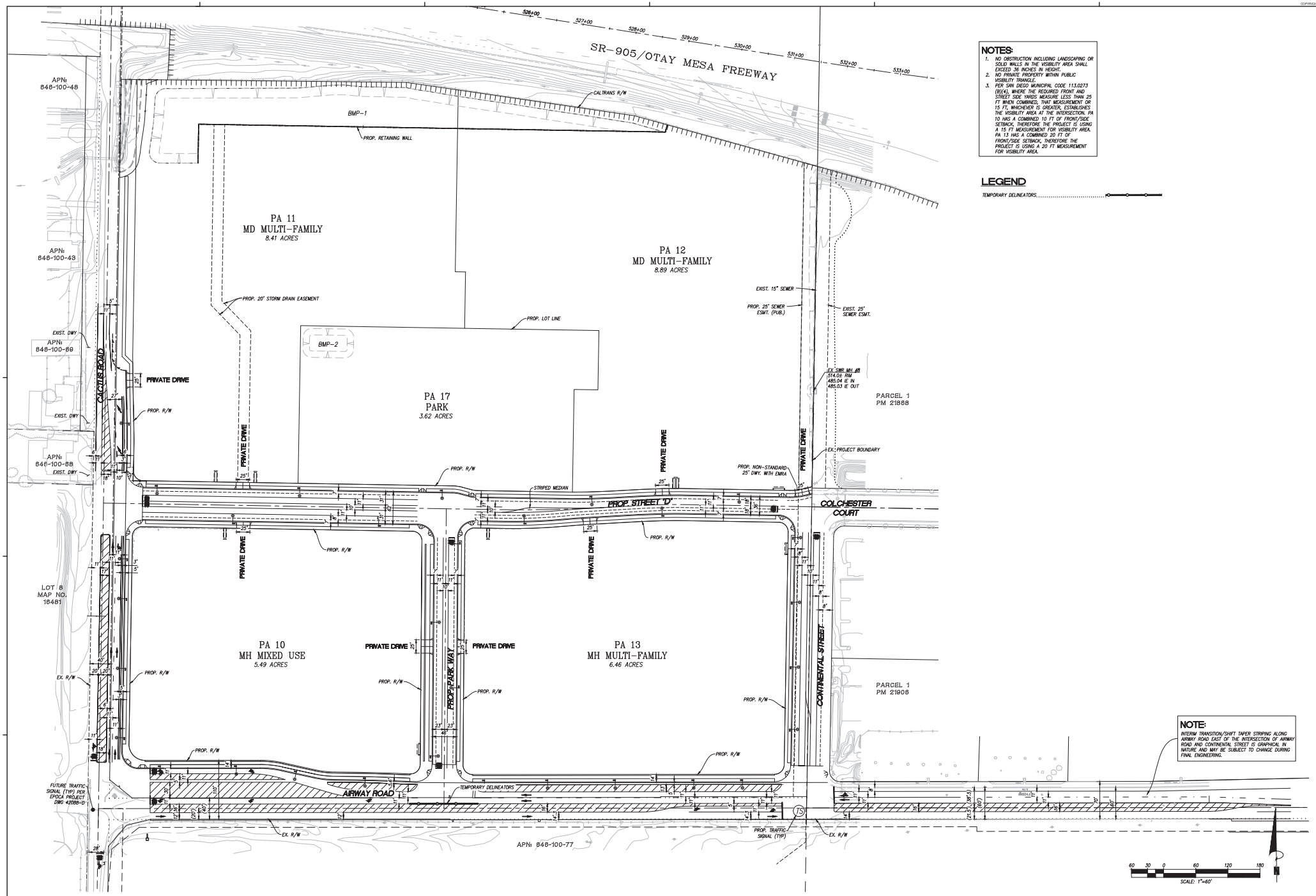
Table 8.1 – Intersection Queue Analysis

#	Intersection	Movement	Storage (ft)	95th Percentile Queue (ft)[1]											
				Existing		Existing w/ Project		Opening Year 2027		Opening Year 2027 w/ Project		Horizon Year 2062		Horizon Year 2062 w/ Project	
				AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	Cactus Rd & Otay Mesa Rd	NBR	110	75	75	75	75	100	**125**	100	**125**	100	**125**	**125**	**150**
		SBL	25	**50**	**75**	25	**75**	**75**	**125**	**100**	**150**	**125**	**150**	**125**	**150**
		WBL	495	125	75	125	100	125	150	175	150	200	175	200	200
3	Britannia Blvd & Otay Mesa Rd	NBL	945	100	125	125	125	225	200	200	175	200	200	200	200
		NBR	945	100	100	150	125	175	150	225	200	300	175	250	200
		EBR	1,185	75	150	75	200	225	725	250	475	225	1,150	275	500
		WBL	525	125	225	150	275	325	**650**	225	375	525	**600**	275	400
4	Britannia Blvd & SR-905 WB Ramps	NBL	120	**150**	**175**	**175**	**175**	**200**	**175**	**200**	**175**	**200**	**175**	**175**	**200**
		WBL	330	275	275	200	300	**375**	**375**	250	**425**	**425**	**375**	**450**	**400**
5	Britannia Blvd & SR-905 EB Ramps	NBR	980	200	350	250	475	475	700	325	300	550	600	400	375
		EBR	930[3]	275	150	150	175	**1,125**	**1,125**	**1,400**	**1,350**	**1,125**	**1,125**	**1,475**	**1,475**
6	Britannia Blvd & Airway Rd	NBL	210	25	0	25	75	**250**	**250**	**225**	**250**	**250**	**275**	**225**	**300**
		SBR	980	75	75	75	100	**1,250**	**1,275**	500	225	**1,350**	**1,125**	475	300
		EBL	300	100	125	300	200	**1,200**	**1,200**	**350**	**350**	**1,200**	**1,200**	**400**	**400**
7	Continental St & Airway Rd	SBL	430	50	25	100	75	350	**450**	100	250	400	325	100	175
		EBL	125	DNE	DNE	25	0	DNE	DNE	50	0	DNE	DNE	100	75
8	Cactus Rd & Airway Rd	WBL	600	DNE	DNE	75	75	DNE	DNE	200	350	DNE	DNE	225	475
		WBR	600	DNE	DNE	50	75	DNE	DNE	150	350	DNE	DNE	200	375
11	Cactus Rd & Street D	WBL	200	DNE	DNE	50	25	DNE	DNE	100	50	DNE	DNE	50	50
13	Park Way & Street D	WBL	100	DNE	DNE	0	0	DNE	DNE	0	0	DNE	DNE	0	0

Source: CR Associates (2025)

Note:
[1] Queues are rounded to the nearest 25 feet to represent one vehicle length.
[2] Represents length of roadway segment
[3] The EBR pocket at the off-ramp is approximately 930 feet. However, it should be noted that there is an additional off-ramp lane extends approximately 1,550 feet from the freeway mainline to the intersection with Britannia Boulevard and would provide added storage to accommodate queuing.
DNE = Does Not Exists
BOLD = Indicates queue extends beyond available storage.

Appendix A - Project Frontage Improvements – Development Plans and Conceptual Striping Plans



NOTES:

1. NO OBSTRUCTION INCLUDING LANDSCAPING OR SOLID WALLS IN THE VISIBILITY AREA SHALL EXCEED 36 INCHES IN HEIGHT.
2. NO PRIVATE PROPERTY WITHIN PUBLIC VISIBILITY TRIANGLE.
3. PER SAN DIEGO MUNICIPAL CODE 113.0273 (B)(4), WHERE THE REQUIRED FRONT AND STREET SIDE YARDS MEASURE LESS THAN 25 FT WHEN COMBINED, THAT MEASUREMENT OR 15 FT, WHICHEVER IS GREATER, ESTABLISHES THE VISIBILITY AREA AT THE INTERSECTION. PA 10 HAS A COMBINED 10 FT OF FRONT/SIDE SETBACK, THEREFORE THE PROJECT IS USING A 15 FT MEASUREMENT FOR VISIBILITY AREA. PA 13 HAS A COMBINED 20 FT OF FRONT/SIDE SETBACK, THEREFORE THE PROJECT IS USING A 20 FT MEASUREMENT FOR VISIBILITY AREA.

LEGEND

TEMPORARY DELINEATORS

NOTE:

INTERIM TRANSITION/SHIFT TAPER STRIPING ALONG AIRWAY ROAD EAST OF THE INTERSECTION OF AIRWAY ROAD AND CONTINENTAL STREET IS GRAPHICAL IN NATURE AND MAY BE SUBJECT TO CHANGE DURING FINAL ENGINEERING.

60 30 0 60 120 180

SCALE: 1"=60'

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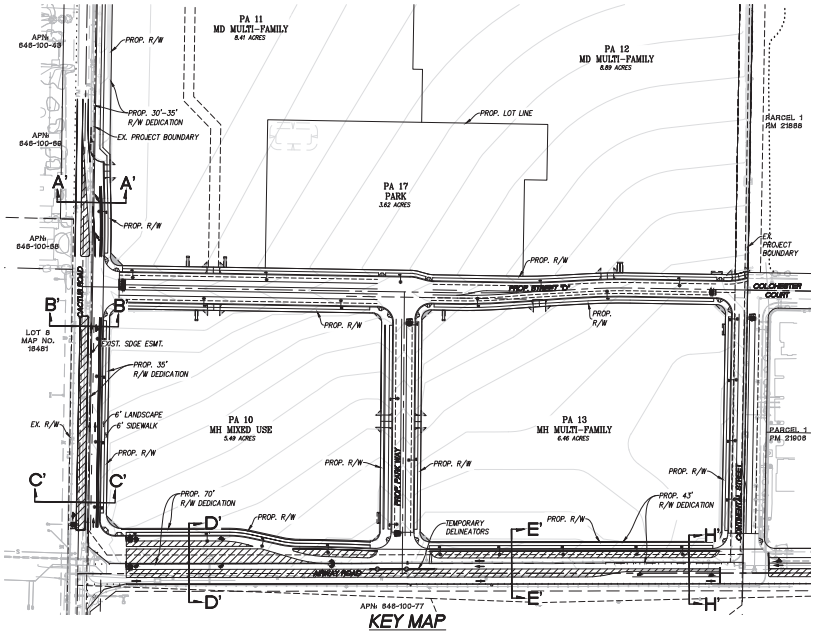
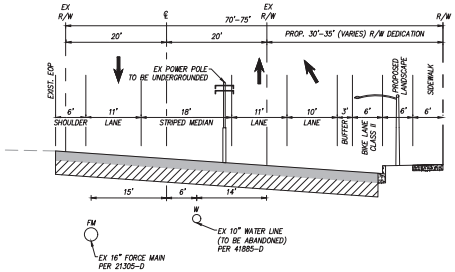
23099 COLLECTION AT CACTUS
SAN DIEGO, CA

2ND SUBMITTAL	08/09/2024
3RD SUBMITTAL	11/25/2024
4TH SUBMITTAL	04/09/2025
5TH SUBMITTAL	06/25/2025

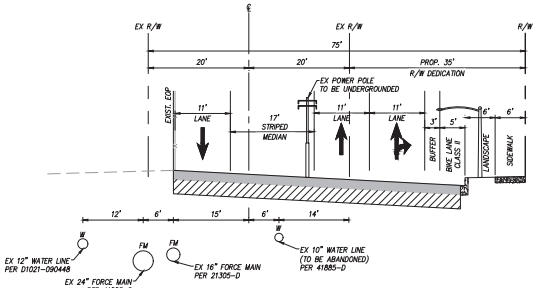
PROJECT NAME:
COLLECTION AT CACTUS – VESTING TENTATIVE MAP
SHEET TITLE:
VTM FRONTAGE INTERIM STRIPING PLAN
SHEET C029 OF C029



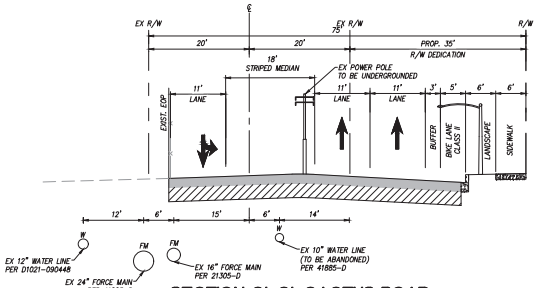
KEY MAP



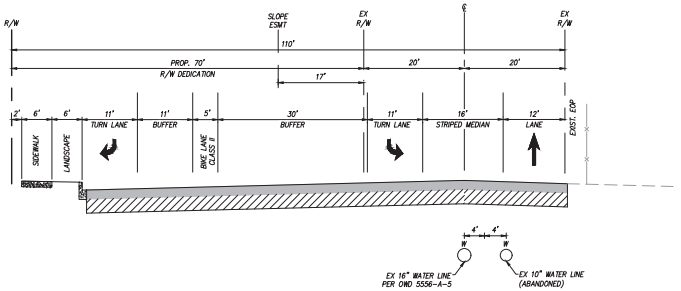
SECTION A'-A': CACTUS ROAD
(WITHOUT EPOCA IMPROVEMENTS)
(NOT TO SCALE)



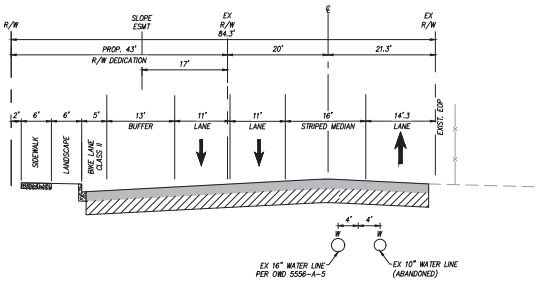
SECTION B'-B': CACTUS ROAD
(WITHOUT EPOCA IMPROVEMENTS)
(NOT TO SCALE)



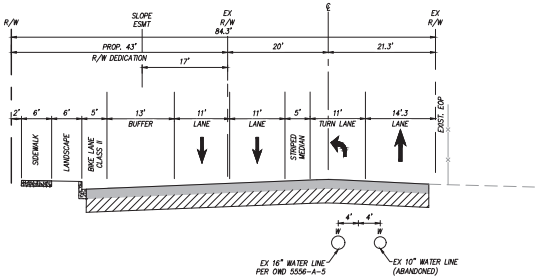
SECTION C'-C': CACTUS ROAD
(WITHOUT EPOCA IMPROVEMENTS)
(NOT TO SCALE)



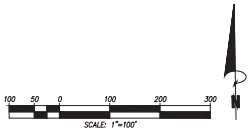
SECTION D'-D': AIRWAY RD
(WITHOUT BADIEE IMPROVEMENTS)
(NOT TO SCALE)



SECTION E'-E': AIRWAY RD
(WITHOUT BADIEE IMPROVEMENTS)
(NOT TO SCALE)



SECTION H'-H' AIRWAY RD
(WITHOUT BADIEE IMPROVEMENTS)
(NOT TO SCALE)



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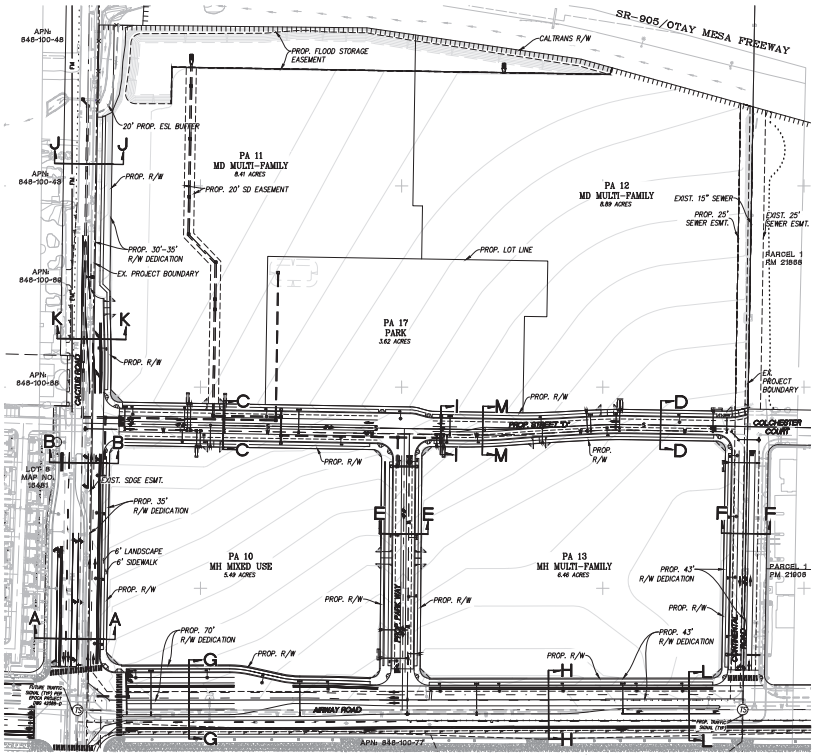
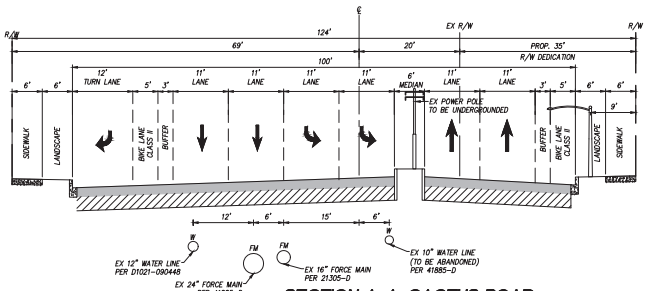
23099 COLLECTION AT CACTUS
SAN DIEGO, CA

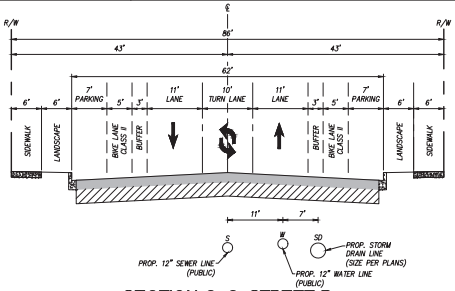
2ND SUBMITTAL	08/09/2024
3RD SUBMITTAL	11/25/2024
4TH SUBMITTAL	04/09/2025
5TH SUBMITTAL	06/25/2025

PROJECT NAME:
COLLECTION AT CACTUS – VESTING TENTATIVE MAP
SHEET TITLE:
VTM FRONTAGE INTERIM CROSS-SECTIONS
SHEET C028 OF C029

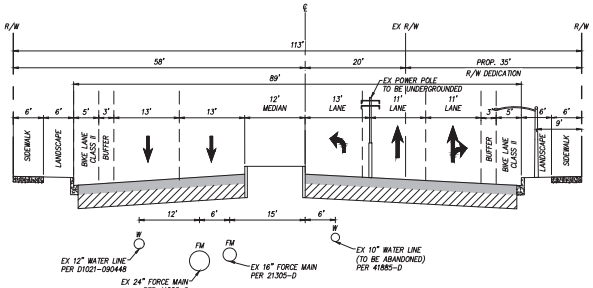




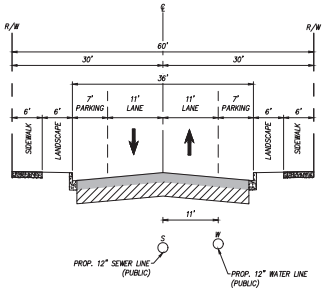
SECTION A-A: CACTUS ROAD
(4-LANE MAJOR ARTERIAL)
(NOT TO SCALE)



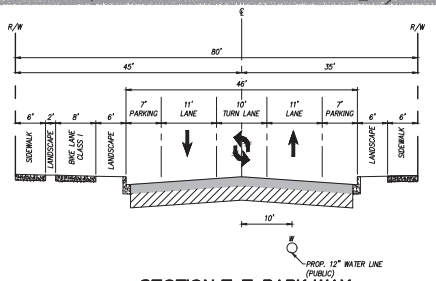
SECTION C-C: STREET D
(2-LANE COLLECTOR WITH 2-WAY LEFT TURN LANE)
(NOT TO SCALE)



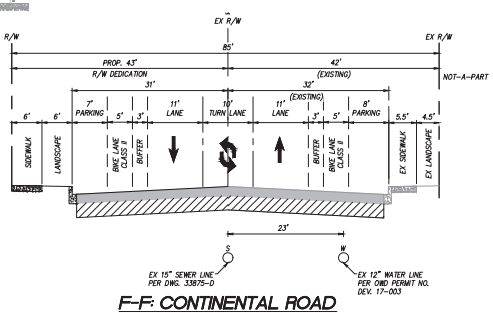
SECTION B-B: CACTUS ROAD
(4-LANE MAJOR ARTERIAL)
(NOT TO SCALE)



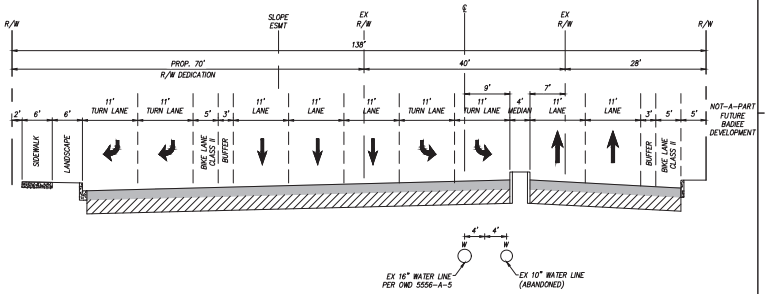
SECTION D-D: STREET D
(2-LANE COLLECTOR)
(NOT TO SCALE)



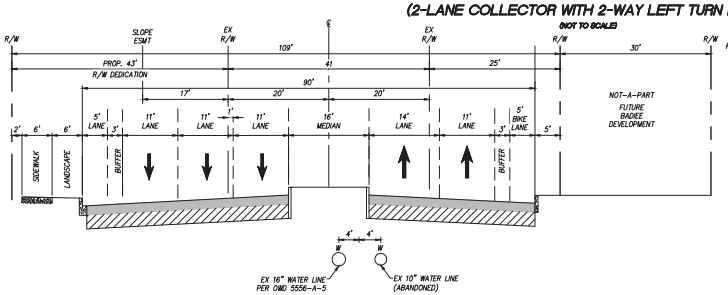
SECTION E-E: PARK WAY
(2-LANE COLLECTOR WITH 2-WAY LEFT TURN LANE)
(NOT TO SCALE)



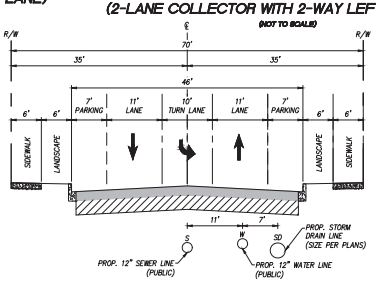
F-F: CONTINENTAL ROAD
(2-LANE COLLECTOR WITH 2-WAY LEFT TURN LANE)
(NOT TO SCALE)



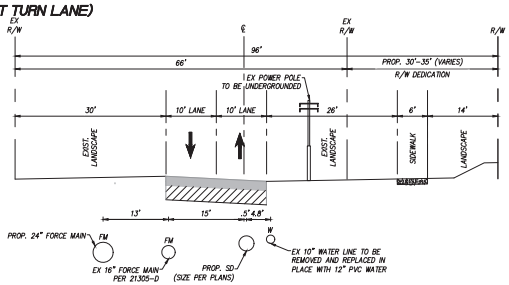
SECTION G-G: AIRWAY RD
(ULTIMATE 6-LANE URBAN MAJOR)
NOT TO SCALE



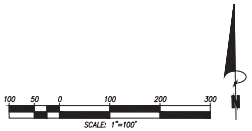
SECTION H-H: AIRWAY RD
(ULTIMATE 6-LANE URBAN MAJOR)
(NOT TO SCALE)



SECTION I-I: STREET D
(2-LANE COLLECTOR WITH LEFT TURN LANE)
(NOT TO SCALE)



SECTION J-J: CACTUS ROAD
(2-LANE COLLECTOR)
(NOT TO SCALE)



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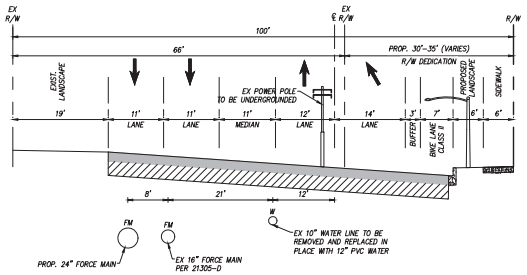
5TH SUBMITTAL	06/25/2025

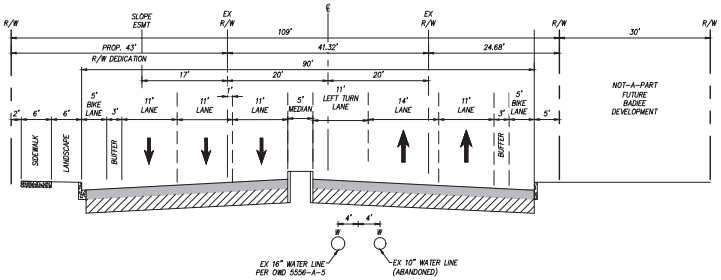
PROJECT NAME:
COLLECTION AT CACTUS – VESTING TENTATIVE MAP
SHEET TITLE:
VTM SECTIONS
SHEET C002 OF C029



SECTION K-K: CACTUS ROAD

(4-LANE MAJOR ARTERIAL)

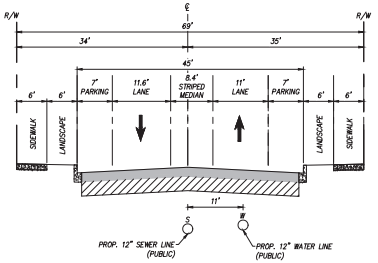
(NOT TO SCALE)



SECTION L-L AIRWAY RD

(ULTIMATE 6-LANE URBAN MAJOR)

(NOT TO SCALE)



SECTION M-M: STREET D

(2-LANE COLLECTOR WITH LEFT TURN LANE)

(NOT TO SCALE)

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5TH SUBMITTAL	06/25/2025

PROJECT NAME:
COLLECTION AT CACTUS – VESTING TENTATIVE MAP
SHEET TITLE:
VTM Sections
SHEET C003 OF C029

Appendix B - Existing Signal Timing Sheets

Group Assignment:
Field Master Assignment:
System Reference Number:

N/S Street Name: **Cactus Rd**
E/W Street Name: **Otay Mesa Rd**

Last Database Change:

Sent to Street Div. 7/13/17

Change Record		
Timing Sheet By	Approved By	Date
MB	M25	

Notes:

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Free Lag <C/1+F+0> _2_4_6_8

Drop Number		<C/0+0+0>
Zone Number		<C/0+0+1>
Area Number		<C/0+0+2>
Area Address		<C/0+0+3>
QuicNet Channel		(QuicNet)

Communication Addresses

Manual Plan	14	<C/0+A+1>
Manual Offset	0	<C/0+B+1>

Manual Selection

Flash Start	0	<F/1+0+E>
Red Revert	5.0	<F/1+0+F>
All Red Start	0.0	<F/1+C+0>
FYA Red Revert	0.0	<F/1+0+5>
OVLP CHG Red	0.0	<F/1+0+3>

Start / Revert Times

Exclusive Walk	0	<F/1+0+0>
Exclusive FDW	0	<F/1+0+1>
All Red Clear	0.0	<F/1+0+2>

Exclusive Ped Phase
(Outputs specified in Assignable Outputs at E/127+A+E & F)

		OTAY MESA		CACTUS		OTAY MESA		CACTUS	
		Phase							
Row	Column Numbers --->	1	2	3	4	5	6	7	8
0	Ped Walk		7				7		7
1	Ped FDW		25				20		39
2	Min Green	4	10	4	7	4	10	4	7
3	Type 3 Disconnect								
4	Added per Vehicle								
5	Veh Extension	2.0	4.4	2.0	2.0	2.0	4.2	2.0	3.2
6	Max Gap	2.0	4.4	2.0	2.0	2.0	4.2	2.0	3.2
7	Min Gap	2.0	0.2	2.0	2.0	2.0	0.2	2.0	0.2
8	Max Limit	30	60	30	40	30	60	30	40
9	Max Limit 2								
A	Adv. / Delay Walk								
B	PE Min Ped FDW		1				1		1
C	Cond Serv Check								
D	Reduce Every		0.7				0.7		1.0
E	Yellow Change	3.4	5.0	3.4	3.9	3.4	5.0	3.4	3.9
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 1 <F/1+Phase+Row>

	9	A	B	C	D
	---	---	---	---	---
Phase 1					
Phase 2					
Phase 3					
Phase 4					
Phase 5					
Phase 6					
Phase 7					
Phase 8					
Max Initial					
Alternate Walk					
Alternate FDW					
Alternate Initial					
Alternate Extension					

Alternate Timing <F/1+Column+Phase>

	E
RR-1 Delay	
RR-1 Clear	
EV-A Delay	0
EV-A Clear	0
EV-B Delay	0
EV-B Clear	0
EV-C Delay	0
EV-C Clear	0
EV-D Delay	0
EV-D Clear	0
RR-2 Delay	
RR-2 Clear	
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

Preempt Timing <F/1+E+Row>

	F	Row
Permit	12345678	0
Red Lock		1
Yellow Lock		2
Min Recall		3
Ped Recall		4
View Set Peds	_2___6_8	5
Rest In Walk		6
Red Rest		7
Dual Entry		8
Max Recall		9
Soft Recall	_2___6_	A
Max 2		B
Cond. Service		C
Man Cntrl Calls		D
Yellow Start	_2___6_	E
First Phases	___4___8	F

Phase Functions <F/1+F+Row>

How to Set Page Access Code: F/1 -- C + 0 + F = 1

INTERSECTION: CACTUS RD @ OTAY MESA RD

Row	Column Numbers ---->	Overlap 1	2	3	4	5	6	7	8
	Overlap Name ---->								
0	Load Switch Number								
1	Veh Set 1 - Phases								
2	Veh Set 2 - Phases								
3	Veh Set 3 - Phases								
4	Neg Veh Phases								
5	Neg Ped Phases								
6	Green Omit Phases								
7	Green Clear Omit Phs.								
8	Overlap Recall								
9	Queue Jump Phase								
A	Queue Jump Time								
B	Minimum Green								
C	Maximum Green								
D	Green Clear								
E	Yellow Change								
F	Red Clear								

Overlap Assignments <E/29+Column+Row>

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = Solid FDW on EV
5 = Extended Status
6 = International Ped
7 = Flash - Clear Outputs
8 = Split Ring

Extra 2 Flags
1 = AWB During Initial
2 = Reserved
3 = Disable Min Walk
4 = QuicNet System
5 = Ignore P/P on EV
6 = Manual Hold in FDW
7 = Allow QuicNet PE
8 = Flash Grn B4 Yellow

Row		C
0	EV-A	0
1	EV-B	0
2	EV-C	0
3	EV-D	0
4	RR-1 *	- - -
5	RR-2 *	- - -
6	SE-1	0
7	SE-2	0
8		
9		
A		
B		
C		
D		
E		
F		

Preempt Priority <E/125+C+Row>

(* RR-1 is always Highest, and RR-2 is always Second Highest)

Row	Column Numbers ---->	E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Flash to PE Circuits	
6	Flash Entry Phases	
7	Disable Yellow Range	
8	Disable Ovp Yel Range	
9	Overlap Yellow Flash	
A	EV-A Phases	2 5
B	EV-B Phases	4 7
C	EV-C Phases	1 6
D	EV-D Phases	3 8
E	Extra 1 Config. Bits	1 34
F	IC Select (Interconnect)	2

Configuration <E/125+E+Row>

	F
Ext. Permit 1 Phases	
Ext. Permit 2 Phases	
Exclusive Ped Assign	
Preempt Non-Lock	12345678
Ped for 2P Output	2
Ped for 6P Output	6
Ped for 4P Output	
Ped for 8P Output	8
Yellow Flash Phases	
Low Priority A Phases	
Low Priority B Phases	
Low Priority C Phases	
Low Priority D Phases	
Restricted Phases	
Extra 2 Config. Bits	3

Configuration <E/125+F+Row>

	F
Fast Green Flash Phase	
Green Flash Phases	
Flashing Walk Phases	
Guaranteed Passage	
Simultaneous Gap Term	12345678
Sequential Timing	
Advance Walk Phases	
Delay Walk Phases	
External Recall	
Start-up Overlap Green	
Max Extension	
Inhibit Ped Reservice	
Semi-Actuated	
Start-up Overlap Yellow	
Start-up Vehicle Calls	12345678
Start-up Ped Calls	12345678

Specials <F/2+F+Row>

Flash to PE & PE Non-Lock
1 = EV A 5 = RR 1
2 = EV B 6 = RR 2
3 = EV C 7 = SE 1
4 = EV D 8 = SE 2

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 =
5 =
6 = Simplex Master
7 =
8 = Offset Interrupter

Row		2
0		
1	Phase 1	10
2	Phase 2	10
3	Phase 3	10
4	Phase 4	10
5	Phase 5	10
6	Phase 6	10
7	Phase 7	10
8	Phase 8	10
9		
A		
B		
C		
D		
E		
F		

Coordination Transition Minimums <C/5+2+Row>

INTERSECTION: CACTUS RD @ OTAY MESA RD

Column Numbers ---->	0	1	2	3	1	3
Row	Detector Name	C1 Pin Number	Attributes	Phase(s)	Assign	Delay	Carry-over
0	2I2U	39	45_7_	2	123		1.8
1	6J2U	40	45_7_	6	123		1.8
2		41	45_7_	4	123		
3	8J6U	42	45_7_	8	123		1.8
4		43	45_7_	2	123		
5		44	45_7_	6	123		
6		45	45_7_	4	123		
7	8J6L	46	45_7_	8	123		1.8
8		47	67	2	123		
9		48	67	6	123		
A		49	67	4	123		
B		50	67	8	123		
C		55	45_7_	5	123		
D		56	45_7_	1	123		
E		57	45_7_	7	123		
F		58	45_7_	2	123		

	4	5	6	7	2	4
Row	Detector Name	C1 Pin Number	Attributes	Phase(s)	Assign	Delay	Carry-over
0		59	45_7_	5	123		
1		60	45_7_	1	123		
2		61	45_7_	7	123		
3		62	45_7_	3	123		
4		63	45_7_	2	123		
5		64	45_7_	6	123		
6		65	45_7_	4	123		
7		66	45_7_	8	123		
8		67	2	2	123		
9		68	2	6	123		
A		69	2	4	123		
B		70	2	8	123		
C		76	45_7_	2	123		
D		77	45_7_	6	123		
E		78	45_7_	4	123		
F		79	45_7_	8	123		

Detector Assignments <E/126+Column+Row> **<D/0+Column+Row>**

Detector Attributes
1 = Full Time Delay
2 = Ped Call
3 = Overlap
4 = Count
5 = Extension
6 = Type 3
7 = Calling
8 = Alternate

Det. Assignments
1 = Det. Set 1
2 = Det. Set 2
3 = Det. Set 3
4 =
5 =
6 = Failure - Min Recall
7 = Failure - Max Recall
8 = Report on Failure

Column Numbers ---->	Ped / Phase / Overlap 1	2	3	4	5	6	7	8	Row
Walk									0
Don't Walk									1
Phase Green									2
Phase Yellow									3
Phase Red									4
Overlap Green									5
Overlap Yellow									6
Overlap Red									7

Redirect Phase Outputs <E/127+Column+Row>

Cabinet Type	0	<E/125+D+0>

Enable Redirection
(Enable Redirection = 30)

Max OFF (minutes)	20	<D/0+0+1>
Max ON (minutes)	7	<D/0+0+2>
Chatter Fail Time	0	<D/0+0+4>

Detector Failure Monitor

	B	Row
One-Shot	0	8
Ext. Timer	0	9
DELAY-A	0	A
DELAY-B	0	B
DELAY-C	0	C
DELAY-D	0	D
DELAY-E	0	E
DELAY-F	0	F

Delay Logic Times
<D/0+B+Row> (seconds)

INTERSECTION: CACTUS RD @ OTAY MESA RD

Row	Time	Plan	Offset	Day of Week
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

TOD Coordination <9/0.1+Row>
(Bank 1)

Time	Funct.	Day of Week	Column 4 Phases/Bits

TOD Function <7/0.1+Row> <E/27+4+Row>

Day	Year	Month	Holiday Type

Holiday Dates <8/1.1+Row>
(Bank 1)

Time	Plan	Offset	Holiday Type

Holiday Events <9/1.1+Row>
(Bank 1)

T.O.D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 4 - Disable Detector OFF Monitor
Bit 5 - Disable Low Priority Preempt
Bit 6 - FYA Inhibit
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 8

Plan Select
1 thru 9 = Coordination Plan 1 thru 9
14 or E = Free
15 or F = Flash

Offset Select
A = Offset A
B = Offset B
C = Offset C

Row	Time	Plan	Offset	Day of Week
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

TOD Coordination <C+0+9=0.2>
(Bank 2)

Time	Funct.	Holiday Type	Column 4 Phases/Bits

Holiday TOD Function <C+0+7=0.2> <C+0+E=28>

Day	Year	Month	Holiday Type

Holiday Dates <C+0+8=1.2>
(Bank 2)

Time	Plan	Offset	Holiday Type

Holiday Events <C+0+9=1.2>
(Bank 2)

Month Select: October = A, November = B, December = C

INTERSECTION: CACTUS RD @ OTAY MESA RD

Coord Extra
1 = Programmed WALK Time for Sync Phases
2 = Always Terminate Sync Phase Peds

Row	Column Numbers ----> / Plan Name ---->	Plan 1	2	3	4	5	6	7	8	9	Row
0	Cycle Length										0
1	Phase 1 - ForceOff										1
2	Phase 2 - ForceOff										2
3	Phase 3 - ForceOff										3
4	Phase 4 - ForceOff										4
5	Phase 5 - ForceOff										5
6	Phase 6 - ForceOff										6
7	Phase 7 - ForceOff										7
8	Phase 8 - ForceOff										8
9	Ring Offset										9
A	Offset 1										A
B	Offset 2										B
C	Offset 3										C
D	Perm 1 - End										D
E	Hold Release										E
F	Reserved										F

Coordination - Bank 1 <C/1+Plan+Row>

Row		E	Row
0			0
1	Plan 1 - Sync		1
2	Plan 2 - Sync		2
3	Plan 3 - Sync		3
4	Plan 4 - Sync		4
5	Plan 5 - Sync		5
6	Plan 6 - Sync		6
7	Plan 7 - Sync		7
8	Plan 8 - Sync		8
9	Plan 9 - Sync		9
A	NEMA Sync		A
B	NEMA Hold		B
C			C
D			D
E	Coord Extra		E
F			F

Sync Phases <C/1+E+Row>

Row		Plan 1	2	3	4	5	6	7	8	9	Row
0	Ped Adjustment										0
1	Perm 2 - Start										1
2	Perm 2 - End										2
3	Perm 3 - Start										3
4	Perm 3 - End										4
5	Reservice Time										5
6	Reservice Phases										6
7											7
8	Pretimed Phases										8
9	Max Recall										9
A	Perm 1 Veh Phase										A
B	Perm 1 Ped Phase										B
C	Perm 2 Veh Phase										C
D	Perm 2 Ped Phase										D
E	Perm 3 Veh Phase										E
F	Perm 3 Ped Phase										F

Coordination - Bank 2 <C/2+Plan+Row>

Row		F	Row
0	Free Lag		0
1	Plan 1 - Lag		1
2	Plan 2 - Lag		2
3	Plan 3 - Lag		3
4	Plan 4 - Lag		4
5	Plan 5 - Lag		5
6	Plan 6 - Lag		6
7	Plan 7 - Lag		7
8	Plan 8 - Lag		8
9	Plan 9 - Lag		9
A	External Lag		A
B	Lag Hold		B
C			C
D			D
E			E
F			F

Lag Phases <C/1+F+Row>

Coordination Timing By:
Date:

Row	Column 8	Column 9	Column A	Column B	Column C	Column D	Column E	Column F	Row
0	One-Shot Timer	Latch 1 Set	NOT-3	Max 2	Pretimed	Set Monday	Dial 2 (7-Wire)	Sim Term 0	0
1	AND-5 (a)	Latch 1 Reset	NOT-4	Reserved	Plan 1	Ext. Perm 1	Dial 3 (7-Wire)	EV-A 71	1
2	AND-5 (b)	Latch 2 Set	OR-4 (a)	Reserved	Plan 2	Ext. Perm 2	Offset 1 (7-Wire)	EV-B 72	2
3	AND-6 (a)	Latch 2 Reset	OR-4 (b)	Reserved	Plan 3	Gate Down	Offset 2 (7-Wire)	EV-C 73	3
4	AND-6 (b)	NAND-3 (a)	OR-5 (a)	Reserved	Plan 4	Set Clock	Offset 3 (7-Wire)	EV-D 74	4
5	Reserved	NAND-3 (b)	OR-5 (b)	Reserved	Plan 5	Stop Time 82	Free (7-Wire)	RR-1 51	5
6	Reserved	NAND-4 (a)	OR-6 (a)	Reserved	Plan 6	Flash Sense 81	Flash (7-Wire)	RR-2 52	6
7	Reserved	NAND-4 (b)	OR-6 (b)	Reserved	Plan 7	Manual Enable	Excl. Ped Omit	Spec. Event 1	7
8	Spec. Funct. 1	OR-7 (a)	EXTMR	Reserved	Plan 8	Man. Advance	NOT-1	Spec. Event 2	8
9	Spec. Funct. 2	OR-7 (b)	Reserved	Max Inhibit (nema)	Plan 9	External Alarm	NOT-2	External Lag	9
A	Spec. Funct. 3	OR-7 (c)	AND-4 (a)	Force A (nema)	DELAY-A	Phase Bank 2	OR-1 (a)	AND-1 (a)	A
B	Spec. Funct. 4	OR-7 (d)	AND-4 (b)	Force B (nema)	DELAY-B	Phase Bank 3	OR-1 (b)	AND-1 (b)	B
C	Reserved	OR-8 (a)	NAND-1 (a)	C.N.A. (nema)	DELAY-C	Overlap Set 2	OR-2 (a)	AND-2 (a)	C
D	Reserved	OR-8 (b)	NAND-1 (b)	Hold (nema)	DELAY-D	Overlap Set 3	OR-2 (b)	AND-2 (b)	D
E	Reserved	OR-8 (c)	NAND-2 (a)	Max Recall	DELAY-E	Detector Set 2	OR-3 (a)	AND-3 (a)	E
F	Reserved	OR-8 (d)	NAND-2 (b)	Min Recall	DELAY-F	Detector Set 3	OR-3 (b)	AND-3 (b)	F

Assignable Inputs <E/126+Column+Row>

Row	Column 8	Column 9	Column A	Column B	Column C	Column D	Column E	Column F	Row
0	Reserved	Phase ON - 1	Preempt Fail	Flasher 0	Free	NOT-1	TOD Out 1	Dial 2 (7-Wire)	0
1	Reserved	Phase ON - 2	Sp Evnt Out 1	Flasher 1	Plan 1	OR-1	TOD Out 2	Dial 3 (7-Wire)	1
2	Reserved	Phase ON - 3	Sp Evnt Out 2	Fast Flasher	Plan 2	OR-2	TOD Out 3	Offset 1 (7-Wire)	2
3	Reserved	Phase ON - 4	Sp Evnt Out 3	EXTMR	Plan 3	OR-3	TOD Out 4	Offset 2 (7-Wire)	3
4	Reserved	Phase ON - 5	Sp Evnt Out 4	One-Shot Timer	Plan 4	AND-1	TOD Out 5	Offset 3 (7-Wire)	4
5	Reserved	Phase ON - 6	Sp Evnt Out 5	Reserved	Plan 5	AND-2	TOD Out 6	Free (7-Wire)	5
6	Reserved	Phase ON - 7	Sp Evnt Out 6	Latch 1	Plan 6	AND-3	TOD Out 7	Flash (7-Wire)	6
7	Reserved	Phase ON - 8	Sp Evnt Out 7	Latch 2	Plan 7	NOT-2	TOD Out 8	Preempt	7
8	Flh Yell Arrow 1	Ph. Check - 1	Sp Evnt Out 8	NOT-3	Plan 8	EV-A	Adv. Warn - 1	Low Priority A	8
9	Green 1	Ph. Check - 2	Coord On	NOT-4	Plan 9	EV-B	Adv. Warn - 2	Low Priority B	9
A	Flh Yell Arrow 3	Ph. Check - 3	Detector Fail	OR-4	Spec. Funct. 3	EV-C	DELAY-A	Low Priority C	A
B	Green 3	Ph. Check - 4	Spec. Funct. 1	OR-5	Spec. Funct. 4	EV-D	DELAY-B	Low Priority D	B
C	Flh Yell Arrow 5	Ph. Check - 5	Spec. Funct. 2	OR-6	NAND-3	RR-1	DELAY-C	AND-5	C
D	Green 5	Ph. Check - 6	Central Control	AND-4	NAND-4	RR-2	DELAY-D	AND-6	D
E	Flh Yell Arrow 7	Ph. Check - 7	Excl. Ped DW	NAND-1	OR-7	Spec. Event 1	DELAY-E	Reserved	E
F	Green 7	Ph. Check - 8	Excl. Ped WK	NAND-2	OR-8	Spec. Event 2	DELAY-F	Reserved	F

Assignable Outputs <E/127+Column+Row>

INTERSECTION: CONTINENTAL ST @ OTAY MESA RD

Group Assignment:
Field Master Assignment:
System Reference Number:

N/S Street Name: **Continental St**
E/W Street Name: **Otay Mesa Rd**

Last Database Change:

Change Record		
Timing Sheet By	Approved By	Date
MR	MR	

Free Lag <C/1+F+0> : _2__6_8

Notes:

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Drop Number		<C/0+0+0>
Zone Number		<C/0+0+1>
Area Number		<C/0+0+2>
Area Address		<C/0+0+3>
QuicNet Channel		(QuicNet)

Communication Addresses

Manual Plan	14	<C/0+A+1>
Manual Offset	0	<C/0+B+1>

Manual Selection

Flash Start	0	<F/1+0+E>
Red Revert	5.0	<F/1+0+F>
All Red Start	0.0	<F/1+C+0>
FYA Red Revert	0.0	<F/1+0+5>
OVLP CHG Red	0.0	<F/1+0+3>

Start / Revert Times

Exclusive Walk	0	<F/1+0+0>
Exclusive FDW	0	<F/1+0+1>
All Red Clear	0.0	<F/1+0+2>

Exclusive Ped Phase
(Outputs specified in Assignable Outputs at E/127+A+E & F)

Row	Column Numbers ---->	Phase 1 (Otay Mesa)	2 (Otay Mesa)	3	4	5	6 (Otay Mesa)	7 (Continental)	8
0	Ped Walk		7						7
1	Ped FDW		17						37
2	Min Green	4	10				10		4
3	Type 3 Disconnect								
4	Added per Vehicle								
5	Veh Extension	2.0	4.5				4.5		2.0
6	Max Gap	2.0	4.5				4.5		2.0
7	Min Gap	2.0	0.2				0.2		2.0
8	Max Limit	30	60				60		40
9	Max Limit 2								
A	Adv. / Delay Walk								
B	PE Min Ped FDW		1						1
C	Cond Serv Check								
D	Reduce Every		0.7				0.7		
E	Yellow Change	3.4	5.0				5.0		3.9
F	Red Clear	2.0	2.0				2.0		2.0

Phase Timing - Bank 1 <F/1+Phase+Row>

	9	A	B	C	D
	---	---	---	---	---
Phase 1					
Phase 2					
Phase 3					
Phase 4					
Phase 5					
Phase 6					
Phase 7					
Phase 8					
Max Initial					
Alternate Walk					
Alternate FDW					
Alternate Initial					
Alternate Extension					

Alternate Timing <F/1+Column+Phase>

	E
RR-1 Delay	
RR-1 Clear	
EV-A Delay	0
EV-A Clear	0
EV-B Delay	
EV-B Clear	
EV-C Delay	0
EV-C Clear	0
EV-D Delay	
EV-D Clear	
RR-2 Delay	
RR-2 Clear	
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

Preempt Timing <F/1+E+Row>

	F	Row
Permit	12__6_8	0
Red Lock		1
Yellow Lock		2
Min Recall	_2__6__	3
Ped Recall		4
View Set Peds	_2____8	5
Rest In Walk		6
Red Rest		7
Dual Entry		8
Max Recall		9
Soft Recall		A
Max 2		B
Cond. Service		C
Man Cntrl Calls		D
Yellow Start	_2__6__	E
First Phases	_____8	F

Phase Functions <F/1+F+Row>

How to Set Page Access Code: F/1 -- C + 0 + F = 1

INTERSECTION: CONTINENTAL ST @ OTAY MESA RD

Row	Column Numbers ---->	Overlap 1	2	3	4	5	6	7	8
	Overlap Name ---->								
0	Load Switch Number								
1	Veh Set 1 - Phases								
2	Veh Set 2 - Phases								
3	Veh Set 3 - Phases								
4	Neg Veh Phases								
5	Neg Ped Phases								
6	Green Omit Phases								
7	Green Clear Omit Phs.								
8	Overlap Recall								
9	Queue Jump Phase								
A	Queue Jump Time								
B	Minimum Green								
C	Maximum Green								
D	Green Clear								
E	Yellow Change								
F	Red Clear								

Overlap Assignments <E/29+Column+Row>

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = Solid FDW on EV
5 = Extended Status
6 = International Ped
7 = Flash - Clear Outputs
8 = Split Ring

Extra 2 Flags
1 = AWB During Initial
2 = Reserved
3 = Disable Min Walk
4 = QuicNet System
5 = Ignore P/P on EV
6 = Manual Hold in FDW
7 = Allow QuicNet PE
8 = Flash Grn B4 Yellow

Row		C
0	EV-A	0
1	EV-B	0
2	EV-C	0
3	EV-D	0
4	RR-1 *	- - -
5	RR-2 *	- - -
6	SE-1	0
7	SE-2	0
8		
9		
A		
B		
C		
D		
E		
F		

Preempt Priority <E/125+C+Row>
(* RR-1 is always Highest, and RR-2 is always Second Highest)

Row	Column Numbers ---->	E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Flash to PE Circuits	
6	Flash Entry Phases	
7	Disable Yellow Range	
8	Disable Ovp Yel Range	
9	Overlap Yellow Flash	
A	EV-A Phases	2
B	EV-B Phases	
C	EV-C Phases	1 6
D	EV-D Phases	
E	Extra 1 Config. Bits	1 345
F	IC Select (Interconnect)	2

Configuration <E/125+E+Row>

	F
Ext. Permit 1 Phases	
Ext. Permit 2 Phases	
Exclusive Ped Assign	
Preempt Non-Lock	12345678
Ped for 2P Output	2
Ped for 6P Output	
Ped for 4P Output	
Ped for 8P Output	8
Yellow Flash Phases	
Low Priority A Phases	
Low Priority B Phases	
Low Priority C Phases	
Low Priority D Phases	
Restricted Phases	
Extra 2 Config. Bits	3

Configuration <E/125+F+Row>

	F
Fast Green Flash Phase	
Green Flash Phases	
Flashing Walk Phases	
Guaranteed Passage	
Simultaneous Gap Term	12345678
Sequential Timing	
Advance Walk Phases	
Delay Walk Phases	
External Recall	
Start-up Overlap Green	
Max Extension	
Inhibit Ped Reservice	
Semi-Actuated	
Start-up Overlap Yellow	
Start-up Vehicle Calls	12345678
Start-up Ped Calls	12345678

Specials <F/2+F+Row>

Flash to PE & PE Non-Lock
1 = EV A 5 = RR 1
2 = EV B 6 = RR 2
3 = EV C 7 = SE 1
4 = EV D 8 = SE 2

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 =
5 =
6 = Simplex Master
7 =
8 = Offset Interrupter

Row		2
0		
1	Phase 1	
2	Phase 2	
3	Phase 3	
4	Phase 4	
5	Phase 5	
6	Phase 6	
7	Phase 7	
8	Phase 8	
9		
A		
B		
C		
D		
E		
F		

Coordination Transition Minimums <C/5+2+Row>

INTERSECTION: CONTINENTAL ST @ OTAY MESA RD

Column Numbers ---->	0	1	2	3	1	3
Row	Detector Name	C1 Pin Number	Attributes	Phase(s)	Assign	Delay	Carry-over
0	2I2U	39	45_7	2	123		1.8
1	6J2U	40	45_7	6	123		1.8
2		41	45_7	4	123		
3	8J6U	42	45_7	8	123	10.0	
4		43	45_7	2	123		
5		44	45_7	6	123		
6		45	45_7	4	123		
7		46	45_7	8	123		
8		47	67	2	123		
9		48	67	6	123		
A		49	67	4	123		
B		50	67	8	123		
C		55	45_7	5	123		
D		56	45_7	1	123		
E		57	45_7	7	123		
F		58	45_7	3	123		

	4	5	6	7	2	4
Row	Detector Name	C1 Pin Number	Attributes	Phase(s)	Assign	Delay	Carry-over
0		59	45_7	5	123		
1		60	45_7	1	123		
2		61	45_7	7	123		
3		62	45_7	3	123		
4		63	45_7	2	123		
5		64	45_7	6	123		
6		65	45_7	4	123		
7		66	45_7	8	123		
8		67	2	2	123		
9		68	2	6	123		
A		69	2	4	123		
B		70	2	8	123		
C		76	45_7	2	123		
D		77	45_7	6	123		
E		78	45_7	4	123		
F		79	45_7	8	123		

Detector Assignments <E/126+Column+Row> **<D/0+Column+Row>**

Detector Attributes
1 = Full Time Delay
2 = Ped Call
3 = Overlap
4 = Count
5 = Extension
6 = Type 3
7 = Calling
8 = Alternate

Det. Assignments
1 = Det. Set 1
2 = Det. Set 2
3 = Det. Set 3
4 =
5 =
6 = Failure - Min Recall
7 = Failure - Max Recall
8 = Report on Failure

Column Numbers ---->	Ped / Phase / Overlap 1	2	3	4	5	6	7	8	Row
Walk									0
Don't Walk									1
Phase Green									2
Phase Yellow									3
Phase Red									4
Overlap Green									5
Overlap Yellow									6
Overlap Red									7

Redirect Phase Outputs <E/127+Column+Row>

Cabinet Type	0	<E/125+D+0>

Enable Redirection
(Enable Redirection = 30)

Max OFF (minutes)	20	<D/0+0+1>
Max ON (minutes)	7	<D/0+0+2>
Chatter Fail Time	0	<D/0+0+4>

Detector Failure Monitor

	B	Row
One-Shot	0	8
Ext. Timer	0	9
DELAY-A	0	A
DELAY-B	0	B
DELAY-C	0	C
DELAY-D	0	D
DELAY-E	0	E
DELAY-F	0	F

Delay Logic Times
<D/0+B+Row> (seconds)

INTERSECTION: CONTINENTAL ST @ OTAY MESA RD

Row	Time	Plan	Offset	Day of Week
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

TOD Coordination <9/0.1+Row>
(Bank 1)

Time	Funct.	Day of Week	Column 4 Phases/Bits

TOD Function <7/0.1+Row> <E/27+4+Row>

Day	Year	Month	Holiday Type

Holiday Dates <8/1.1+Row>
(Bank 1)

Time	Plan	Offset	Holiday Type

Holiday Events <9/1.1+Row>
(Bank 1)

T.O.D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 4 - Disable Detector OFF Monitor
Bit 5 - Disable Low Priority Preempt
Bit 6 - FYA Inhibit
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 8

Plan Select
1 thru 9 = Coordination Plan 1 thru 9
14 or E = Free
15 or F = Flash

Offset Select
A = Offset A
B = Offset B
C = Offset C

Row	Time	Plan	Offset	Day of Week
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

TOD Coordination <C+0+9=0.2>
(Bank 2)

Time	Funct.	Holiday Type	Column 4 Phases/Bits

Holiday TOD Function <C+0+7=0.2> <C+0+E=28>

Day	Year	Month	Holiday Type

Holiday Dates <C+0+8=1.2>
(Bank 2)

Time	Plan	Offset	Holiday Type

Holiday Events <C+0+9=1.2>
(Bank 2)

Month Select: October = A, November = B, December = C

INTERSECTION: CONTINENTAL ST @ OTAY MESA RD

Coord Extra
1 = Programmed WALK Time for Sync Phases
2 = Always Terminate Sync Phase Peds

Row	Column Numbers ----> / Plan Name ---->	Plan 1	2	3	4	5	6	7	8	9	Row
0	Cycle Length										0
1	Phase 1 - ForceOff										1
2	Phase 2 - ForceOff										2
3	Phase 3 - ForceOff										3
4	Phase 4 - ForceOff										4
5	Phase 5 - ForceOff										5
6	Phase 6 - ForceOff										6
7	Phase 7 - ForceOff										7
8	Phase 8 - ForceOff										8
9	Ring Offset										9
A	Offset 1										A
B	Offset 2										B
C	Offset 3										C
D	Perm 1 - End										D
E	Hold Release										E
F	Reserved										F

Coordination - Bank 1 <C/1+Plan+Row>

Row		E	Row
0			0
1	Plan 1 - Sync		1
2	Plan 2 - Sync		2
3	Plan 3 - Sync		3
4	Plan 4 - Sync		4
5	Plan 5 - Sync		5
6	Plan 6 - Sync		6
7	Plan 7 - Sync		7
8	Plan 8 - Sync		8
9	Plan 9 - Sync		9
A	NEMA Sync		A
B	NEMA Hold		B
C			C
D			D
E	Coord Extra		E
F			F

Sync Phases <C/1+E+Row>

Row												Row
0	Ped Adjustment											0
1	Perm 2 - Start											1
2	Perm 2 - End											2
3	Perm 3 - Start											3
4	Perm 3 - End											4
5	Reservice Time											5
6	Reservice Phases											6
7												7
8	Pretimed Phases											8
9	Max Recall											9
A	Perm 1 Veh Phase											A
B	Perm 1 Ped Phase											B
C	Perm 2 Veh Phase											C
D	Perm 2 Ped Phase											D
E	Perm 3 Veh Phase											E
F	Perm 3 Ped Phase											F

Coordination - Bank 2 <C/2+Plan+Row>

Row		F	Row
0	Free Lag		0
1	Plan 1 - Lag		1
2	Plan 2 - Lag		2
3	Plan 3 - Lag		3
4	Plan 4 - Lag		4
5	Plan 5 - Lag		5
6	Plan 6 - Lag		6
7	Plan 7 - Lag		7
8	Plan 8 - Lag		8
9	Plan 9 - Lag		9
A	External Lag		A
B	Lag Hold		B
C			C
D			D
E			E
F			F

Lag Phases <C/1+F+Row>

Coordination Timing By:
Date:

Row	Column 8	Column 9	Column A	Column B	Column C	Column D	Column E	Column F	Row
0	One-Shot Timer	Latch 1 Set	NOT-3	Max 2	Pretimed	Set Monday	Dial 2 (7-Wire)	Sim Term 0	0
1	AND-5 (a)	Latch 1 Reset	NOT-4	Reserved	Plan 1	Ext. Perm 1	Dial 3 (7-Wire)	EV-A 71	1
2	AND-5 (b)	Latch 2 Set	OR-4 (a)	Reserved	Plan 2	Ext. Perm 2	Offset 1 (7-Wire)	EV-B 72	2
3	AND-6 (a)	Latch 2 Reset	OR-4 (b)	Reserved	Plan 3	Gate Down	Offset 2 (7-Wire)	EV-C 73	3
4	AND-6 (b)	NAND-3 (a)	OR-5 (a)	Reserved	Plan 4	Set Clock	Offset 3 (7-Wire)	EV-D 74	4
5	Reserved	NAND-3 (b)	OR-5 (b)	Reserved	Plan 5	Stop Time 82	Free (7-Wire)	RR-1 51	5
6	Reserved	NAND-4 (a)	OR-6 (a)	Reserved	Plan 6	Flash Sense 81	Flash (7-Wire)	RR-2 52	6
7	Reserved	NAND-4 (b)	OR-6 (b)	Reserved	Plan 7	Manual Enable	Excl. Ped Omit	Spec. Event 1	7
8	Spec. Funct. 1	OR-7 (a)	EXTMR	Reserved	Plan 8	Man. Advance	NOT-1	Spec. Event 2	8
9	Spec. Funct. 2	OR-7 (b)	Reserved	Max Inhibit (nema)	Plan 9	External Alarm	NOT-2	External Lag	9
A	Spec. Funct. 3	OR-7 (c)	AND-4 (a)	Force A (nema)	DELAY-A	Phase Bank 2	OR-1 (a)	AND-1 (a)	A
B	Spec. Funct. 4	OR-7 (d)	AND-4 (b)	Force B (nema)	DELAY-B	Phase Bank 3	OR-1 (b)	AND-1 (b)	B
C	Reserved	OR-8 (a)	NAND-1 (a)	C.N.A. (nema)	DELAY-C	Overlap Set 2	OR-2 (a)	AND-2 (a)	C
D	Reserved	OR-8 (b)	NAND-1 (b)	Hold (nema)	DELAY-D	Overlap Set 3	OR-2 (b)	AND-2 (b)	D
E	Reserved	OR-8 (c)	NAND-2 (a)	Max Recall	DELAY-E	Detector Set 2	OR-3 (a)	AND-3 (a)	E
F	Reserved	OR-8 (d)	NAND-2 (b)	Min Recall	DELAY-F	Detector Set 3	OR-3 (b)	AND-3 (b)	F

Assignable Inputs <E/126+Column+Row>

Row	Column 8	Column 9	Column A	Column B	Column C	Column D	Column E	Column F	Row
0	Reserved	Phase ON - 1	Preempt Fail	Flasher 0	Free	NOT-1	TOD Out 1	Dial 2 (7-Wire)	0
1	Reserved	Phase ON - 2	Sp Evnt Out 1	Flasher 1	Plan 1	OR-1	TOD Out 2	Dial 3 (7-Wire)	1
2	Reserved	Phase ON - 3	Sp Evnt Out 2	Fast Flasher	Plan 2	OR-2	TOD Out 3	Offset 1 (7-Wire)	2
3	Reserved	Phase ON - 4	Sp Evnt Out 3	EXTMR	Plan 3	OR-3	TOD Out 4	Offset 2 (7-Wire)	3
4	Reserved	Phase ON - 5	Sp Evnt Out 4	One-Shot Timer	Plan 4	AND-1	TOD Out 5	Offset 3 (7-Wire)	4
5	Reserved	Phase ON - 6	Sp Evnt Out 5	Reserved	Plan 5	AND-2	TOD Out 6	Free (7-Wire)	5
6	Reserved	Phase ON - 7	Sp Evnt Out 6	Latch 1	Plan 6	AND-3	TOD Out 7	Flash (7-Wire)	6
7	Reserved	Phase ON - 8	Sp Evnt Out 7	Latch 2	Plan 7	NOT-2	TOD Out 8	Preempt	7
8	Flh Yell Arrow 1	Ph. Check - 1	Sp Evnt Out 8	NOT-3	Plan 8	EV-A	Adv. Warn - 1	Low Priority A	8
9	Green 1	Ph. Check - 2	Coord On	NOT-4	Plan 9	EV-B	Adv. Warn - 2	Low Priority B	9
A	Flh Yell Arrow 3	Ph. Check - 3	Detector Fail	OR-4	Spec. Funct. 3	EV-C	DELAY-A	Low Priority C	A
B	Green 3	Ph. Check - 4	Spec. Funct. 1	OR-5	Spec. Funct. 4	EV-D	DELAY-B	Low Priority D	B
C	Flh Yell Arrow 5	Ph. Check - 5	Spec. Funct. 2	OR-6	NAND-3	RR-1	DELAY-C	AND-5	C
D	Green 5	Ph. Check - 6	Central Control	AND-4	NAND-4	RR-2	DELAY-D	AND-6	D
E	Flh Yell Arrow 7	Ph. Check - 7	Excl. Ped DW	NAND-1	OR-7	Spec. Event 1	DELAY-E	Reserved	E
F	Green 7	Ph. Check - 8	Excl. Ped WK	NAND-2	OR-8	Spec. Event 2	DELAY-F	Reserved	F

Assignable Outputs <E/127+Column+Row>

INTERSECTION: BRITANNIA BLVD @ OTAY MESA RD

Group Assignment:
Field Master Assignment:
System Reference Number:

N/S Street Name: **Britannia Blvd**
E/W Street Name: **Otay Mesa Rd**

Last Database Change:

Sent to Struct Div. 7/13/17

Change Record		
Timing Sheet By	Approved By	Date
MB	MRS	

Notes: ***Phase 2&8 overlap is hard wired***

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Free Lag <C/1+F+0>: _2___6_8

Drop Number		<C/0+0+0>
Zone Number		<C/0+0+1>
Area Number		<C/0+0+2>
Area Address		<C/0+0+3>
QuicNet Channel		(QuicNet)

Communication Addresses

Manual Plan	14	<C/0+A+1>
Manual Offset	0	<C/0+B+1>

Manual Selection

Flash Start	0	<F/1+0+E>
Red Revert	5.0	<F/1+0+F>
All Red Start	0.0	<F/1+C+0>
FYA Red Revert	0.0	<F/1+0+5>
OVLP CHG Red	0.0	<F/1+0+3>

Start / Revert Times

Exclusive Walk	0	<F/1+0+0>
Exclusive FDW	0	<F/1+0+1>
All Red Clear	0.0	<F/1+0+2>

Exclusive Ped Phase
(Outputs specified in Assignable Outputs at E/127+A+E & F)

	OTAY MESA					OTAY MESA		BRITANNIA								
		Phase														
Row	Column Numbers --->	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	Row
	N	←	→				←		2+8								
0	Ped Walk		7						7	---	---	---	---	---	RR-1 Delay		Permit	12___6_8	0
1	Ped FDW		35						34						RR-1 Clear		Red Lock		1
2	Min Green	4	10				10		7						EV-A Delay	0	Yellow Lock		2
3	Type 3 Disconnect														EV-A Clear	0	Min Recall	_2___6__	3
4	Added per Vehicle														EV-B Delay		Ped Recall		4
5	Veh Extension	2.0	4.4				4.3		2.0						EV-B Clear		*View Set Peds*	_2___8	5
6	Max Gap	2.0	4.4				4.3		2.0						EV-C Delay	0	Rest In Walk		6
7	Min Gap	2.0	0.2				0.2		0.2						EV-C Clear	0	Red Rest		7
8	Max Limit	30	60				60		40						EV-D Delay	0	Dual Entry		8
9	Max Limit 2														EV-D Clear	0	Max Recall		9
A	Adv. / Delay Walk														RR-2 Delay		Soft Recall		A
B	PE Min Ped FDW		1						1						RR-2 Clear		Max 2		B
C	Cond Serv Check														*View EV Delay*	---	Cond. Service		C
D	Reduce Every		0.7				0.7		1.7						*View EV Clear*	---	Man Cntrl Calls		D
E	Yellow Change	3.4	5.0				5.0		4.3						*View RR Delay*	---	Yellow Start	_2___6__	E
F	Red Clear	1.0	1.0				1.0		1.0						*View RR Clear*	---	First Phases	_____8	F

Phase Timing - Bank 1 <F/1+Phase+Row>

	9	A	B	C	D
	---	---	---	---	---
Phase 1					
Phase 2					
Phase 3					
Phase 4					
Phase 5					
Phase 6					
Phase 7					
Phase 8					
Max Initial					
Alternate Walk					
Alternate FDW					
Alternate Initial					
Alternate Extension					

Alternate Timing <F/1+Column+Phase>

Preempt Timing <F/1+E+Row>

Phase Functions <F/1+F+Row>

How to Set Page Access Code: F/1 -- C + 0 + F = 1

INTERSECTION: BRITANNIA BLVD @ OTAY MESA RD

Row	Column Numbers ----> / Overlap Name ---->	Overlap 1	2	3	4	5	6	7	8
0	Load Switch Number								
1	Veh Set 1 - Phases								
2	Veh Set 2 - Phases								
3	Veh Set 3 - Phases								
4	Neg Veh Phases								
5	Neg Ped Phases								
6	Green Omit Phases								
7	Green Clear Omit Phs.								
8	Overlap Recall								
9	Queue Jump Phase								
A	Queue Jump Time								
B	Minimum Green								
C	Maximum Green								
D	Green Clear								
E	Yellow Change								
F	Red Clear								

Overlap Assignments <E/29+Column+Row>

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = Solid FDW on EV
5 = Extended Status
6 = International Ped
7 = Flash - Clear Outputs
8 = Split Ring

Extra 2 Flags
1 = AWB During Initial
2 = Reserved
3 = Disable Min Walk
4 = QuicNet System
5 = Ignore P/P on EV
6 = Manual Hold In FDW
7 = Allow QuicNet PE
8 = Flash Grn B4 Yellow

Row		C
0	EV-A	0
1	EV-B	0
2	EV-C	0
3	EV-D	0
4	RR-1 *	- - -
5	RR-2 *	- - -
6	SE-1	0
7	SE-2	0

Preempt Priority <E/125+C+Row>

(* RR-1 is always Highest, and RR-2 is always Second Highest)

Row	Column Numbers ---->	E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Flash to PE Circuits	
6	Flash Entry Phases	
7	Disable Yellow Range	
8	Disable Ovp Yel Range	
9	Overlap Yellow Flash	
A	EV-A Phases	2
B	EV-B Phases	
C	EV-C Phases	1 6
D	EV-D Phases	8
E	Extra 1 Config. Bits	1 34
F	IC Select (Interconnect)	2

Configuration <E/125+E+Row>

	F
Ext. Permit 1 Phases	
Ext. Permit 2 Phases	
Exclusive Ped Assign	
Preempt Non-Lock	
Ped for 2P Output	2
Ped for 6P Output	
Ped for 4P Output	
Ped for 8P Output	8
Yellow Flash Phases	
Low Priority A Phases	
Low Priority B Phases	
Low Priority C Phases	
Low Priority D Phases	
Restricted Phases	
Extra 2 Config. Bits	3

Configuration <E/125+F+Row>

	F
Fast Green Flash Phase	
Green Flash Phases	
Flashing Walk Phases	
Guaranteed Passage	
Simultaneous Gap Term	12345678
Sequential Timing	
Advance Walk Phases	
Delay Walk Phases	
External Recall	
Start-up Overlap Green	
Max Extension	
Inhibit Ped Reservice	
Semi-Actuated	
Start-up Overlap Yellow	
Start-up Vehicle Calls	12345678
Start-up Ped Calls	12345678

Specials <F/2+F+Row>

Flash to PE & PE Non-Lock
1 = EV A 5 = RR 1
2 = EV B 6 = RR 2
3 = EV C 7 = SE 1
4 = EV D 8 = SE 2

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 =
5 =
6 = Simplex Master
7 =
8 = Offset Interrupter

	2
Phase 1	10
Phase 2	10
Phase 3	10
Phase 4	10
Phase 5	10
Phase 6	10
Phase 7	10
Phase 8	10

Coordination Transition Minimums <C/5+2+Row>

INTERSECTION: BRITANNIA BLVD @ OTAY MESA RD

Column Numbers ---->	0	1	2	3	1	3
Row	Detector Name	C1 Pin Number	Attributes	Phase(s)	Assign	Delay	Carry-over
0	2I2U	39	45_7	2	123		1.8
1	6J2U	40	45_7	6	123		1.8
2		41	45_7	4	123		
3	8J6U	42	45_7	8	123		1.8
4		43	45_7	2	123		
5		44	45_7	6	123		
6		45	45_7	4	123		
7		46	45_7	8	123		
8		47	67	2	123		
9		48	67	6	123		
A		49	67	4	123		
B	8J8	50	45_7	8	123	10.0	
C		55	45_7	5	123		
D		56	45_7	1	123		
E		57	45_7	7	123		
F		58	45_7	3	123		

	4	5	6	7	2	4
Row	Detector Name	C1 Pin Number	Attributes	Phase(s)	Assign	Delay	Carry-over
0		59	45_7	5	123		
1		60	45_7	1	123		
2		61	45_7	7	123		
3		62	45_7	3	123		
4		63	45_7	2	123		
5		64	45_7	6	123		
6		65	45_7	4	123		
7	8J7U	66	45_7	8	123		1.8
8		67	2	2	123		
9		68	2	6	123		
A		69	2	4	123		
B		70	2	8	123		
C		76	45_7	2	123		
D		77	45_7	6	123		
E		78	45_7	4	123		
F	8J7L	79	45_7	8	123		1.8

Detector Assignments <E/126+Column+Row> **<D/0+Column+Row>**

Detector Attributes
1 = Full Time Delay
2 = Ped Call
3 = Overlap
4 = Count
5 = Extension
6 = Type 3
7 = Calling
8 = Alternate

Det. Assignments
1 = Det. Set 1
2 = Det. Set 2
3 = Det. Set 3
4 =
5 =
6 = Failure - Min Recall
7 = Failure - Max Recall
8 = Report on Failure

	Ped / Phase / Overlap								
Column Numbers ---->	1	2	3	4	5	6	7	8	Row
Walk									0
Don't Walk									1
Phase Green									2
Phase Yellow									3
Phase Red									4
Overlap Green									5
Overlap Yellow									6
Overlap Red									7

Redirect Phase Outputs <E/127+Column+Row>

Cabinet Type	0	<E/125+D+0>

Enable Redirection
(Enable Redirection = 30)

Max OFF (minutes)	20	<D/0+0+1>
Max ON (minutes)	7	<D/0+0+2>
Chatter Fail Time	0	<D/0+0+4>

Detector Failure Monitor

	B	Row
One-Shot	0	8
Ext. Timer	0	9
DELAY-A	0	A
DELAY-B	0	B
DELAY-C	0	C
DELAY-D	0	D
DELAY-E	0	E
DELAY-F	0	F

Delay Logic Times
<D/0+B+Row> (seconds)

INTERSECTION: BRITANNIA BLVD @ OTAY MESA RD

Row	Time	Plan	Offset	Day of Week
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

TOD Coordination <9/0.1+Row>
(Bank 1)

Time	Funct.	Day of Week	Column 4 Phases/Bits

TOD Function <7/0.1+Row> <E/27+4+Row>

Day	Year	Month	Holiday Type

Holiday Dates <8/1.1+Row>
(Bank 1)

Time	Plan	Offset	Holiday Type

Holiday Events <9/1.1+Row>
(Bank 1)

T.O.D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 4 - Disable Detector OFF Monitor
Bit 5 - Disable Low Priority Preempt
Bit 6 - FYA Inhibit
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 8

Row	Time	Plan	Offset	Day of Week
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

TOD Coordination <C+0+9=0.2>
(Bank 2)

Time	Funct.	Holiday Type	Column 4 Phases/Bits

Holiday TOD Function <C+0+7=0.2> <C+0+E=28>

Day	Year	Month	Holiday Type

Holiday Dates <C+0+8=1.2>
(Bank 2)

Time	Plan	Offset	Holiday Type

Holiday Events <C+0+9=1.2>
(Bank 2)

Plan Select
1 thru 9 = Coordination Plan 1 thru 9
14 or E = Free
15 or F = Flash

Offset Select
A = Offset A
B = Offset B
C = Offset C

Month Select: October = A, November = B, Decmber = C

INTERSECTION: BRITANNIA BLVD @ OTAY MESA RD

Coord Extra
1 = Programmed WALK Time for Sync Phases
2 = Always Terminate Sync Phase Peds

Row	Column Numbers ---->	Plan 1	2	3	4	5	6	7	8	9
	Plan Name ---->									
0	Cycle Length									
1	Phase 1 - ForceOff									
2	Phase 2 - ForceOff									
3	Phase 3 - ForceOff									
4	Phase 4 - ForceOff									
5	Phase 5 - ForceOff									
6	Phase 6 - ForceOff									
7	Phase 7 - ForceOff									
8	Phase 8 - ForceOff									
9	Ring Offset									
A	Offset 1									
B	Offset 2									
C	Offset 3									
D	Perm 1 - End									
E	Hold Release									
F	Reserved									

Coordination - Bank 1 <C/1+Plan+Row>

Row		E
0		
1	Plan 1 - Sync	
2	Plan 2 - Sync	
3	Plan 3 - Sync	
4	Plan 4 - Sync	
5	Plan 5 - Sync	
6	Plan 6 - Sync	
7	Plan 7 - Sync	
8	Plan 8 - Sync	
9	Plan 9 - Sync	
A	NEMA Sync	
B	NEMA Hold	
C		
D		
E	Coord Extra	
F		

Sync Phases <C/1+E+Row>

Row										
0	Ped Adjustment									
1	Perm 2 - Start									
2	Perm 2 - End									
3	Perm 3 - Start									
4	Perm 3 - End									
5	Reservice Time									
6	Reservice Phases									
7										
8	Pretimed Phases									
9	Max Recall									
A	Perm 1 Veh Phase									
B	Perm 1 Ped Phase									
C	Perm 2 Veh Phase									
D	Perm 2 Ped Phase									
E	Perm 3 Veh Phase									
F	Perm 3 Ped Phase									

Coordination - Bank 2 <C/2+Plan+Row>

Row		F
0	Free Lag	
1	Plan 1 - Lag	
2	Plan 2 - Lag	
3	Plan 3 - Lag	
4	Plan 4 - Lag	
5	Plan 5 - Lag	
6	Plan 6 - Lag	
7	Plan 7 - Lag	
8	Plan 8 - Lag	
9	Plan 9 - Lag	
A	External Lag	
B	Lag Hold	
C		
D		
E		
F		

Lag Phases <C/1+F+Row>

Coordination Timing By:
Date:

Row	Column 8	Column 9	Column A	Column B	Column C	Column D	Column E	Column F	Row
0	One-Shot Timer	Latch 1 Set	NOT-3	Max 2	Pretimed	Set Monday	Dial 2 (7-Wire)	Sim Term 0	0
1	AND-5 (a)	Latch 1 Reset	NOT-4	Reserved	Plan 1	Ext. Perm 1	Dial 3 (7-Wire)	EV-A 71	1
2	AND-5 (b)	Latch 2 Set	OR-4 (a)	Reserved	Plan 2	Ext. Perm 2	Offset 1 (7-Wire)	EV-B 72	2
3	AND-6 (a)	Latch 2 Reset	OR-4 (b)	Reserved	Plan 3	Gate Down	Offset 2 (7-Wire)	EV-C 73	3
4	AND-6 (b)	NAND-3 (a)	OR-5 (a)	Reserved	Plan 4	Set Clock	Offset 3 (7-Wire)	EV-D 74	4
5	Reserved	NAND-3 (b)	OR-5 (b)	Reserved	Plan 5	Stop Time 82	Free (7-Wire)	RR-1 51	5
6	Reserved	NAND-4 (a)	OR-6 (a)	Reserved	Plan 6	Flash Sense 81	Flash (7-Wire)	RR-2 52	6
7	Reserved	NAND-4 (b)	OR-6 (b)	Reserved	Plan 7	Manual Enable	Excl. Ped Omit	Spec. Event 1	7
8	Spec. Funct. 1	OR-7 (a)	EXTMR	Reserved	Plan 8	Man. Advance	NOT-1	Spec. Event 2	8
9	Spec. Funct. 2	OR-7 (b)	Reserved	Max Inhibit (nema)	Plan 9	External Alarm	NOT-2	External Lag	9
A	Spec. Funct. 3	OR-7 (c)	AND-4 (a)	Force A (nema)	DELAY-A	Phase Bank 2	OR-1 (a)	AND-1 (a)	A
B	Spec. Funct. 4	OR-7 (d)	AND-4 (b)	Force B (nema)	DELAY-B	Phase Bank 3	OR-1 (b)	AND-1 (b)	B
C	Reserved	OR-8 (a)	NAND-1 (a)	C.N.A. (nema)	DELAY-C	Overlap Set 2	OR-2 (a)	AND-2 (a)	C
D	Reserved	OR-8 (b)	NAND-1 (b)	Hold (nema)	DELAY-D	Overlap Set 3	OR-2 (b)	AND-2 (b)	D
E	Reserved	OR-8 (c)	NAND-2 (a)	Max Recall	DELAY-E	Detector Set 2	OR-3 (a)	AND-3 (a)	E
F	Reserved	OR-8 (d)	NAND-2 (b)	Min Recall	DELAY-F	Detector Set 3	OR-3 (b)	AND-3 (b)	F

Assignable Inputs <E/126+Column+Row>

Row	Column 8	Column 9	Column A	Column B	Column C	Column D	Column E	Column F	Row
0	Reserved	Phase ON - 1	Preempt Fail	Flasher 0	Free	NOT-1	TOD Out 1	Dial 2 (7-Wire)	0
1	Reserved	Phase ON - 2	Sp Evnt Out 1	Flasher 1	Plan 1	OR-1	TOD Out 2	Dial 3 (7-Wire)	1
2	Reserved	Phase ON - 3	Sp Evnt Out 2	Fast Flasher	Plan 2	OR-2	TOD Out 3	Offset 1 (7-Wire)	2
3	Reserved	Phase ON - 4	Sp Evnt Out 3	EXTMR	Plan 3	OR-3	TOD Out 4	Offset 2 (7-Wire)	3
4	Reserved	Phase ON - 5	Sp Evnt Out 4	One-Shot Timer	Plan 4	AND-1	TOD Out 5	Offset 3 (7-Wire)	4
5	Reserved	Phase ON - 6	Sp Evnt Out 5	Reserved	Plan 5	AND-2	TOD Out 6	Free (7-Wire)	5
6	Reserved	Phase ON - 7	Sp Evnt Out 6	Latch 1	Plan 6	AND-3	TOD Out 7	Flash (7-Wire)	6
7	Reserved	Phase ON - 8	Sp Evnt Out 7	Latch 2	Plan 7	NOT-2	TOD Out 8	Preempt	7
8	Flh Yell Arrow 1	Ph. Check - 1	Sp Evnt Out 8	NOT-3	Plan 8	EV-A	Adv. Warn - 1	Low Priority A	8
9	Green 1	Ph. Check - 2	Coord On	NOT-4	Plan 9	EV-B	Adv. Warn - 2	Low Priority B	9
A	Flh Yell Arrow 3	Ph. Check - 3	Detector Fail	OR-4	Spec. Funct. 3	EV-C	DELAY-A	Low Priority C	A
B	Green 3	Ph. Check - 4	Spec. Funct. 1	OR-5	Spec. Funct. 4	EV-D	DELAY-B	Low Priority D	B
C	Flh Yell Arrow 5	Ph. Check - 5	Spec. Funct. 2	OR-6	NAND-3	RR-1	DELAY-C	AND-5	C
D	Green 5	Ph. Check - 6	Central Control	AND-4	NAND-4	RR-2	DELAY-D	AND-6	D
E	Flh Yell Arrow 7	Ph. Check - 7	Excl. Ped DW	NAND-1	OR-7	Spec. Event 1	DELAY-E	Reserved	E
F	Green 7	Ph. Check - 8	Excl. Ped WK	NAND-2	OR-8	Spec. Event 2	DELAY-F	Reserved	F

Assignable Outputs <E/127+Column+Row>

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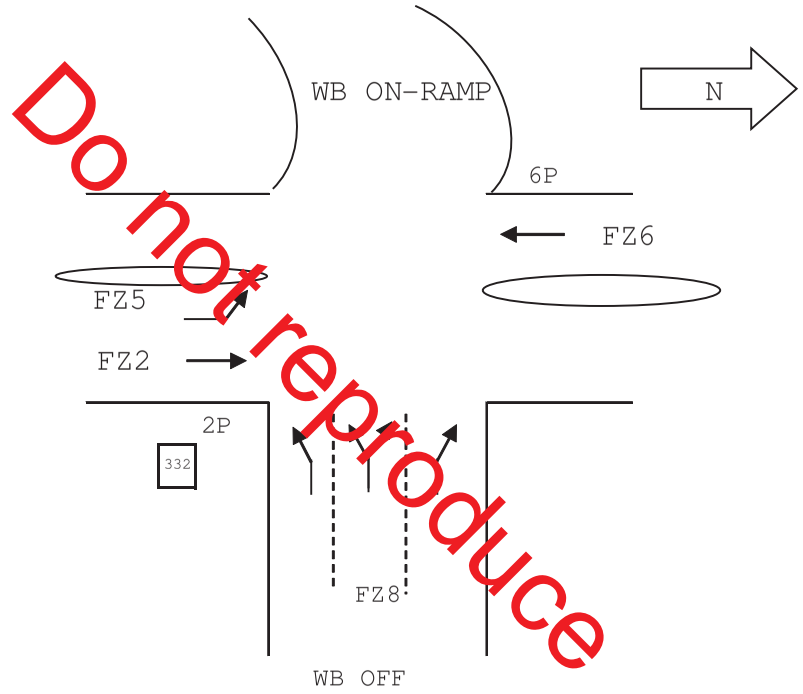
Location: Rte 905 WB @ Britannia
System:
District:
Master At:
I/C: EB Ramp
Designed By:
Installed By:
Service Info:

Timing Change:	Date Start:	Date End:	Designed:	Installed:
				11/22/2022

		FLASH
PHASE	1)	[ ]
	2) NB Britannia	[ ]
	3)	[ ]
	4) NB to WB Ramp	[ ]
	5)	[ ]
	6) SB Britannia	[ ]
	7)	[ ]
	8) WB Off Ramp	[ ]
OVERLAP	A)	[ ]
	B)	[ ]
	C)	[ ]
	D)	[ ]
	E)	[ ]
	F)	[ ]

Intersection Layout



Do not reproduce

Comments and Notes:
Ped Measurment (FT)
02 = 58 06 = 59

Bike Measurment (FT)
02 = 86 06 = 80

RAM Checksum

Page 2: 8650	Page 8: 85AF
Page 3: CD43	Page 9: 42B3
Page 4: F29E	Page 10: 3ED4
Page 5: 191A	Page 11: C3CB
Page 6: 191A	Page 12: D68F
Page 7: 06A6	Page 13: 84E7

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CONFIGURATION PHASE FLAGS

Cabinet (9-3)
332
Configuration
CALTRANS

Phases (2-1-1-1)	
Permitted	. 2 . . 5 6 . 8
Restricted	. . . . .

Phase Recalls (2-1-1-2)	
Vehicle Min	. 2 . . . 6 . .
Vehicle Max	. . . . .
Pedestrian	. . . . .
Bicycle	. . . . .

Phase Locks (2-1-1-3)	
Red	. . . . .
Yellow	. . . . .
Force/Max	. . . . .

Phase Features (2-1-1-4)	
Double Entry	. . . . .
Rest In Walk	. . . . .
Rest In Red	. . . . .
Walk 2	. . . . .
Max Green 2	. . . . .
Max Green 3	. . . . .

Startup (2-1-1-5)	
First Green Phases	. 2 . . . 6 . .
Yellow Start Phases	. . . . .
Vehicle Calls	. . . . 5 . . 8
Pedestrian Calls	. 2 . . . 6 . .
Yellow Start Overlaps	. . . . .
Startup All-Red	6.0

Call To Phase (2-1-2-1)		Omit On Green	
1	. . . . .	1	. . . . .
2	. . . . .	2	. . . . .
3	. . . . .	3	. . . . .
4	. . . . .	4	. . . . .
5	. . . . .	5	. . . . .
6	. . . . .	6	. . . . .
7	. . . . .	7	. . . . .
8	. . . . .	8	. . . . .

Flashing Colors (2-1-2-2)	
Yellow Flash Phases	. . . . .
Yellow Flash Overlap	. . . . .
Flash In Red Phases	. . . . .
Flash In Red Overlaps	. . . . .

Special Operation (2-1-2-3)	
Single Exit Phase	. . . . .
Driveway Signal Phases	. . . . .
Driveway Signal Overlaps	. . . . .
Leading Ped Phases	. 2 . . . 6 . .

Protected Permissive (2-1-2-4)	
Protected Permissive	. . . . .

Pedestrian (2-1-3)	
P1	. . . . .
P2	. 2 . . . . .
P3	. . . . .
P4	. . . . .
P5	. . . . .
P6	. . . . . 6 . .
P7	. . . . .
P8	. . . . .

Overlap (2-1-4)				
Overlap	Parent	Omit	No Start	Not
A	. . . . .	. . . . .	. . . . .	. . . . .
B	. . . . .	. . . . .	. . . . .	. . . . .
C	. . . . .	. . . . .	. . . . .	. . . . .
D	. . . . .	. . . . .	. . . . .	. . . . .
E	. . . . .	. . . . .	. . . . .	. . . . .
F	. . . . .	. . . . .	. . . . .	. . . . .

Do not reproduce

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PHASE TIMING

Phase (2-2)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 1 ---	0	7	0	10	0	7	0	0
Flash Don't Walk	0	17	0	10	0	17	0	0
Minimum Green	10	12	10	10	5	12	10	5
Det Limit	10	0	10	10	0	0	10	0
Max Initial	10	0	10	10	0	0	10	0
Max Green 1	50	40	50	50	50	30	50	30
Max Green 2	50	50	50	50	50	0	50	0
Max Green 3	50	0	50	50	0	0	50	0
Extension	5.0	3.0	5.0	5.0	3.0	3.0	5.0	3.0
Maximum Gap	5.0	3.0	5.0	5.0	3.0	3.0	5.0	3.0
Minimum Gap	5.0	3.0	5.0	5.0	3.0	3.0	5.0	3.0
Add Per Vehicle	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Reduce Gap By	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Yellow	5.0	4.1	5.0	5.0	3.7	4.1	5.0	4.1
All-Red	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Ped/Bike (2-3)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 2 ---	0	0	0	0	0	0	0	0
Delay/Early Walk	0	5	0	0	0	5	0	0
Solid Don't Walk	0	0	0	0	0	0	0	0
Bike Green	0	0	0	0	0	0	0	0
Bike All-Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Do not reproduce

OVERLAP TIMING

Overlap (2-4)	A	B	C	D	E	F
Green	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	5.0	5.0	5.0	5.0	5.0	5.0
Red	0.0	0.0	0.0	0.0	0.0	0.0

Red Revert

Red Revert (2-5)	
Time	5.0
All-Red Sec/Min (2-6)	
All-Red Sec/Min:	OFF

Max 2 Extension

Max/Gap Out (2-7)	
Max Cnt	0
Gap Cnt	0

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Local Plan 1...9 (7-1) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 1	Green Factor			.....											
Plan 2	Green Factor			.....											
Plan 3	Green Factor			.....											
Plan 4	Green Factor			.....											
Plan 5	Green Factor			.....											
Plan 6	Green Factor			.....											
Plan 7	Green Factor			.....											
Plan 8	Green Factor			.....											
Plan 9	Green Factor			.....											

Do not reproduce

Local Plan 1...9 (7-1) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 1	.....	.....	.....	.....	.....	.....	.....	.....
Plan 2	.....	.....	.....	.....	.....	.....	.....	.....
Plan 3	.....	.....	.....	.....	.....	.....	.....	.....
Plan 4	.....	.....	.....	.....	.....	.....	.....	.....
Plan 5	.....	.....	.....	.....	.....	.....	.....	.....
Plan 6	.....	.....	.....	.....	.....	.....	.....	.....
Plan 7	.....	.....	.....	.....	.....	.....	.....	.....
Plan 8	.....	.....	.....	.....	.....	.....	.....	.....
Plan 9	.....	.....	.....	.....	.....	.....	.....	.....

Master Timer Sync (7-A)	
Enable in Plans	
1-9	.....
11-19	.....
21-29	.....

Master Sub Master	
Input	
Output	

FREE PLAN PHASE FLAGS

(7-E) Free	
Lag	Omit
. 2 . 4 . 6 . 8	.....
Veh Min	Veh Max
. 2 . . . 6 . .	.....
Ped	Bike
.....	.....
Cond	Cond Grn
.....	10

MANUAL COMMANDS

Manual Plan (4-1)		*Plan: 1-29*
Plan	OffSet	*254 = Flash*
	A	*255 = Free*
		Offset A, B, or C

Special Function Override (4-2)			
#	Control	#	Control
1	NORMAL	3	NORMAL
2	NORMAL	4	NORMAL

Detector Reset	(4-3)
Local Manual (4-4)	OFF

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Local Plan 11...19 (7-2) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 11	Green Factor			.....											
Plan 12	Green Factor			.....											
Plan 13	Green Factor			.....											
Plan 14	Green Factor			.....											
Plan 15	Green Factor			.....											
Plan 16	Green Factor			.....											
Plan 17	Green Factor			.....											
Plan 18	Green Factor			.....											
Plan 19	Green Factor			.....											

Do not reproduce

Local Plan 11...19 (7-2) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 11	.....	.....	.....	.....	.....	.....	.....	.....
Plan 12	.....	.....	.....	.....	.....	.....	.....	.....
Plan 13	.....	.....	.....	.....	.....	.....	.....	.....
Plan 14	.....	.....	.....	.....	.....	.....	.....	.....
Plan 15	.....	.....	.....	.....	.....	.....	.....	.....
Plan 16	.....	.....	.....	.....	.....	.....	.....	.....
Plan 17	.....	.....	.....	.....	.....	.....	.....	.....
Plan 18	.....	.....	.....	.....	.....	.....	.....	.....
Plan 19	.....	.....	.....	.....	.....	.....	.....	.....

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Local Plan 21...29 (7-3) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 21	Green Factor			.....											
Plan 22	Green Factor			.....											
Plan 23	Green Factor			.....											
Plan 24	Green Factor			.....											
Plan 25	Green Factor			.....											
Plan 26	Green Factor			.....											
Plan 27	Green Factor			.....											
Plan 28	Green Factor			.....											
Plan 29	Green Factor			.....											

Do not reproduce

Local Plan 21...29 (7-3) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 21	.....	.....	.....	.....	.....	.....	.....	.....
Plan 22	.....	.....	.....	.....	.....	.....	.....	.....
Plan 23	.....	.....	.....	.....	.....	.....	.....	.....
Plan 24	.....	.....	.....	.....	.....	.....	.....	.....
Plan 25	.....	.....	.....	.....	.....	.....	.....	.....
Plan 26	.....	.....	.....	.....	.....	.....	.....	.....
Plan 27	.....	.....	.....	.....	.....	.....	.....	.....
Plan 28	.....	.....	.....	.....	.....	.....	.....	.....
Plan 29	.....	.....	.....	.....	.....	.....	.....	.....

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TOD SCHEDULE

Table 1 (8-2-1)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 2 (8-2-2)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 3 (8-2-3)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 4 (8-2-4)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 5 (8-2-5)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 6 (8-2-6)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Do not reproduce

WEEKDAY ASSIGNMENT

Weekday Table Assignments (8-2-7)						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	1	1	1	1	2	2

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HOLIDAY TABLES

Floating Holiday Table (8-2-8)

#	Mnth	Week	DOW	Table
1			. . . . .	
2			. . . . .	
3			. . . . .	
4			. . . . .	
5			. . . . .	
6			. . . . .	
7			. . . . .	
8			. . . . .	
9			. . . . .	
10			. . . . .	
11			. . . . .	
12			. . . . .	
13			. . . . .	
14			. . . . .	
15			. . . . .	
16			. . . . .	

Fixed Holiday Table (8-2-9)

#	Mnth	Day	DOW	Table
1			. . . . .	
2			. . . . .	
3			. . . . .	
4			. . . . .	
5			. . . . .	
6			. . . . .	
7			. . . . .	
8			. . . . .	
9			. . . . .	
10			. . . . .	
11			. . . . .	
12			. . . . .	
13			. . . . .	
14			. . . . .	
15			. . . . .	
16			. . . . .	

Daylight Saving (8-1)

Enabl	YES	Month	Sunday
	Start	MAR	2nd
	End	NOV	1st

Solar Clock Data (8-4)

North Latitude	34
West Longitude	118
Local Time Zone	8

Sabbatical Clock (8-5)

Hebrew	Ped Recall
Sabbath	. . . . .
Holiday	. . . . .

Do not reproduce

TOD FUNCTIONS

TOD Functions (8-3)

#	Start	End	DOW	Action	Phases
1	0730	0930	M T W T F . .	17	. 2 . . 5 . . .
2	1400	1800	M T W T F . .	17	. 2 . . 5 . . .
3			. . . . .		. . . . .
4			. . . . .		. . . . .
5			. . . . .		. . . . .
6			. . . . .		. . . . .
7			. . . . .		. . . . .
8			. . . . .		. . . . .
9			. . . . .		. . . . .
10			. . . . .		. . . . .
11			. . . . .		. . . . .
12			. . . . .		. . . . .
13			. . . . .		. . . . .
14			. . . . .		. . . . .
15			. . . . .		. . . . .
16			. . . . .		. . . . .

Action Codes:

0. None
1. Permitted
2. Restricted
4. Veh Min Recall
5. Veh Max Recall
6. Ped Recall
7. Bike Recall
8. Red Lock
9. Yellow Lock
10. Force/Max Lock
11. Double Entry
12. Y-Coord C
13. Y-Coord D
14. Free
15. Flashing
16. Walk 2
17. Max Green 2
18. Max Green 3
19. Rest in Walk
20. Rest in Red
21. Free Lag Phases
22. Special Functions
23. Truck Preempt
24. Conditional Service
25. Conditional Service
26. Leading Ped
27. Traffic Actuated Max 2
41. Protected Permissive
42. Protected Permissive

Action Code = Phases added to normal setting
100+Action Code = Phases removed
200+Action Code = Phases replaced

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RAILROAD PREEMPTION

RR 1

(3-1-1)	Timing	Phase Flags (3-1-2)			Pedestrian Flags (3-1-3)			Overlap Flags (3-1-4)		
Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
Clear 1	10	. 2 . . 5 . . .	. . . . .	. . . . .	. . . . .	. . . . .	. 2 . 4 . 6 . 8	. . . . .	. . . . .	. . . . .
Clear 2		. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Clear 3		. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Hold		. . . . .	. . . . .	1 2 3 4 5 6 7 8	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	A B C D E F
Exit	5									
Min Grn										
Ped Clr										

Exit Parameters (3-1-5)			
Phase Green	Overlap Green	Vehicle Call	Ped Call
. . . . .	. . . . .	1 2 3 4 5 6 7 8	. 2 . 4 . 6 . 8

Configuration (3-1-6)			
PR 1	PR 2	Latching	Power-Up
2.5	0.0	YES	FLASHING

RR 2

(3-2-1)	Timing	Phase Flags (3-2-2)			Pedestrian Flags (3-2-3)			Overlap Flags (3-2-4)		
Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
Clear 1	10	. . . 4 . . 7 .	. . . . .	. . . . .	. . . . .	. . . . .	. 2 . 4 . 6 . 8	. . . . .	. . . . .	. . . . .
Clear 2		. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Clear 3		. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Hold		1 2 3 . . 6 . .	. . . . .	. . . . .	. . . . 6 . .	. . . . .	. . . 4 . . . 8	. . . . .	. . . . .	. . . . .
Exit										
Min Grn										
Ped Clr										

Exit Parameters (3-2-5)			
Phase Green	Overlap Green	Vehicle Call	Ped Call
. . . . .	. . . . .	. . . 4 . . 7 .	. . . . .

Configuration (3-2-6)			
PR 1	PR 2	Latching	Power-up
2.6	0.0	YES	DARK

Do not reproduce

EMERGENCY VEHICLE PREEMPTION

EVA (3-A)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	30	30	. 2 . . 5 . . .	. . . . .

Port	Latching	Phase Termination
5.5	NO	ADVANCE

EVB (3-B)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	30	30	. . . 4 . . 7 .	. . . . .

Port	Latching	Phase Termination
5.6	NO	ADVANCE

EVC (3-C)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	30	30	1 . . . . 6 . .	. . . . .

Port	Latching	Phase Termination
5.7	NO	ADVANCE

EVD (3-D)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	30	30	. . 3 8	. . . . .

Port	Latching	Phase Termination
5.8	NO	ADVANCE

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INPUTS

		7 Wire I/C (2-1-5-1)			
		Input	Port	Input	Port
Enable	NO	R1	3.8	Free	3.6
Max ON		R2	3.5	D2	2.8
Max OFF		R3	3.7	D3	6.1

Manual Control (2-1-5-2)	
Input	Port
Manual Advance	
Advance Enable	

Cabinet Status (2-1-5-3)	
Input	Port
Flash Bus	
Door Ajar	
Flash Sense	6.7
Stop Time	6.8

Special Function (2-1-5-4)	
Input	Port
1	
2	
3	
4	

Battery Backup (2-1-5-5)	
Port	Operation
2.7	FLASHING

Y-Coordination (2-1-5-6)	
Port C	Port D
6.1	2.8

Do not reproduce

OUTPUTS

Loadswitch Assignments (2-1-6)							+
A	1	2	22	3	4	24	9
B	5	6	26	7	8	28	10
X	13	14	0	11	12	0	0

Loadswitch Codes:
0 Unused (no output)
1-8 Vehicle 1-8
9-14 Overlap A-F
21-28 Ped 1-8
41-47 Special Functions
41 Protected Permissive Flashing Phase 1
43 Protected Permissive Flashing Phase 3
45 Protected Permissive Flashing Phase 5
47 Protected Permissive Flashing Phase 7
51-57 Special Functions
71-72 Seven Wire I/C

\+ middle output of loadswitches 3 and 6 Channel 9 and 10

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TRANSIT PRIORITY

Local Plans (3-E) 1...9 11...19		Early Green	Green Extend	Inhibit Cycles	Phase 1 Minimum	Phase 2 Minimum	Phase 3 Minimum	Phase 4 Minimum	Phase 5 Minimum	Phase 6 Minimum	Phase 7 Minimum	Phase 8 Minimum
Plan 1	Green Factor											
Plan 2	Green Factor											
Plan 3	Green Factor											
Plan 4	Green Factor											
Plan 5	Green Factor											
Plan 6	Green Factor											
Plan 7	Green Factor											
Plan 8	Green Factor											
Plan 9	Green Factor											
Plan 11	Green Factor											
Plan 12	Green Factor											
Plan 13	Green Factor											
Plan 14	Green Factor											
Plan 15	Green Factor											
Plan 16	Green Factor											
Plan 17	Green Factor											
Plan 18	Green Factor											
Plan 19	Green Factor											

Do not reproduce

Transit Priority Configuration (3-E-A)				Indicator Output	
Enable in Plans		Input	Type	Stop	Go
Plan 1-9	.....	0.0	NONE	0	0
Plan 11-19	.....	0.0	NONE	0	0

Queue Jump (3-E-B)	
Grn Hold	Hold Phase
	.....
	.....

Free Plans (3-E-E)	
Max Grn Hold	Hold Phase
	.....

YELLOW YIELD COORDINATION

					Force-Offs											
Y-Coord Plans (7-C,D)	Long Grn	No Grn	Offset	Perm	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-	Coord	Lag	Min Recall	Restricted
Plan C													.2...6..	.2.4.6.8	.....	.....
Plan D													.2...6..	.2.4.6.8	.....	.....

TRUCK PRIORITY

Truck Priority (3-F)	Passage	CarryOver	Clearance	Next Priority	Phase Green	Det 2 Port	Det 3 Port	Det 4 Port	Sign Output	Slave Input	Slave Output
					.....	0.0	0.0	0.0	0	0.0	0

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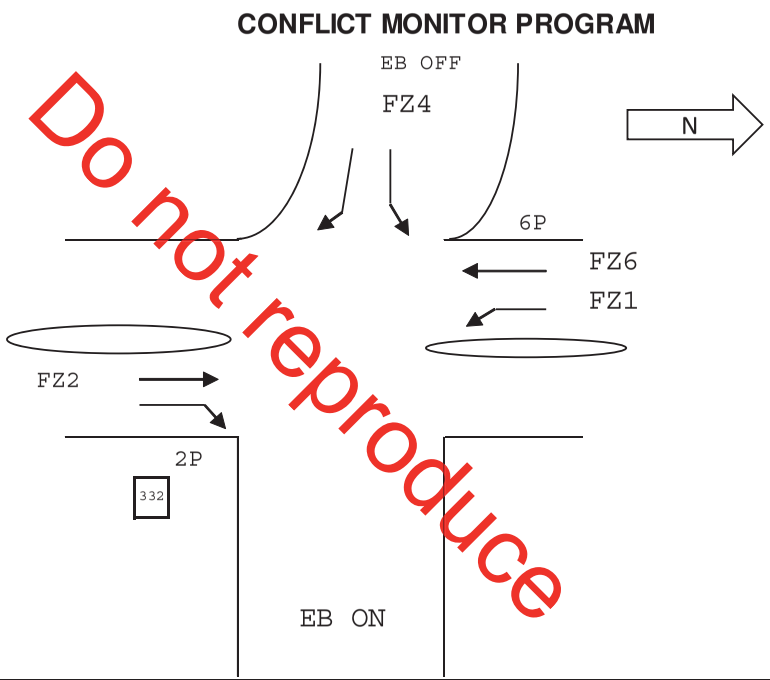
Location: Rte 905 EB @ Britannia
System:
Master At: EB Ramp
District:
I/C: WB
Designed By:
Installed By:
Service Info:

Timing Change: **Date Start:** **Date End:** **Designed:** **Installed:** 11/22/2022

		FLASH
PHASE	1) SB to EB Ramp	[ ]
	2) NB Britannia	[ ]
	3)	[ ]
	4) EB Off Ramp	[ ]
	5)	[ ]
	6) SB Britannia	[ ]
	7)	[ ]
	8)	[ ]
OVERLAP	A)	[ ]
	B)	[ ]
	C)	[ ]
	D)	[ ]
	E)	[ ]
	F)	[ ]

Intersection Layout



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Comments and Notes:
Ped Measurment (FT)
02 = 57 06 = 58

Bike Measurment (FT)
02 = 65 06 = 75

RAM Checksum

Page 2: F515	Page 8: 85AF
Page 3: 8BDF	Page 9: 0819
Page 4: F29E	Page 10: D4D6
Page 5: 191A	Page 11: C3CB
Page 6: 191A	Page 12: D68F
Page 7: 3F7E	Page 13: 84E7

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CONFIGURATION PHASE FLAGS

Cabinet (9-3)
332
Configuration
CALTRANS

Phases (2-1-1-1)	
Permitted	1 2 . 4 . 6 . .
Restricted	. . . . .

Phase Recalls (2-1-1-2)	
Vehicle Min	. 2 . . . 6 . .
Vehicle Max	. . . . .
Pedestrian	. . . . .
Bicycle	. . . . .

Phase Locks (2-1-1-3)	
Red	. . . . .
Yellow	. . . . .
Force/Max	. . . . .

Phase Features (2-1-1-4)	
Double Entry	. . . . .
Rest In Walk	. . . . .
Rest In Red	. . . . .
Walk 2	. . . . .
Max Green 2	. . . . .
Max Green 3	. . . . .

Startup (2-1-1-5)	
First Green Phases	. 2 . . . 6 . .
Yellow Start Phases	. . . . .
Vehicle Calls	1 . . 4 . . . .
Pedestrian Calls	. 2 . . . 6 . .
Yellow Start Overlaps	. . . . .
Startup All-Red	6.0

Call To Phase (2-1-2-1)		Omit On Green	
1	. . . . .	1	. . . . .
2	. . . . .	2	. . . . .
3	. . . . .	3	. . . . .
4	. . . . .	4	. . . . .
5	. . . . .	5	. . . . .
6	. . . . .	6	. . . . .
7	. . . . .	7	. . . . .
8	. . . . .	8	. . . . .

Flashing Colors (2-1-2-2)	
Yellow Flash Phases	. . . . .
Yellow Flash Overlap	. . . . .
Flash In Red Phases	. . . . .
Flash In Red Overlaps	. . . . .

Special Operation (2-1-2-3)	
Single Exit Phase	. . . . .
Driveway Signal Phases	. . . . .
Driveway Signal Overlaps	. . . . .
Leading Ped Phases	. 2 . . . 6 . .

Protected Permissive (2-1-2-4)	
Protected Permissive	. . . . .

Do not reproduce

Pedestrian (2-1-3)	
P1	. . . . .
P2	. 2 . . . . .
P3	. . . . .
P4	. . . . .
P5	. . . . .
P6	. . . . . 6 . .
P7	. . . . .
P8	. . . . .

Overlap (2-1-4)				
Overlap	Parent	Omit	No Start	Not
A	. . . . .	. . . . .	. . . . .	. . . . .
B	. . . . .	. . . . .	. . . . .	. . . . .
C	. . . . .	. . . . .	. . . . .	. . . . .
D	. . . . .	. . . . .	. . . . .	. . . . .
E	. . . . .	. . . . .	. . . . .	. . . . .
F	. . . . .	. . . . .	. . . . .	. . . . .

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PHASE TIMING

Phase (2-2)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 1 ---	0	7	0	0	0	7	0	10
Flash Don't Walk	0	16	0	0	0	17	0	10
Minimum Green	5	11	10	5	10	12	10	10
Det Limit	0	0	10	0	10	0	10	10
Max Initial	0	0	10	0	10	0	10	10
Max Green 1	20	50	50	30	50	30	50	50
Max Green 2	0	50	50	0	50	0	50	50
Max Green 3	0	0	50	0	50	0	50	50
Extension	3.0	3.0	5.0	3.0	5.0	3.0	5.0	5.0
Maximum Gap	3.0	3.0	5.0	3.0	5.0	3.0	5.0	5.0
Minimum Gap	3.0	3.0	5.0	3.0	5.0	3.0	5.0	5.0
Add Per Vehicle	0.0	0.0	1.0	0.0	1.0	0.0	1.0	1.0
Reduce Gap By	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Yellow	3.7	4.1	5.0	4.1	5.0	4.1	5.0	5.0
All-Red	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Ped/Bike (2-3)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 2 ---	0	0	0	0	0	0	0	0
Delay/Early Walk	0	5	0	0	0	5	0	0
Solid Don't Walk	0	0	0	0	0	0	0	0
Bike Green	0	0	0	0	0	0	0	0
Bike All-Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Do not reproduce

OVERLAP TIMING

Overlap (2-4)	A	B	C	D	E	F
Green	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	5.0	5.0	5.0	5.0	5.0	5.0
Red	0.0	0.0	0.0	0.0	0.0	0.0

Red Revert

Red Revert (2-5)	
Time	5.0
All-Red Sec/Min (2-6)	
All-Red Sec/Min:	OFF

Max 2 Extension

Max/Gap Out (2-7)	
Max Cnt	0
Gap Cnt	0

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Local Plan 1...9 (7-1) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 1	Green Factor			.....											
Plan 2	Green Factor			.....											
Plan 3	Green Factor			.....											
Plan 4	Green Factor			.....											
Plan 5	Green Factor			.....											
Plan 6	Green Factor			.....											
Plan 7	Green Factor			.....											
Plan 8	Green Factor			.....											
Plan 9	Green Factor			.....											

Do not reproduce

Local Plan 1...9 (7-1) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 1	.....	.....	.....	.....	.....	.....	.....	.....
Plan 2	.....	.....	.....	.....	.....	.....	.....	.....
Plan 3	.....	.....	.....	.....	.....	.....	.....	.....
Plan 4	.....	.....	.....	.....	.....	.....	.....	.....
Plan 5	.....	.....	.....	.....	.....	.....	.....	.....
Plan 6	.....	.....	.....	.....	.....	.....	.....	.....
Plan 7	.....	.....	.....	.....	.....	.....	.....	.....
Plan 8	.....	.....	.....	.....	.....	.....	.....	.....
Plan 9	.....	.....	.....	.....	.....	.....	.....	.....

Master Timer Sync (7-A)	
Enable in Plans	
1-9	.....
11-19	.....
21-29	.....

Master Sub Master	
Input	
Output	

FREE PLAN PHASE FLAGS

(7-E) Free	
Lag	Omit
. 2 . 4 . 6 . 8	.....
Veh Min	Veh Max
. 2 . . . 6 . .	.....
Ped	Bike
.....	.....
Cond	Cond Grn
.....	10

MANUAL COMMANDS

Manual Plan (4-1)	
Plan	OffSet
	A

Plan: 1-29
254 = Flash
255 = Free
Offset A, B, or C

Special Function Override (4-2)			
#	Control	#	Control
1	NORMAL	3	NORMAL
2	NORMAL	4	NORMAL

Detector Reset	(4-3)
Local Manual (4-4)	OFF

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Local Plan 11...19 (7-2) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 11	Green Factor			.....											
Plan 12	Green Factor			.....											
Plan 13	Green Factor			.....											
Plan 14	Green Factor			.....											
Plan 15	Green Factor			.....											
Plan 16	Green Factor			.....											
Plan 17	Green Factor			.....											
Plan 18	Green Factor			.....											
Plan 19	Green Factor			.....											

Do not reproduce

Local Plan 11...19 (7-2) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 11	.....	.....	.....	.....	.....	.....	.....	.....
Plan 12	.....	.....	.....	.....	.....	.....	.....	.....
Plan 13	.....	.....	.....	.....	.....	.....	.....	.....
Plan 14	.....	.....	.....	.....	.....	.....	.....	.....
Plan 15	.....	.....	.....	.....	.....	.....	.....	.....
Plan 16	.....	.....	.....	.....	.....	.....	.....	.....
Plan 17	.....	.....	.....	.....	.....	.....	.....	.....
Plan 18	.....	.....	.....	.....	.....	.....	.....	.....
Plan 19	.....	.....	.....	.....	.....	.....	.....	.....

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Local Plan 21...29 (7-3) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 21	Green Factor			.....											
Plan 22	Green Factor			.....											
Plan 23	Green Factor			.....											
Plan 24	Green Factor			.....											
Plan 25	Green Factor			.....											
Plan 26	Green Factor			.....											
Plan 27	Green Factor			.....											
Plan 28	Green Factor			.....											
Plan 29	Green Factor			.....											

Do not reproduce

Local Plan 21...29 (7-3) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 21	.....	.....	.....	.....	.....	.....	.....	.....
Plan 22	.....	.....	.....	.....	.....	.....	.....	.....
Plan 23	.....	.....	.....	.....	.....	.....	.....	.....
Plan 24	.....	.....	.....	.....	.....	.....	.....	.....
Plan 25	.....	.....	.....	.....	.....	.....	.....	.....
Plan 26	.....	.....	.....	.....	.....	.....	.....	.....
Plan 27	.....	.....	.....	.....	.....	.....	.....	.....
Plan 28	.....	.....	.....	.....	.....	.....	.....	.....
Plan 29	.....	.....	.....	.....	.....	.....	.....	.....

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TOD SCHEDULE

Table 1 (8-2-1)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 2 (8-2-2)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 3 (8-2-3)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 4 (8-2-4)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 5 (8-2-5)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 6 (8-2-6)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Do not reproduce

WEEKDAY ASSIGNMENT

Weekday Table Assignments (8-2-7)						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	1	1	1	1	2	2

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HOLIDAY TABLES

Floating Holiday Table (8-2-8)

#	Mnth	Week	DOW	Table
1			. . . . .	
2			. . . . .	
3			. . . . .	
4			. . . . .	
5			. . . . .	
6			. . . . .	
7			. . . . .	
8			. . . . .	
9			. . . . .	
10			. . . . .	
11			. . . . .	
12			. . . . .	
13			. . . . .	
14			. . . . .	
15			. . . . .	
16			. . . . .	

Fixed Holiday Table (8-2-9)

#	Mnth	Day	DOW	Table
1			. . . . .	
2			. . . . .	
3			. . . . .	
4			. . . . .	
5			. . . . .	
6			. . . . .	
7			. . . . .	
8			. . . . .	
9			. . . . .	
10			. . . . .	
11			. . . . .	
12			. . . . .	
13			. . . . .	
14			. . . . .	
15			. . . . .	
16			. . . . .	

Daylight Saving (8-1)

Enabl	YES	Month	Sunday
	Start	MAR	2nd
	End	NOV	1st

Solar Clock Data (8-4)

North Latitude	34
West Longitude	118
Local Time Zone	8

Sabbatical Clock (8-5)

Hebrew	Ped Recall
Sabbath	. . . . .
Holiday	. . . . .

Do not reproduce

TOD FUNCTIONS

TOD Functions (8-3)

#	Start	End	DOW	Action	Phases
1	1400	1800	M T W T F . .	17	. 2 . . . . .
2			. . . . .		. . . . .
3			. . . . .		. . . . .
4			. . . . .		. . . . .
5			. . . . .		. . . . .
6			. . . . .		. . . . .
7			. . . . .		. . . . .
8			. . . . .		. . . . .
9			. . . . .		. . . . .
10			. . . . .		. . . . .
11			. . . . .		. . . . .
12			. . . . .		. . . . .
13			. . . . .		. . . . .
14			. . . . .		. . . . .
15			. . . . .		. . . . .
16			. . . . .		. . . . .

Action Codes:

0. None
1. Permitted
2. Restricted
4. Veh Min Recall
5. Veh Max Recall
6. Ped Recall
7. Bike Recall
8. Red Lock
9. Yellow Lock
10. Force/Max Lock
11. Double Entry
12. Y-Coord C
13. Y-Coord D
14. Free
15. Flashing
16. Walk 2
17. Max Green 2
18. Max Green 3
19. Rest in Walk
20. Rest in Red
21. Free Lag Phases
22. Special Functions
23. Truck Preempt
24. Conditional Service
25. Conditional Service
26. Leading Ped
27. Traffic Actuated Max 2
41. Protected Permissive
42. Protected Permissive

Action Code = Phases added to normal setting
100+Action Code = Phases removed
200+Action Code = Phases replaced

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RAILROAD PREEMPTION

RR 1

(3-1-1)	Timing	Phase Flags (3-1-2)			Pedestrian Flags (3-1-3)			Overlap Flags (3-1-4)		
Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
Clear 1	10	. 2 . . 5 . . .	. . . . .	. . . . .	. . . . .	. . . . .	. 2 . 4 . 6 . 8	. . . . .	. . . . .	. . . . .
Clear 2		. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Clear 3		. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Hold		. . . . .	. . . . .	1 2 3 4 5 6 7 8	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	A B C D E F
Exit	5									
Min Grn										
Ped Clr										

Exit Parameters (3-1-5)			
Phase Green	Overlap Green	Vehicle Call	Ped Call
. . . . .	. . . . .	1 2 3 4 5 6 7 8	. 2 . 4 . 6 . 8

Configuration (3-1-6)			
PR 1	PR 2	Latching	Power-Up
2.5	0.0	YES	FLASHING

RR 2

(3-2-1)	Timing	Phase Flags (3-2-2)			Pedestrian Flags (3-2-3)			Overlap Flags (3-2-4)		
Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
Clear 1	10	. . . 4 . . 7 .	. . . . .	. . . . .	. . . . .	. . . . .	. 2 . 4 . 6 . 8	. . . . .	. . . . .	. . . . .
Clear 2		. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Clear 3		. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Hold		1 2 3 . . 6 . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . 4 . . . 8	. . . . .	. . . . .	. . . . .
Exit										
Min Grn										
Ped Clr										

Exit Parameters (3-2-5)			
Phase Green	Overlap Green	Vehicle Call	Ped Call
. . . . .	. . . . .	. . . 4 . . 7 .	. . . . .

Configuration (3-2-6)			
PR 1	PR 2	Latching	Power-up
2.6	0.0	YES	DARK

Do not reproduce

EMERGENCY VEHICLE PREEMPTION

EVA (3-A)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	30	30	. 2 . . 5 . . .	. . . . .

Port	Latching	Phase Termination
5.5	NO	ADVANCE

EVB (3-B)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	30	30	. . . 4 . . 7 .	. . . . .

Port	Latching	Phase Termination
5.6	NO	ADVANCE

EVC (3-C)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	30	30	1 . . . . 6 . .	. . . . .

Port	Latching	Phase Termination
5.7	NO	ADVANCE

EVD (3-D)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	30	30	. . 3 8	. . . . .

Port	Latching	Phase Termination
5.8	NO	ADVANCE

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INPUTS

		7 Wire I/C (2-1-5-1)			
		Input	Port	Input	Port
Enable	NO	R1	3.8	Free	3.6
Max ON		R2	3.5	D2	2.8
Max OFF		R3	3.7	D3	6.1

Manual Control (2-1-5-2)	
Input	Port
Manual Advance	
Advance Enable	

Battery Backup (2-1-5-5)	
Port	Operation
2.7	FLASHING

Cabinet Status (2-1-5-3)	
Input	Port
Flash Bus	
Door Ajar	
Flash Sense	6.7
Stop Time	6.8

Special Function (2-1-5-4)	
Input	Port
1	
2	
3	
4	

Y-Coordination (2-1-5-6)	
Port C	Port D
6.1	2.8

Do not reproduce

OUTPUTS

Loadswitch Assignments (2-1-6)							+
A	1	2	22	3	4	24	9
B	5	6	26	7	8	28	10
X	13	14	0	11	12	0	0

Loadswitch Codes:
- 0 Unused (no output)
- 1-8 Vehicle 1-8
- 9-14 Overlap A-F
- 21-28 Ped 1-8
- 41-47 Special Functions
- 41 Protected Permissive Flashing Phase 1
- 43 Protected Permissive Flashing Phase 3
- 45 Protected Permissive Flashing Phase 5
- 47 Protected Permissive Flashing Phase 7
- 51-57 Special Functions
- 71-72 Seven Wire I/C

\+ middle output of loadswitches 3 and 6 Channel 9 and 10

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TRANSIT PRIORITY

Local Plans (3-E) 1...9 11...19		Early Green	Green Extend	Inhibit Cycles	Phase 1 Minimum	Phase 2 Minimum	Phase 3 Minimum	Phase 4 Minimum	Phase 5 Minimum	Phase 6 Minimum	Phase 7 Minimum	Phase 8 Minimum
Plan 1	Green Factor											
Plan 2	Green Factor											
Plan 3	Green Factor											
Plan 4	Green Factor											
Plan 5	Green Factor											
Plan 6	Green Factor											
Plan 7	Green Factor											
Plan 8	Green Factor											
Plan 9	Green Factor											
Plan 11	Green Factor											
Plan 12	Green Factor											
Plan 13	Green Factor											
Plan 14	Green Factor											
Plan 15	Green Factor											
Plan 16	Green Factor											
Plan 17	Green Factor											
Plan 18	Green Factor											
Plan 19	Green Factor											

Do not reproduce

Transit Priority Configuration (3-E-A)				Indicator Output	
Enable in Plans		Input	Type	Stop	Go
Plan 1-9	.....	0.0	NONE	0	0
Plan 11-19	.....	0.0	NONE	0	0

Queue Jump (3-E-F)	
Grn Hold	Hold Phase
	.....
	.....

Free Plans (3-E-E)	
Max Grn Hold	Hold Phase
	.....

YELLOW YIELD COORDINATION

					Force-Offs											
Y-Coord Plans (7-C,D)	Long Grn	No Grn	Offset	Perm	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-	Coord	Lag	Min Recall	Restricted
Plan C													.2...6..	.2.4.6.8	.....	.....
Plan D													.2...6..	.2.4.6.8	.....	.....

TRUCK PRIORITY

Truck Priority (3-F)	Passage	CarryOver	Clearance	Next Priority	Phase Green	Det 2 Port	Det 3 Port	Det 4 Port	Sign Output	Slave Input	Slave Output
					.....	0.0	0.0	0.0	0	0.0	0

INTERSECTION: Airway Rd @ Britannia Bl

223 Pro...m

Group Assignment:
Field Master Assignment:

N/S Street Name: Britannia
E/W Street Name: Airway

Last Database Change:
System Ref. Number:

Row	Phase # ---->	1	2	3	4	5	6	7	8
	Column # ---->		Britannia				Britannia	Airway	Airway
0	Ped Walk		7						7
1	Ped FDW		21						27
2	Min Green	4	10			4	10	4	4
3	Type 3 Limit								
4	Add/Veh								
5	Veh Extn	2.0	3.8			2.0	3.8	2.0	3.7
6	Max Gap	2.0	3.8			2.0	3.8	2.0	3.7
7	Min Gap	2.0	0.2			2.0	0.2	0.2	0.2
8	Max Limit	30	60			30	60	40	40
9	Max Limit 2								
A	Bus Adv								
B	Call to Phs								
C	Reduce By		0.1				0.1	0.1	0.1
D	Every		0.8				0.8	1.7	0.8
E	Yellow	3.4	3.9			3.4	4.1	4.3	4.2
F	Red Clear	1.0	1.0			1.0	1.0	1.0	1.0
	Grade								

Phase Timing - Bank 1
F + Phase + Row

<F Page>

	E
RR-1 Delay	
RR-1 Clear	
EV-A Delay	0
EV-A Clear	0
EV-B Delay	0
EV-B Clear	0
EV-C Delay	0
EV-C Clear	0
EV-D Delay	0
EV-D Clear	0
RR-2 Delay	
RR-2 Clear	
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

Preempt Timing
F + E + Row

	F	Row
Permit	12__5678	0
Red Lock		1
Yellow Lock		2
Min Recall		3
Ped Recall		4
Peds (View)	_2____8	5
Rest In Walk		6
Red Rest		7
Dbl Entry		8
Max Recall		9
Soft Recall	_2___6__	A
Max 2		B
Cond Serv		C
Ped Lock	12345678	D
Yellow Start	_2___6__	E
1st Phases	_____7_	F

Phase Functions <F Page>
F + F + Row

Max Initial	0
Red Revert	5.0
All Red Start	0.0

F + 0 + E
F + 0 + F
F + C + O

Start / Revert Times

Drop Number	
Zone Number	
Area Number	
Area Address	
QuicNet Channel	

C + 0 + 0
C + 0 + 1
C + 0 + 2
C + 0 + 3
(QuicNet)

Communication Addresses

C + F + O	F	Row
Free Lag	_2___6_8	0

Lag Phases <C Page>

Overlap Timing

Row	9 Green Clear	C Yellow Change	D Red Clear	0 Load-Switch #
Overlap A	A			
Overlap B	B			
Overlap C	C			
Overlap D	D			

<F Page>
F + COLOR +

<D Page>
D + 0 + OVERLAP

Manual Plan	14
Manual Offset	0

C + A + 1
C + B + 1

Manual Selection

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Downtime Flash	255 (minutes)

Downtime Before Auto Manual Flash
F + 0 +8

Disable Ports	_234___

Disable Communication Ports
D + D + 9

Timing Sheet By: FLG
Approved By: FLG
Drawing Number:
Timing Implemented On: 4/4/2011

INTERSECTION: Airway Rd @ Britannia Bl

Row	Time	Function	Day of Week	Column F Phases/Bits
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

TOD Function

7 + ROW

<D Page>

D + F + ROW

T.O.D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest in Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 2 - Phase Bank 2
Bit 3 - Phase Bank 3
Bit 4 - Disable Detector OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 4

Row		F
0		
1	RR Overlap A - Phases	
2	RR Overlap B - Phases	
3	RR Overlap C - Phases	
4	RR Overlap D - Phases	
5	Ped 2P	2
6	Ped 6P	
7	Ped 4P	
8	Ped 8P	8
9	Yellow Flash Phases	
A	Overlap A - Phases	
B	Overlap B - Phases	
C	Overlap C - Phases	
D	Overlap D - Phases	
E	Restricted Phases	
F	Assign 5 Outputs	

Configuration <E Page>

E + F + ROW

Row		E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Overlap A - Green Omit	
6	Overlap B - Green Omit	
7	Overlap C - Green Omit	
8	Overlap D - Green Omit	
9	Overlap Yellow Flash	
A	EV-A Phases	2 5
B	EV-B Phases	7
C	EV-C Phases	1 6
D	EV-D Phases	8
E	Extra 1 Config. Bits	1 345
F	IC Select (interconnect)	2

Configuration

For access, set F + 9 + E = 1

E + E + ROW

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = EV Advance
5 = Remote Download
6 = Special Event
7 = Pretimed Operation
8 = Split Ring Operation

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 = Flash / Free
5 =
6 = Simplex Master
7 = 7-Wire Master
8 = Offset Interrupter

Day of Week

1 = Sunday
2 = Monday
3 = Tuesday
4 = Wednesday
5 = Thursday
6 = Friday
7 = Saturday

Assign 5 Outputs
1 = Right Turn Overlap
2 = TOD Outputs
3 = EV Beacon - Steady
4 = EV Beacon - Flashing
5 = Special Event Outputs
6 = Phase 3 & 7 Ped
7 = Advanced Warning Sign
8 =

Time and Date

8-0 Hour, Minute, Day-of-Week
8-1 Day-of-Month, Year, Month
8-F Seconds

Disable Parity	0	D+B+0

Dial-Up Telephone Communications
(If set to a non-zero value, parity will be disabled)

Program Information

C + C + 0 = program
C + C + F = version

Remote Download

C + 0 + 4 = 1 -255
w/ E + E + E bit 5 on

Row	1 Delay	3 Carry-over
0		
1		1.8
2		
3		
4		
5		
6		
7		
8		
9		
A		
B		
C		
D		
E	---	---
F	---	---

Detector Name	332 Input File	Detector Number
	1I1	14
	2I2U	1
	2I2L	5
	2I3U	21
	2I3L	25
	2I4	9
	3I5	16
	4I6U	3
	4I6L	7
	4I7U	23
	4I7L	27
	4I8	11
	1I9U	18
	3I9L	20
---	---	---
---	---	---

Row	2 Delay	4 Carry-over
0		
1		1.8
2		
3		
4		
5		
6		
7		1.8
8		
9		
A		
B		
C		
D		1.8
E	---	---
F	---	---

Detector Name	332 Input File	Detector Number
	5J1	13
	6J2U	2
	6J2L	6
	6J3U	22
	6J3L	26
	6J4	10
	7J5	15
	8J6U	4
	8J6L	8
	8J7U	24
	8J7L	28
	8J8	12
	5J9U	17
	7J9L	19
---	---	---
---	---	---

Detector Delay & Carryover <D Page>

D + X (across) + ROW

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234____
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	____5678
E	-- -- -- -- -- -- -- --	1234____
F	-- 25 26 27 28 -- -- --	_2345___

Active Detectors <D Page>

Row		0 Detector #
0		
1	System Det. # 1	
2	System Det. # 2	
3	System Det. # 3	
4	System Det. # 4	
5	System Det. # 5	
6	System Det. # 6	
7	System Det. # 7	
8	System Det. # 8	

System Detectors <D Page>

Max ON (min)	5	D+A+E
Max OFF (min)	60	D+A+F

Detector Failure Monitor

Phase Number		F+C+1
Time Before Yellow		F+C+3

Advance Warning Beacon - Sign 1

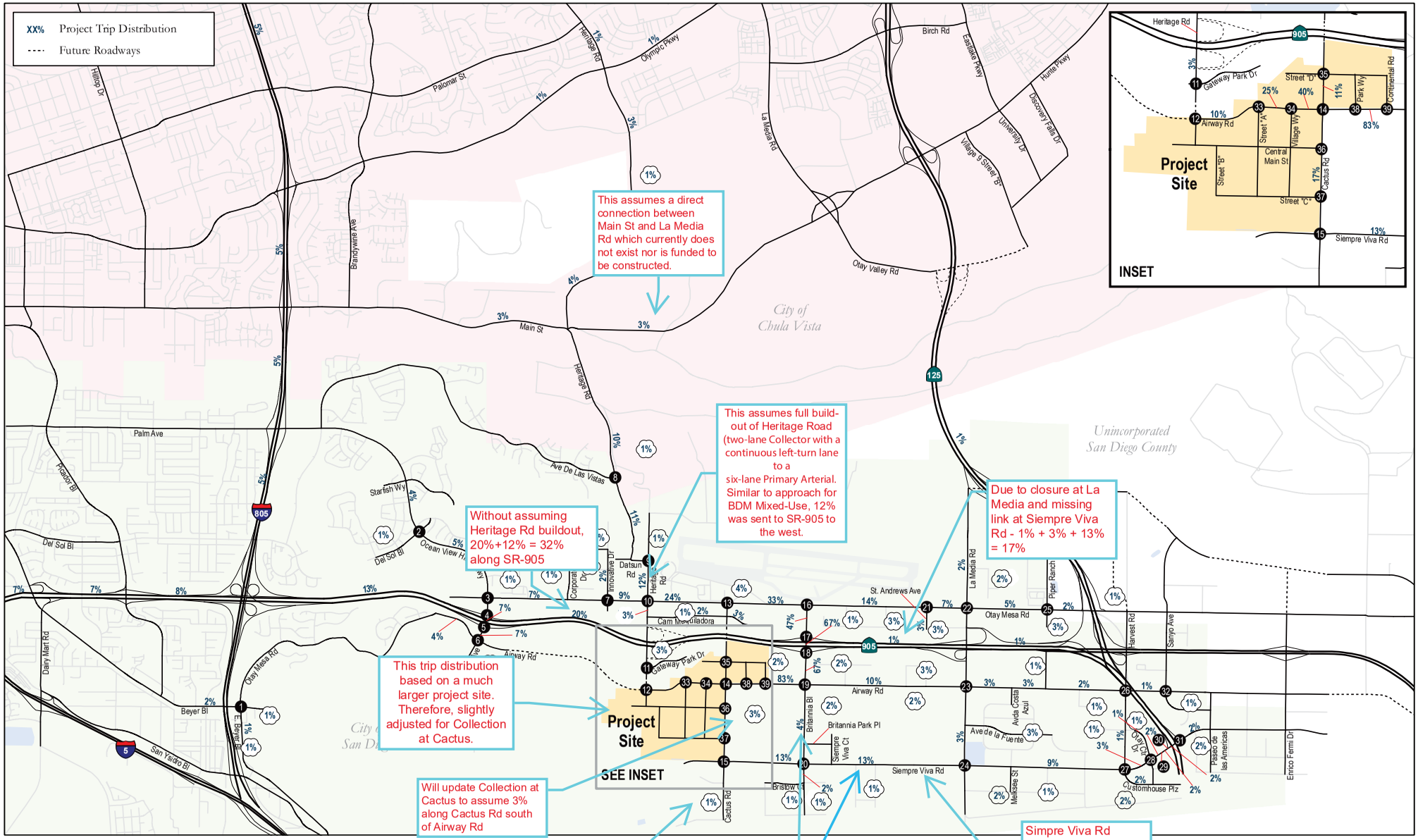
Phase Number		F+D+1
Time Before Yellow		F+D+3

Advance Warning Beacon - Sign 2

Long Failure	0.5	F+0+6
Short Failure	0.5	F+0+7

Power Cycle Correction (Default = 0.5)

Appendix C - Project Trip Distribution Assumptions - Otay Mesa Central Village Specific Plan

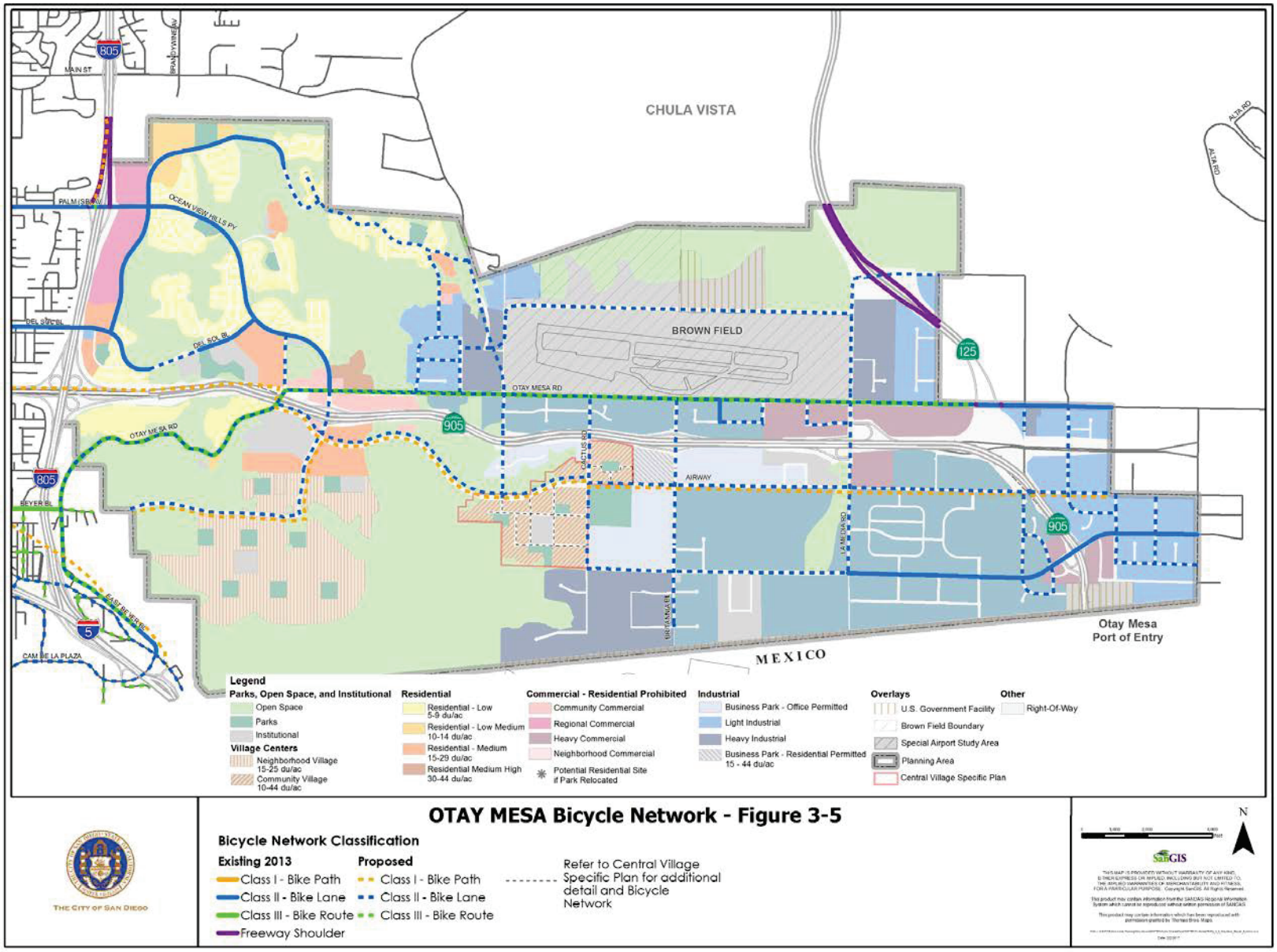


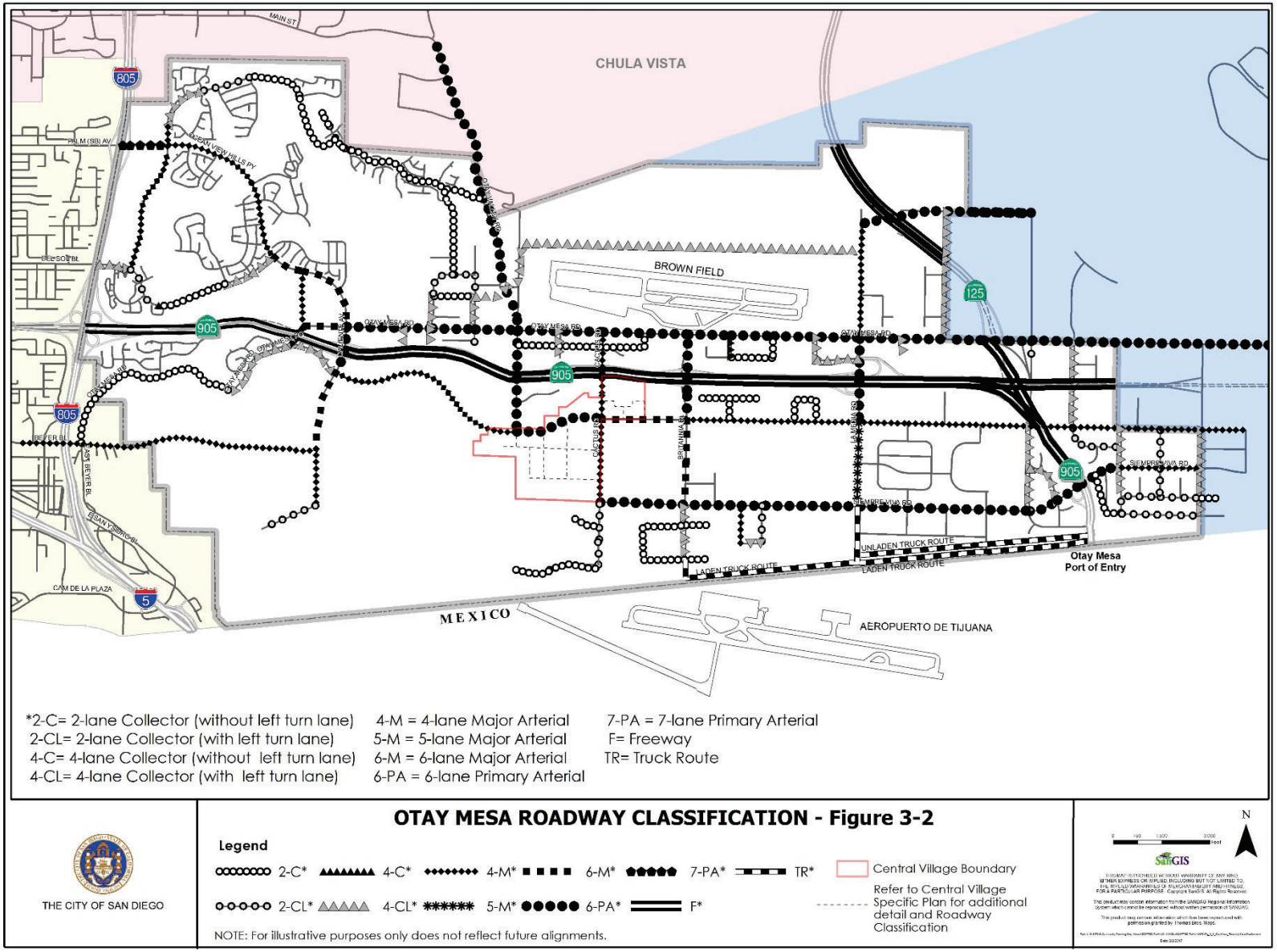
Otay Mesa Central Village Specific Plan

CHEN RYAN

Figure 3-2
Project Trip Distribution

Appendix D - Otay Mesa Community Plan Roadway and Bicycle Classification Maps


CHULA VISTA
BROWN FIELD
OTAY MESA RD
MAIN ST
PALM (SR-905)
OCEAN VIEW HILLS PY
DEL SOL BL
SIEMPRE VIVA RD
ALTA RD
CACTUS RD
AIRWAY
HEYER BL
EAST BEYER BL
CAMINO DE LA PLAZA
HERITAGE RD
LA MEDIA RD
Otay Mesa
Port of Entry
MEXICO
805
905
125
5
Legend
Parks, Open Space, and Institutional
Open Space
Parks
Institutional
Village Centers
Neighborhood Village 15-25 du/ac
Community Village 10-44 du/ac
Residential
Residential - Low 5-9 du/ac
Residential - Low Medium 10-14 du/ac
Residential - Medium 15-29 du/ac
Residential Medium High 30-44 du/ac
Commercial - Residential Prohibited
Community Commercial
Regional Commercial
Heavy Commercial
Neighborhood Commercial
Potential Residential Site if Park Relocated
Industrial
Business Park - Office Permitted
Light Industrial
Heavy Industrial
Business Park - Residential Permitted 15 - 44 du/ac
Overlays
U.S. Government Facility
Brown Field Boundary
Special Airport Study Area
Planning Area
Central Village Specific Plan
Other
Right-Of-Way
OTAY MESA Bicycle Network - Figure 3-5
Bicycle Network Classification
Existing 2013
Class I - Bike Path
Class II - Bike Lane
Class III - Bike Route
Freeway Shoulder
Proposed
Class I - Bike Path
Class II - Bike Lane
Class III - Bike Route
Refer to Central Village Specific Plan for additional detail and Bicycle Network
THE CITY OF SAN DIEGO
N
SanGIS


CHULA VISTA
BROWN FIELD
MEXICO
AEROPUERTO DE TIJUANA
Otay Mesa
Port of Entry
UNLADEN TRUCK ROUTE
LADEN TRUCK ROUTE
OTAY MESA RD
SIEMPRE VIVA RD
805
905
125
5
*2-C= 2-lane Collector (without left turn lane)
2-CL= 2-lane Collector (with left turn lane)
4-C= 4-lane Collector (without left turn lane)
4-CL= 4-lane Collector (with left turn lane)
4-M = 4-lane Major Arterial
5-M = 5-lane Major Arterial
6-M = 6-lane Major Arterial
6-PA = 6-lane Primary Arterial
7-PA = 7-lane Primary Arterial
F= Freeway
TR= Truck Route
THE CITY OF SAN DIEGO
OTAY MESA ROADWAY CLASSIFICATION - Figure 3-2
Legend
2-C* 4-C* 4-M* 6-M* 7-PA* TR*
2-CL* 4-CL* 5-M* 6-PA* F*
Central Village Boundary
Refer to Central Village Specific Plan for additional detail and Roadway Classification
NOTE: For illustrative purposes only does not reflect future alignments.
N
SanGIS

Appendix E - MTS Bus Schedules

Fare Information
Información de tarifas
sdmts.com/fares

PRONTO

Easy transit fare. Get a card or download the app.

¡Tarifa de transporte fácil! Obtén una tarjeta o descarga la aplicación.

RidePRONTO.com • 619-595-5636

All timetables are available online
Todos los horarios están disponibles en línea.
sdmts.com/timetables

Real Time Arrivals
Download the free **OneBusAway** app.
*Llegadas en tiempo real. Descarga la aplicación gratuita **OneBusAway**.*
sdmts.com/oba

MTS sdmts.com

MTS Security *MTS Seguridad*	**619-595-4960**
MTS Information & Trip Planning *MTS Información y planeo de viaje*	**619-233-3004**
Customer Service / Suggestions *Servicio al cliente / Sugerencias*	**619-557-4555**
Lost and Found *Objetos extraviados*	**619-233-3004**
Transit Store 12th & Imperial Transit Center M–F / *L-V* 8am–5pm	**619-234-1060**
TTY/TDD (teletype for hearing impaired) *Teletipo para sordos*	**619-234-5005** **888-722-4889**

Buses on all MTS routes are accessible via lift or ramp.
Autobuses en todas las rutas de MTS son accesibles mediante un ascensor o rampa.
Alternative formats available upon request. Call: (619) 557-4555.
Formato alternativo disponible al preguntar. Llamar: (619) 557-4555.

Effective January 26, 2025

905

Otay Mesa Transit Center ↔ Iris Avenue Transit Center
via SR-905 / Otay Mesa Road

909

Otay Mesa Transit Center ↔ Southwestern College Otay Mesa

Destinations
- Brown Field
- Otay Business Parks
- Otay Mesa Port of Entry
- San Ysidro High School (905)
- Southwestern College Otay Mesa (909)

Bus Routes

Trolley Connections
- Iris Avenue

Subject to change without notice
Sujeto a cambios sin previo aviso

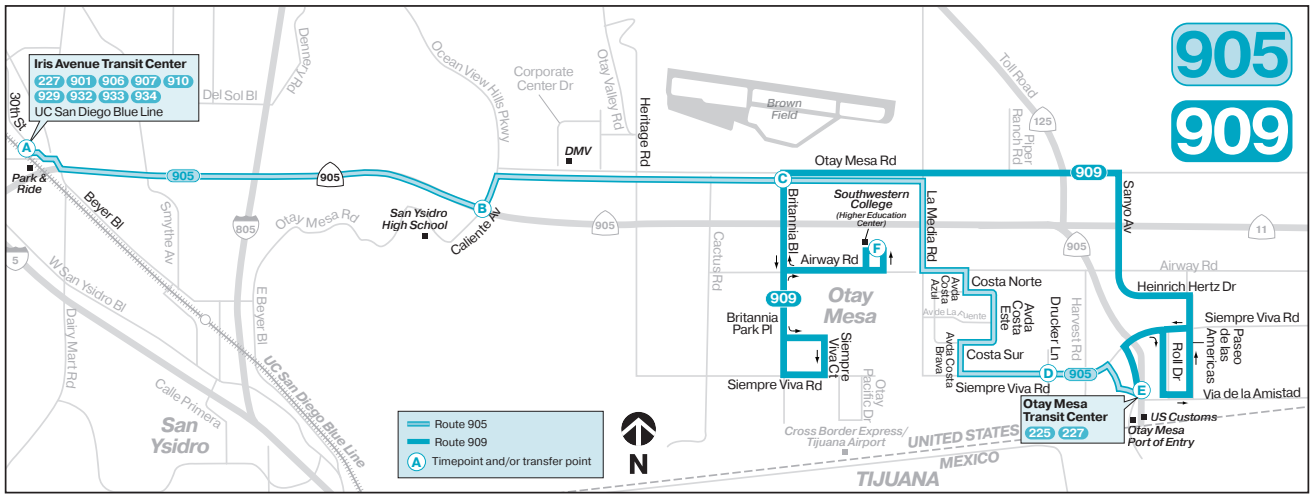
905 Monday through Friday • *lunes a viernes*

Otay Mesa Transit Center → Iris Avenue Transit Center

E Otay Mesa Transit Center **DEPART**	D Siempre Viva Rd & Drucker Lane	C Otay Mesa Rd. & Britannia Bl.	B SR-905 & Caliente Av.	A Iris Avenue Transit Center **ARRIVE**
4:13a	4:16a	4:25a	4:30a	4:38a
4:48	4:51	5:00	5:05	5:13
5:23	5:26	5:35	5:40	5:48
5:57	6:00	6:09	6:14	6:22
6:30	6:33	6:43	6:49	6:58
7:03	7:06	7:16	7:22	7:31
7:33	7:36	7:46	7:52	8:01
8:03	8:06	8:16	8:22	8:31
8:33	8:36	8:46	8:52	9:01
9:00	9:03	9:13	9:19	9:28
9:30	9:33	9:43	9:49	9:58
10:00	10:03	10:13	10:19	10:28
10:30	10:33	10:43	10:49	10:58
11:00	11:03	11:13	11:19	11:28
11:30	11:33	11:43	11:49	11:58
12:00p	**12:03p**	**12:13p**	**12:19p**	**12:28p**
12:30	**12:33**	**12:43**	**12:49**	**12:58**
12:55	**12:58**	**1:08**	**1:14**	**1:23**
1:23	**1:27**	**1:37**	**1:44**	**1:53**
1:53	**1:57**	**2:07**	**2:14**	**2:23**
2:15	**2:19**	**2:29**	**2:36**	**2:45**
2:30	**2:34**	**2:44**	**2:51**	**3:00**
2:45	**2:49**	**2:59**	**3:06**	**3:15**
2:59	**3:03**	**3:13**	**3:20**	**3:29**
3:13	**3:17**	**3:27**	**3:34**	**3:43**
3:30	**3:34**	**3:44**	**3:51**	**4:00**
3:44	**3:48**	**3:58**	**4:05**	**4:14**
3:59	**4:03**	**4:13**	**4:20**	**4:29**
4:14	**4:18**	**4:28**	**4:35**	**4:44**
4:31	**4:35**	**4:45**	**4:52**	**5:01**
4:47	**4:51**	**5:01**	**5:08**	**5:17**
5:02	**5:06**	**5:16**	**5:23**	**5:32**
5:18	**5:22**	**5:32**	**5:39**	**5:48**
5:45	**5:49**	**5:59**	**6:06**	**6:15**
6:18	**6:21**	**6:30**	**6:37**	**6:46**
6:55	**6:58**	**7:07**	**7:14**	**7:23**
7:33	**7:36**	**7:45**	**7:52**	**8:01**
8:04	**8:07**	**8:16**	**8:22**	**8:30**

Iris Avenue Transit Center → Otay Mesa Transit Center

A Iris Avenue Transit Center **DEPART**	B SR-905 & Caliente Av.	C Otay Mesa Rd. & Britannia Bl.	D Siempre Viva Rd & Drucker Lane	E Otay Mesa Transit Center **ARRIVE**
4:53a	4:59a	5:04a	5:14a	5:18a
5:23	5:29	5:34	5:44	5:48
5:54	6:00	6:05	6:15	6:19
6:09	6:16	6:21	6:32	6:37
6:28	6:35	6:40	6:51	6:56
6:43	6:50	6:55	7:06	7:11
6:59	7:06	7:11	7:22	7:27
7:14	7:21	7:26	7:37	7:42
7:30	7:37	7:42	7:53	7:58
7:44	7:51	7:56	8:07	8:12
7:59	8:06	8:11	8:22	8:27
8:15	8:22	8:27	8:38	8:43
8:30	8:37	8:42	8:53	8:58
8:46	8:53	8:58	9:09	9:14
9:08	9:15	9:20	9:31	9:36
9:38	9:45	9:50	10:01	10:06
10:08	10:15	10:20	10:31	10:36
10:38	10:45	10:50	11:01	11:06
11:08	11:15	11:20	11:31	11:36
11:38	11:45	11:50	**12:01p**	**12:06p**
12:08p	**12:15p**	**12:20p**	**12:31**	**12:36**
12:38	**12:45**	**12:50**	**1:01**	**1:06**
1:08	**1:15**	**1:20**	**1:31**	**1:36**
1:38	**1:45**	**1:51**	**2:03**	**2:08**
2:07	**2:14**	**2:20**	**2:32**	**2:37**
2:31	**2:38**	**2:44**	**2:56**	**3:01**
3:01	**3:08**	**3:14**	**3:26**	**3:31**
3:31	**3:38**	**3:44**	**3:56**	**4:01**
4:07	**4:14**	**4:20**	**4:32**	**4:37**
4:38	**4:45**	**4:51**	**5:03**	**5:08**
5:08	**5:15**	**5:20**	**5:31**	**5:36**
5:38	**5:45**	**5:50**	**6:01**	**6:06**
6:08	**6:15**	**6:20**	**6:31**	**6:36**
6:34	**6:41**	**6:46**	**6:57**	**7:02**
7:00	**7:07**	**7:12**	**7:23**	**7:28**
7:30	**7:37**	**7:42**	**7:53**	**7:58**
8:01	**8:07**	**8:12**	**8:22**	**8:26**
8:37	**8:43**	**8:48**	**8:58**	**9:02**
9:08	**9:14**	**9:19**	**9:29**	**9:33**
9:38	**9:44**	**9:49**	**9:59**	**10:03**



905 Saturday • *sábado*

Otay Mesa Transit Center → Iris Avenue Transit Center

E	D	C	B	A
Otay Mesa Transit Center **DEPART**	Siempre Viva Rd & Drucker Lane	Otay Mesa Rd. & Britannia Bl.	SR-905 & Caliente Av.	Iris Avenue Transit Center **ARRIVE**
5:16a	5:19a	5:28a	5:32a	5:38a
6:15	6:18	6:27	6:31	6:37
7:15	7:18	7:27	7:31	7:37
8:15	8:18	8:27	8:31	8:37
9:15	9:18	9:27	9:31	9:37
10:15	10:18	10:27	10:31	10:37
11:14	11:17	11:27	11:32	11:38
12:14p	**12:17p**	**12:27p**	**12:32p**	**12:38p**
1:14	**1:17**	**1:27**	**1:32**	**1:38**
2:14	**2:17**	**2:27**	**2:32**	**2:38**
3:14	**3:17**	**3:27**	**3:32**	**3:38**
4:14	**4:17**	**4:27**	**4:32**	**4:38**
5:14	**5:17**	**5:27**	**5:32**	**5:38**
6:15	**6:18**	**6:27**	**6:31**	**6:37**
7:15	**7:18**	**7:27**	**7:31**	**7:37**
8:15	**8:18**	**8:27**	**8:31**	**8:37**

Iris Avenue Transit Center → Otay Mesa Transit Center

A	B	C	D	E
Iris Avenue Transit Center **DEPART**	SR-905 & Caliente Av.	Otay Mesa Rd. & Britannia Bl.	Siempre Viva Rd & Drucker Lane	Otay Mesa Transit Center **ARRIVE**
5:45a	5:51a	5:56a	6:04a	6:07a
6:44	6:50	6:55	7:04	7:08
7:44	7:50	7:55	8:04	8:08
8:44	8:50	8:55	9:04	9:08
9:44	9:50	9:55	10:04	10:08
10:44	10:50	10:55	11:04	11:08
11:44	11:50	11:55	**12:04p**	**12:08p**
12:44p	**12:50p**	**12:55p**	**1:04**	**1:08**
1:44	**1:50**	**1:55**	**2:04**	**2:08**
2:44	**2:50**	**2:55**	**3:04**	**3:08**
3:44	**3:50**	**3:55**	**4:04**	**4:08**
4:44	**4:50**	**4:55**	**5:04**	**5:08**
5:44	**5:50**	**5:55**	**6:04**	**6:08**
6:44	**6:50**	**6:55**	**7:04**	**7:08**
7:44	**7:50**	**7:55**	**8:04**	**8:08**
8:44	**8:50**	**8:55**	**9:03**	**9:06**

905 Sunday • *domingo*

Otay Mesa Transit Center → Iris Avenue Transit Center

E	D	C	B	A
Otay Mesa Transit Center **DEPART**	Siempre Viva Rd & Drucker Lane	Otay Mesa Rd. & Britannia Bl.	SR-905 & Caliente Av.	Iris Avenue Transit Center **ARRIVE**
5:30a	5:33a	5:42a	5:46a	5:52a
6:30	6:33	6:42	6:46	6:52
7:30	7:33	7:42	7:46	7:52
8:30	8:33	8:42	8:46	8:52
9:30	9:33	9:42	9:46	9:52
10:30	10:33	10:42	10:46	10:52
11:29	11:32	11:42	11:47	11:53
12:29p	**12:32p**	**12:42p**	**12:47p**	**12:53p**
1:29	**1:32**	**1:42**	**1:47**	**1:53**
2:29	**2:32**	**2:42**	**2:47**	**2:53**
3:29	**3:32**	**3:42**	**3:47**	**3:53**
4:29	**4:32**	**4:42**	**4:47**	**4:53**
5:29	**5:32**	**5:42**	**5:47**	**5:53**
6:30	**6:33**	**6:42**	**6:46**	**6:52**
7:30	**7:33**	**7:42**	**7:46**	**7:52**
8:30	**8:33**	**8:42**	**8:46**	**8:52**

Iris Avenue Transit Center → Otay Mesa Transit Center

A	B	C	D	E
Iris Avenue Transit Center **DEPART**	SR-905 & Caliente Av.	Otay Mesa Rd. & Britannia Bl.	Siempre Viva Rd & Drucker Lane	Otay Mesa Transit Center **ARRIVE**
6:00a	6:06a	6:11a	6:20a	6:24a
6:59	7:05	7:10	7:19	7:23
7:59	8:05	8:10	8:19	8:23
8:59	9:05	9:10	9:19	9:23
9:59	10:05	10:10	10:19	10:23
10:59	11:05	11:10	11:19	11:23
11:59	**12:05p**	**12:10p**	**12:19p**	**12:23p**
12:59p	**1:05**	**1:10**	**1:19**	**1:23**
1:59	**2:05**	**2:10**	**2:19**	**2:23**
2:59	**3:05**	**3:10**	**3:19**	**3:23**
3:59	**4:05**	**4:10**	**4:19**	**4:23**
4:59	**5:05**	**5:10**	**5:19**	**5:23**
5:59	**6:05**	**6:10**	**6:19**	**6:23**
6:59	**7:05**	**7:10**	**7:19**	**7:23**
7:59	**8:05**	**8:10**	**8:19**	**8:23**

909 Monday through Friday • *lunes a viernes*

Otay Mesa Transit Center → Southwestern College Otay Mesa

E	C	F
Otay Mesa Transit Center **DEPART**	Britannia Bl. & Otay Mesa Rd.	Southwestern College Otay Mesa **ARRIVE**
4:58a	5:11a	5:22a
6:00	6:13	6:24
7:05	7:19	7:30
8:08	8:22	8:33
9:09	9:23	9:34
10:09	10:23	10:34
11:09	11:23	11:34
12:09p	**12:23p**	**12:35p**
1:14	**1:28**	**1:40**
2:08	**2:22**	**2:34**
3:07	**3:21**	**3:33**
4:08	**4:22**	**4:34**
4:57	**5:11**	**5:22**
5:54	**6:08**	**6:19**
7:08	**7:20**	**7:31**

Southwestern College Otay Mesa → Otay Mesa Transit Center

F	C	E
Southwestern College Otay Mesa **DEPART**	Otay Mesa Rd. & Britannia Bl	Otay Mesa Transit Center **ARRIVE**
5:24a	5:28a	5:40a
6:25	6:30	6:43
7:33	7:38	7:51
8:36	8:41	8:54
9:35	9:40	9:53
10:35	10:40	10:53
11:35	11:40	11:53
12:35p	**12:40p**	**12:53p**
1:41	**1:47**	**2:00**
2:35	**2:41**	**2:54**
3:34	**3:41**	**3:56**
4:35	**4:42**	**4:57**
5:23	**5:28**	**5:42**
6:21	**6:26**	**6:40**
7:33	**7:37**	**7:49**

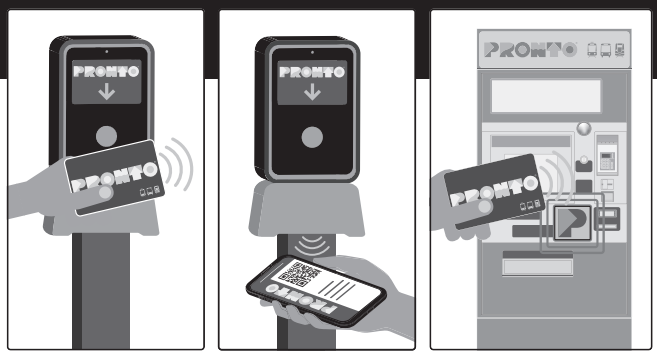
A Saturday/Sunday schedule will be operated on the following holidays and observed holidays / *Se operará con horario de sábado/domingo durante los siguientes días festivos y feriados observados*
New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, Christmas

PRONTO

619-595-5636
RidePRONTO.com

TAP or SCAN - Required Before Boarding

TOCA o ESCANEA - Se requiere antes de abordar



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Appendix F - Existing Traffic Counts

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: ELITE TRAFFIC DYNAMICS, LLC

DATE:	LOCATION:	OTAY MESA	PROJECT #:	ETD24-0315-01
3/13/24	NORTH & SOUTH:	CACTUS ROAD	LOCATION #:	1
WEDNESDAY	EAST & WEST:	OTAY MESA ROAD	CONTROL:	SIGNAL

NOTES:

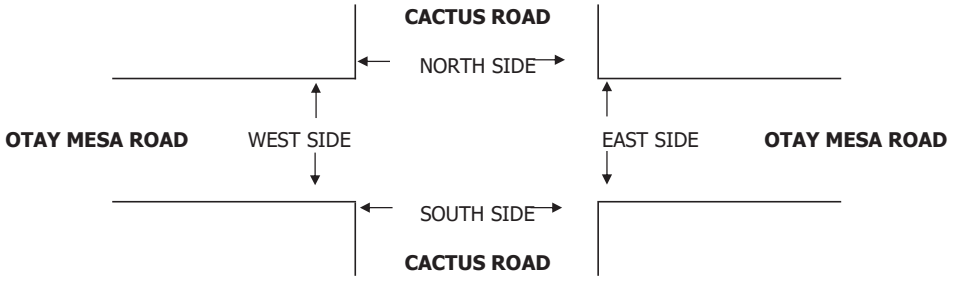
INCLUDES BIKE & PED

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND CACTUS ROAD			SOUTHBOUND CACTUS ROAD			EASTBOUND OTAY MESA ROAD			WESTBOUND OTAY MESA ROAD			
	LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
AM	7:00 AM	7	0	17	1	0	1	0	57	5	11	45	0	144
	7:15 AM	7	0	16	0	0	1	0	58	5	24	55	0	166
	7:30 AM	9	0	13	0	0	2	0	67	7	16	47	1	162
	7:45 AM	7	0	15	0	0	0	3	73	13	17	49	3	180
	8:00 AM	9	0	10	2	0	1	3	64	13	22	65	1	190
	8:15 AM	8	1	13	1	0	1	2	57	16	20	56	1	176
	8:30 AM	14	0	13	0	2	1	1	75	15	12	51	3	187
	8:45 AM	11	0	15	0	0	2	1	62	15	24	52	1	183
	VOLUMES	72	1	112	4	2	9	10	513	89	146	420	10	1,388
	APPROACH %	39%	1%	61%	27%	13%	60%	2%	84%	15%	25%	73%	2%	
	APP/DEPART	185	/	21	15	/	237	612	/	629	576	/	501	0
	BEGIN PEAK HR		8:00 AM											
	VOLUMES	42	1	51	3	2	5	7	258	59	78	224	6	736
	APPROACH %	45%	1%	54%	30%	20%	50%	2%	80%	18%	25%	73%	2%	
	PEAK HR FACTOR		0.870			0.833			0.890			0.875		0.968
	APP/DEPART	94	/	14	10	/	139	324	/	312	308	/	271	0
PM	4:00 PM	17	0	26	2	0	3	1	98	22	18	88	4	279
	4:15 PM	14	0	20	5	0	5	2	87	16	16	77	2	244
	4:30 PM	17	1	22	1	0	1	1	91	16	24	93	2	269
	4:45 PM	16	1	24	1	1	1	2	84	21	17	77	1	246
	5:00 PM	18	0	26	3	0	3	0	101	20	19	91	2	283
	5:15 PM	19	0	25	1	0	1	3	66	15	17	87	1	235
	5:30 PM	8	0	30	2	0	2	2	51	14	19	75	0	203
	5:45 PM	12	0	16	1	0	6	1	39	9	18	56	0	158
	VOLUMES	121	2	189	16	1	22	12	617	133	148	644	12	1,917
	APPROACH %	39%	1%	61%	41%	3%	56%	2%	81%	17%	18%	80%	1%	
	APP/DEPART	312	/	26	39	/	282	762	/	822	804	/	787	0
	BEGIN PEAK HR		4:15 PM											
	VOLUMES	65	2	92	10	1	10	5	363	73	76	338	7	1,042
	APPROACH %	41%	1%	58%	48%	5%	48%	1%	82%	17%	18%	80%	2%	
	PEAK HR FACTOR		0.903			0.525			0.911			0.884		0.920
	APP/DEPART	159	/	14	21	/	150	441	/	465	421	/	413	0

U-TURNS

NB	SB	EB	WB	TTL
X	X	X	X	
				0
			2	2
				0
				0
				0
				0
		1		1
		1		1
0	0	2	2	4
				0
		1		1
				0
				0
				0
			1	1
			1	1
			1	1
0	0	1	3	4



		PEDESTRIAN CROSSINGS					PEDESTRIAN ACTIVATIONS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	1		1		2					0					0
	7:15 AM					0					0					0
	7:30 AM					0					0					0
	7:45 AM		1			1					0					0
	8:00 AM		1			1					0					0
	8:15 AM	2		2		4					0					0
	8:30 AM		1			1					0					0
	8:45 AM		1			1					0	1	1			2
	TOTAL	3	4	3	0	10	0	0	0	0	0	1	1	0	0	2
PM	4:00 PM		2			2					0					0
	4:15 PM	1	1	1		3					0					0
	4:30 PM		1			1					0					0
	4:45 PM	1		1		2					0					0
	5:00 PM	1		1		2					0	1				1
	5:15 PM					0					0	1				1
	5:30 PM					0					0					0
	5:45 PM					0					0					0
	TOTAL	3	4	3	0	10	0	0	0	0	0	2	0	0	0	2

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: ELITE TRAFFIC DYNAMICS, LLC

DATE:			
3/13/24	LOCATION:	OTAY MESA	PROJECT #: ETD24-0315-01
WEDNESDAY	NORTH & SOUTH:	CONTINENTAL STREET	LOCATION #: 2
	EAST & WEST:	OTAY MESA ROAD	CONTROL: SIGNAL

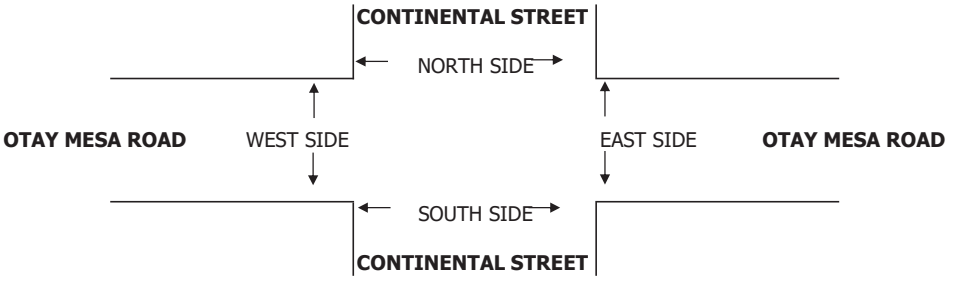
NOTES:

INCLUDES BIKE & PED

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND CONTINENTAL STREET			SOUTHBOUND CONTINENTAL STREET			EASTBOUND OTAY MESA ROAD			WESTBOUND OTAY MESA ROAD			
	LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
AM	7:00 AM	0	0	5				0	72	2	1	49		129
	7:15 AM	0	0	0				0	74	0	6	82		162
	7:30 AM	0	0	3				0	79	0	8	61		151
	7:45 AM	0	0	2				0	86	0	8	73		169
	8:00 AM	0	0	9				0	72	0	13	90		184
	8:15 AM	0	0	7				0	73	0	4	78		162
	8:30 AM	0	0	5				0	90	0	4	63		162
	8:45 AM	1	0	2				0	81	1	9	79		173
	VOLUMES	1	0	33	0	0	0	0	627	3	53	575	0	1,292
	APPROACH %	3%	0%	97%	0%	0%	0%	0%	100%	0%	8%	92%	0%	
	APP/DEPART	34	/	0	0	/	56	630	/	660	628	/	576	0
	BEGIN PEAK HR		8:00 AM											
	VOLUMES	1	0	23	0	0	0	0	316	1	30	310	0	681
	APPROACH %	4%	0%	96%	0%	0%	0%	0%	100%	0%	9%	91%	0%	
	PEAK HR FACTOR		0.667			0.000			0.881			0.825		0.925
	APP/DEPART	24	/	0	0	/	31	317	/	339	340	/	311	0
PM	4:00 PM	1	1	10				0	131	1	12	127		283
	4:15 PM	3	0	7				0	113	0	8	91		222
	4:30 PM	1	0	1				0	117	0	8	116		243
	4:45 PM	0	0	1				0	108	1	10	90		210
	5:00 PM	0	0	3				0	132	0	8	123		266
	5:15 PM	1	0	5				0	88	0	4	93		191
	5:30 PM	3	0	3				0	82	0	2	82		172
	5:45 PM	1	0	4				0	59	0	4	70		138
	VOLUMES	10	1	34	0	0	0	0	830	2	56	792	0	1,725
	APPROACH %	22%	2%	76%	0%	0%	0%	0%	100%	0%	7%	93%	0%	
	APP/DEPART	45	/	1	0	/	58	832	/	864	848	/	802	0
	BEGIN PEAK HR		4:00 PM											
	VOLUMES	5	1	19	0	0	0	0	469	2	38	424	0	958
	APPROACH %	20%	4%	76%	0%	0%	0%	0%	100%	0%	8%	92%	0%	
	PEAK HR FACTOR		0.521			0.000			0.892			0.831		0.846
	APP/DEPART	25	/	1	0	/	40	471	/	488	462	/	429	0

U-TURNS				
NB	SB	EB	WB	TTL
X	X	X	X	
				0
			4	4
			1	1
			2	2
			3	3
			3	3
			1	1
			4	4
0	0	0	18	18
			4	4
			3	3
			4	4
			3	3
			3	3
			2	2
		1	1	2
			2	2
0	0	1	22	23



		PEDESTRIAN CROSSINGS					PEDESTRIAN ACTIVATIONS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM					0					0					0
	7:15 AM					0					0					0
	7:30 AM					0					0					0
	7:45 AM					0					0					0
	8:00 AM					0					0					0
	8:15 AM					0					0					0
	8:30 AM					0					0					0
	8:45 AM					0					0					0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM					0					0					0
	4:15 PM	1		1		2					0					0
	4:30 PM	1				1					0					0
	4:45 PM					0					0					0
	5:00 PM					0					0					0
	5:15 PM					0					0		1			1
	5:30 PM					0					0					0
	5:45 PM					0					0					0
	TOTAL	2	0	1	0	3	0	0	0	0	0	0	1	0	0	1

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: ELITE TRAFFIC DYNAMICS, LLC

DATE:	LOCATION:	OTAY MESA	PROJECT #:	ETD24-0315-01
3/13/24	NORTH & SOUTH:	BRITANNIA BOULEVARD	LOCATION #:	3
WEDNESDAY	EAST & WEST:	OTAY MESA ROAD	CONTROL:	SIGNAL

NOTES:

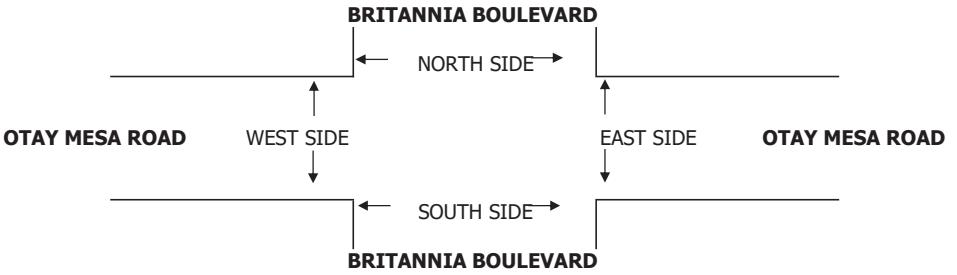
INCLUDES BIKE & PED

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND BRITANNIA BOULEVARD			SOUTHBOUND BRITANNIA BOULEVARD			EASTBOUND OTAY MESA ROAD			WESTBOUND OTAY MESA ROAD			
	LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
AM	7:00 AM	31		47					49	25	15	26		193
	7:15 AM	49		51					51	32	23	42		248
	7:30 AM	40		57					50	36	24	30		237
	7:45 AM	43		79					57	44	22	35		280
	8:00 AM	56		56					51	31	33	45		272
	8:15 AM	47		39					44	29	21	33		213
	8:30 AM	31		40					58	41	35	36		241
	8:45 AM	41		42					49	33	34	43		242
	VOLUMES	338	0	411	0	0	0	0	409	271	207	290	0	1,926
	APPROACH %	45%	0%	55%	0%	0%	0%	0%	60%	40%	42%	58%	0%	
	APP/DEPART	749	/	0	0	/	478	680	/	820	497	/	628	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	188	0	243	0	0	0	0	209	143	102	152	0	1,037
	APPROACH %	44%	0%	56%	0%	0%	0%	0%	59%	41%	40%	60%	0%	
	PEAK HR FACTOR		0.883			0.000			0.871			0.814		0.926
	APP/DEPART	431	/	0	0	/	245	352	/	452	254	/	340	0
PM	4:00 PM	62		41					67	66	48	72		356
	4:15 PM	47		50					50	66	38	48		299
	4:30 PM	61		38					66	62	59	61		347
	4:45 PM	40		34					51	59	46	52		282
	5:00 PM	56		38					56	69	76	79		374
	5:15 PM	42		30					54	59	34	54		273
	5:30 PM	39		26					34	51	28	57		235
	5:45 PM	23		22					38	36	33	55		207
	VOLUMES	370	0	279	0	0	0	0	416	468	362	478	0	2,373
	APPROACH %	57%	0%	43%	0%	0%	0%	0%	47%	53%	43%	57%	0%	
	APP/DEPART	649	/	0	0	/	830	884	/	695	840	/	848	0
	BEGIN PEAK HR		4:15 PM											
	VOLUMES	204	0	160	0	0	0	0	223	256	219	240	0	1,302
	APPROACH %	56%	0%	44%	0%	0%	0%	0%	47%	53%	48%	52%	0%	
	PEAK HR FACTOR		0.919			0.000			0.936			0.740		0.870
	APP/DEPART	364	/	0	0	/	475	479	/	383	459	/	444	0

U-TURNS

NB	SB	EB	WB	TTL
X	X	X	X	
				0
				0
				0
				0
1				1
				0
				0
				0
1	0	0	0	1
				0
				0
			1	1
				0
				0
		1		1
				0
				0
0	0	1	1	2



		PEDESTRIAN CROSSINGS					PEDESTRIAN ACTIVATIONS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM		1	2		3					0					0
	7:15 AM		3	3		6					0					0
	7:30 AM					0					0					0
	7:45 AM		2	1		3					0					0
	8:00 AM					0					0					0
	8:15 AM					0					0					0
	8:30 AM					0					0					0
	8:45 AM					0					0					0
	TOTAL	0	6	6	0	12	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM			1		1					0					0
	4:15 PM					0					0					0
	4:30 PM		1	9		10					0					0
	4:45 PM			3		3					0					0
	5:00 PM		1	2		3					0					0
	5:15 PM					0					0					0
	5:30 PM		1	2		3					0					0
	5:45 PM			1		1					0					0
	TOTAL	0	3	18	0	21	0	0	0	0	0	0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: ELITE TRAFFIC DYNAMICS, LLC

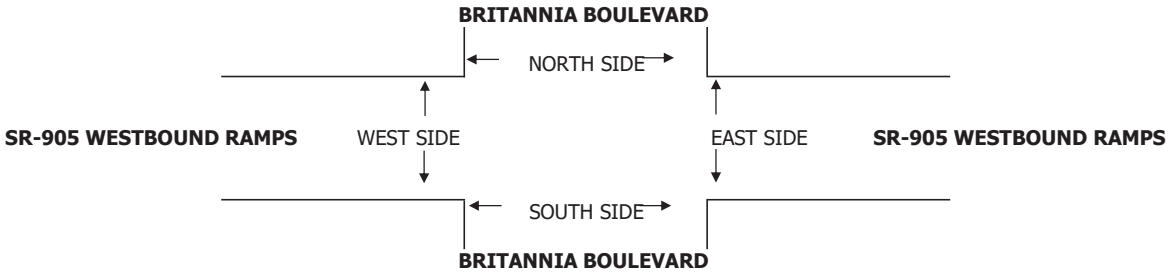
DATE:					
3/13/24	LOCATION:	OTAY MESA	PROJECT #:	ETD24-0315-01	
WEDNESDAY	NORTH & SOUTH:	BRITANNIA BOULEVARD	LOCATION #:	4	
	EAST & WEST:	SR-905 WESTBOUND RAMPS	CONTROL:	SIGNAL	

NOTES:

INCLUDES BIKE & PED

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND BRITANNIA BOULEVARD			SOUTHBOUND BRITANNIA BOULEVARD			EASTBOUND SR-905 WESTBOUND RAMPS			WESTBOUND SR-905 WESTBOUND RAMPS				U-TURNS				
	LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB X	SB X	EB X	WB X	TTL
AM	7:00 AM	87	52			31	13				44	1	23	251					0
	7:15 AM	62	74			36	19				53	0	33	277					0
	7:30 AM	76	73			46	15				54	0	20	284	1				1
	7:45 AM	84	101			49	14				66	0	26	340					0
	8:00 AM	81	73			46	20				66	0	40	326					0
	8:15 AM	73	57			35	9				55	0	30	259					0
	8:30 AM	77	56			64	11				61	1	17	287					0
	8:45 AM	83	58			48	13				78	0	32	312					0
	VOLUMES	623	544	0	0	355	114	0	0	0	477	2	221	2,336	1	0	0	0	1
	APPROACH %	53%	47%	0%	0%	76%	24%	0%	0%	0%	68%	0%	32%						
	APP/DEPART	1,167	/	765	469	/	832	0	/	0	700	/	739	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	303	321	0	0	177	68	0	0	0	239	0	119	1,227					
	APPROACH %	49%	51%	0%	0%	72%	28%	0%	0%	0%	67%	0%	33%						
	PEAK HR FACTOR		0.843			0.928			0.000			0.844		0.902					
	APP/DEPART	624	/	440	245	/	416	0	/	0	358	/	371	0					
PM	4:00 PM	163	89			80	47				54	0	35	468					0
	4:15 PM	159	66			58	35				55	0	26	399					0
	4:30 PM	177	60			66	65				48	0	39	455					0
	4:45 PM	166	48			51	44				43	0	30	382					0
	5:00 PM	160	72			77	84				40	0	29	462					0
	5:15 PM	133	48			57	39				43	2	18	340					0
	5:30 PM	132	40			53	30				40	0	20	315					0
	5:45 PM	119	34			44	18				24	0	14	253					0
	VOLUMES	1,209	457	0	0	486	362	0	0	0	347	2	211	3,074	0	0	0	0	0
	APPROACH %	73%	27%	0%	0%	57%	43%	0%	0%	0%	62%	0%	38%						
	APP/DEPART	1,666	/	668	848	/	833	0	/	0	560	/	1,573	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	665	263	0	0	255	191	0	0	0	200	0	130	1,704					
	APPROACH %	72%	28%	0%	0%	57%	43%	0%	0%	0%	61%	0%	39%						
	PEAK HR FACTOR		0.921			0.851			0.000			0.927		0.910					
	APP/DEPART	928	/	393	446	/	455	0	/	0	330	/	856	0					



		PEDESTRIAN CROSSINGS					PEDESTRIAN ACTIVATIONS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM			3		3					0					0
	7:15 AM			3	1	4					0					0
	7:30 AM					0					0					0
	7:45 AM			3		3					0					0
	8:00 AM					0					0					0
	8:15 AM					0					0					0
	8:30 AM			2	1	3					0					0
	8:45 AM					0					0					0
	TOTAL	0	0	11	2	13	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM					0					0					0
	4:15 PM					0					0					0
	4:30 PM			1	1	2					0					0
	4:45 PM			3		3					0					0
	5:00 PM			2	1	3					0					0
	5:15 PM			1		1					0					0
	5:30 PM			1		1					0					0
	5:45 PM			1		1					0					0
	TOTAL	0	0	9	2	11	0	0	0	0	0	0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: ELITE TRAFFIC DYNAMICS, LLC

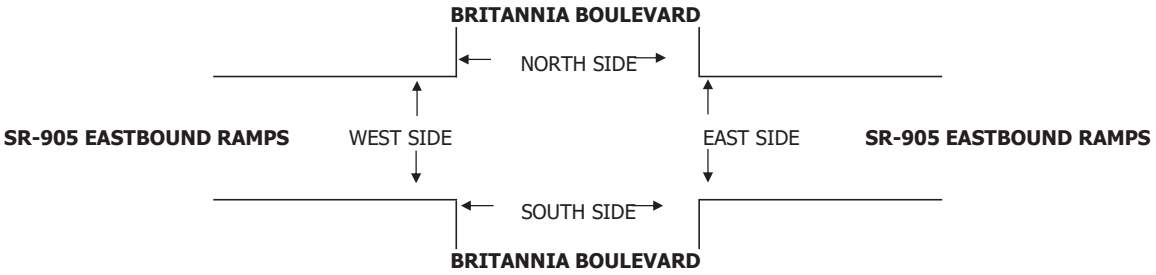
DATE:	LOCATION:	OTAY MESA	PROJECT #:	ETD24-0315-01
3/13/24	NORTH & SOUTH:	BRITANNIA BOULEVARD	LOCATION #:	5
WEDNESDAY	EAST & WEST:	SR-905 EASTBOUND RAMPS	CONTROL:	SIGNAL

NOTES:

INCLUDES BIKE & PED

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND BRITANNIA BOULEVARD			SOUTHBOUND BRITANNIA BOULEVARD			EASTBOUND SR-905 EASTBOUND RAMPS			WESTBOUND SR-905 EASTBOUND RAMPS				U-TURNS				
	LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB X	SB X	EB X	WB X	TTL
AM	7:00 AM		112	35	9	67		29	0	142				394					0
	7:15 AM		100	46	15	73		36	0	126				396					0
	7:30 AM		110	45	12	79		47	0	152				445					0
	7:45 AM		106	50	21	95		73	0	196				541					0
	8:00 AM		105	55	20	94		52	1	138				465					0
	8:15 AM		93	45	12	75		41	1	153				420					0
	8:30 AM		101	44	27	103		38	0	155				468					0
	8:45 AM		116	51	10	114		33	0	170				494					0
	VOLUMES	0	843	371	126	700	0	349	2	1,232	0	0	0	3,623	0	0	0	0	0
	APPROACH %	0%	69%	31%	15%	85%	0%	22%	0%	78%	0%	0%	0%						
	APP/DEPART	1,214	/	1,192	826	/	1,932	1,583	/	499	0	/	0	0					
	BEGIN PEAK HR		7:45 AM																
	VOLUMES	0	405	194	80	367	0	204	2	642	0	0	0	1,894					
	APPROACH %	0%	68%	32%	18%	82%	0%	24%	0%	76%	0%	0%	0%						
	PEAK HR FACTOR		0.936			0.860			0.788			0.000		0.875					
	APP/DEPART	599	/	609	447	/	1,009	848	/	276	0	/	0	0					
PM	4:00 PM		206	96	38	82		22	1	112				557					0
	4:15 PM		187	82	42	76		41	0	108				536					0
	4:30 PM		203	78	37	66		21	0	108				513					0
	4:45 PM		203	76	39	68		21	0	100				507					0
	5:00 PM		201	80	40	84		28	0	87				520					0
	5:15 PM		179	91	34	61		14	0	73				452					0
	5:30 PM		156	70	44	47		13	0	96				426					0
	5:45 PM		138	52	19	52		20	1	80				362					0
	VOLUMES	0	1,473	625	293	536	0	180	2	764	0	0	0	3,873	0	0	0	0	0
	APPROACH %	0%	70%	30%	35%	65%	0%	19%	0%	81%	0%	0%	0%						
	APP/DEPART	2,098	/	1,653	829	/	1,300	946	/	920	0	/	0	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	0	799	332	156	292	0	105	1	428	0	0	0	2,113					
	APPROACH %	0%	71%	29%	35%	65%	0%	20%	0%	80%	0%	0%	0%						
	PEAK HR FACTOR		0.936			0.933			0.896			0.000		0.948					
	APP/DEPART	1,131	/	904	448	/	720	534	/	489	0	/	0	0					



		PEDESTRIAN CROSSINGS					PEDESTRIAN ACTIVATIONS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM			3		3					0					0
	7:15 AM			3	1	4					0					0
	7:30 AM			1		1					0					0
	7:45 AM			2		2					0					0
	8:00 AM					0					0					0
	8:15 AM					0					0					0
	8:30 AM					0					0					0
	8:45 AM			2	1	3					0					0
	TOTAL	0	0	11	2	13	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM					0					0					0
	4:15 PM					0					0					0
	4:30 PM			1	1	2					0					0
	4:45 PM			3	1	4					0					0
	5:00 PM			2		2					0			1		1
	5:15 PM			1		1					0					0
	5:30 PM			1		1					0					0
	5:45 PM			1		1					0					0
	TOTAL	0	0	9	2	11	0	0	0	0	0	0	0	1	0	1

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: ELITE TRAFFIC DYNAMICS, LLC

DATE:			
3/13/24	LOCATION:	OTAY MESA	PROJECT #: ETD24-0315-01
WEDNESDAY	NORTH & SOUTH:	BRITANNIA BOULEVARD	LOCATION #: 6
	EAST & WEST:	AIRWAY ROAD	CONTROL: SIGNAL

NOTES:

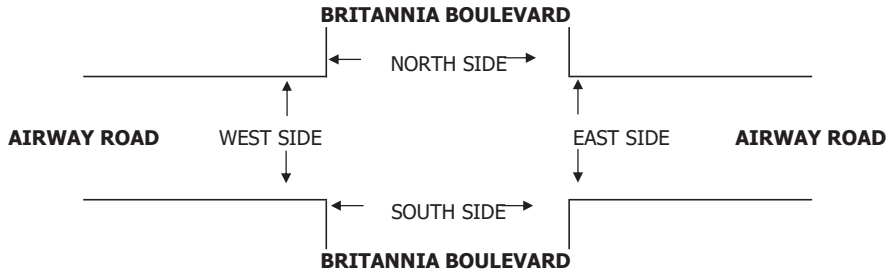
INCLUDES BIKE & PED

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND BRITANNIA BOULEVARD			SOUTHBOUND BRITANNIA BOULEVARD			EASTBOUND AIRWAY ROAD			WESTBOUND AIRWAY ROAD			
	LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
AM	7:00 AM	1	88	4	84	118	31	50	1	1	1	0	39	418
	7:15 AM	0	77	3	66	121	15	41	2	1	4	0	31	361
	7:30 AM	0	79	2	60	138	35	60	0	0	1	1	37	413
	7:45 AM	0	76	1	109	166	40	38	7	3	2	0	29	471
	8:00 AM	0	83	2	67	145	32	27	0	0	6	0	37	399
	8:15 AM	1	71	3	71	125	42	34	6	3	2	0	31	389
	8:30 AM	0	99	2	100	129	32	16	0	0	2	0	32	412
	8:45 AM	1	102	5	120	127	41	20	15	1	6	0	34	472
	VOLUMES	3	675	22	677	1,069	268	286	31	9	24	1	270	3,335
	APPROACH %	0%	96%	3%	34%	53%	13%	88%	10%	3%	8%	0%	92%	
	APP/DEPART	700	/	1,231	2,014	/	1,102	326	/	730	295	/	272	0
	BEGIN PEAK HR		8:00 AM											
	VOLUMES	2	355	12	358	526	147	97	21	4	16	0	134	1,672
	APPROACH %	1%	96%	3%	35%	51%	14%	80%	17%	3%	11%	0%	89%	
	PEAK HR FACTOR		0.854			0.818			0.508			0.872		0.886
	APP/DEPART	369	/	586	1,031	/	546	122	/	391	150	/	149	0
PM	4:00 PM	0	122	3	66	109	33	49	2	0	3	1	111	499
	4:15 PM	1	163	2	47	114	31	51	0	2	5	0	61	477
	4:30 PM	0	201	3	46	104	30	44	3	0	4	0	85	520
	4:45 PM	0	153	0	33	108	38	24	8	1	1	0	73	439
	5:00 PM	0	142	8	42	95	27	37	0	0	3	0	89	443
	5:15 PM	0	140	2	26	68	35	36	1	0	0	1	87	396
	5:30 PM	1	127	1	23	102	30	26	0	0	2	0	62	374
	5:45 PM	2	137	2	25	78	27	16	0	0	2	0	36	325
	VOLUMES	4	1,185	21	308	778	251	283	14	3	20	2	604	3,473
	APPROACH %	0%	98%	2%	23%	58%	19%	94%	5%	1%	3%	0%	96%	
	APP/DEPART	1,210	/	2,072	1,337	/	801	300	/	343	626	/	257	0
	BEGIN PEAK HR		4:00 PM											
	VOLUMES	1	639	8	192	435	132	168	13	3	13	1	330	1,935
	APPROACH %	0%	99%	1%	25%	57%	17%	91%	7%	2%	4%	0%	96%	
	PEAK HR FACTOR		0.794			0.912			0.868			0.748		0.930
	APP/DEPART	648	/	1,137	759	/	451	184	/	213	344	/	134	0

U-TURNS

	NB	SB	EB	WB	TTL
	X	X	X	X	
7:00 AM					0
7:15 AM					0
7:30 AM					0
7:45 AM					0
8:00 AM					0
8:15 AM					0
8:30 AM				1	1
8:45 AM					0
VOLUMES	0	0	0	1	1
4:00 PM				1	1
4:15 PM					0
4:30 PM					0
4:45 PM					0
5:00 PM					0
5:15 PM					0
5:30 PM					0
5:45 PM					0
VOLUMES	0	0	0	1	1



PEDESTRIAN CROSSINGS

	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
7:00 AM					0
7:15 AM					0
7:30 AM					0
7:45 AM					0
8:00 AM					0
8:15 AM					0
8:30 AM				1	1
8:45 AM					0
TOTAL	0	0	0	1	1
4:00 PM					0
4:15 PM					0
4:30 PM		1		1	2
4:45 PM			3		3
5:00 PM			1		1
5:15 PM			1		1
5:30 PM	2		2		4
5:45 PM					0
TOTAL	2	1	7	1	11

PEDESTRIAN ACTIVATIONS

	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
7:00 AM					0
7:15 AM					0
7:30 AM					0
7:45 AM					0
8:00 AM					0
8:15 AM					0
8:30 AM					0
8:45 AM					0
TOTAL	0	0	0	0	0
4:00 PM					0
4:15 PM					0
4:30 PM					0
4:45 PM					0
5:00 PM					0
5:15 PM					0
5:30 PM					0
5:45 PM					0
TOTAL	0	0	0	0	0

BICYCLE CROSSINGS

	NS	SS	ES	WS	TOTAL
7:00 AM					0
7:15 AM					0
7:30 AM					0
7:45 AM					0
8:00 AM					0
8:15 AM					0
8:30 AM					0
8:45 AM					0
TOTAL	0	0	0	0	0
4:00 PM					0
4:15 PM					0
4:30 PM					0
4:45 PM					0
5:00 PM			1		1
5:15 PM					0
5:30 PM					0
5:45 PM					0
TOTAL	0	0	1	0	1

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: ELITE TRAFFIC DYNAMICS, LLC

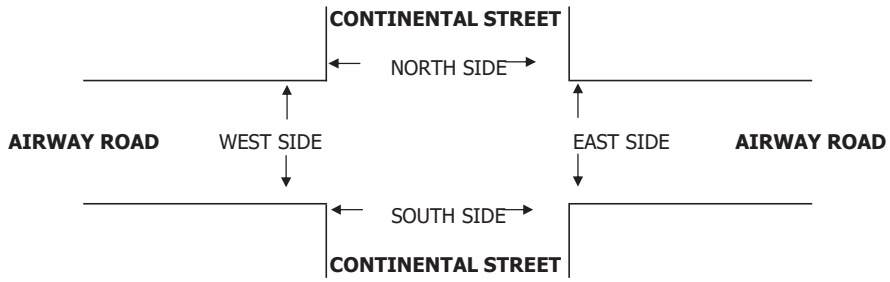
DATE:	LOCATION:	OTAY MESA	PROJECT #:	ETD24-0315-01
3/13/24	NORTH & SOUTH:	CONTINENTAL STREET	LOCATION #:	7
WEDNESDAY	EAST & WEST:	AIRWAY ROAD	CONTROL:	SIGNAL

NOTES:

INCLUDES BIKE & PED

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND CONTINENTAL STREET			SOUTHBOUND CONTINENTAL STREET			EASTBOUND AIRWAY ROAD			WESTBOUND AIRWAY ROAD				U-TURNS				
	LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB X	SB X	EB X	WB X	TTL
AM	7:00 AM				3		0	0	29			36	0	68					0
	7:15 AM				2		0	4	23			14	0	43					0
	7:30 AM				5		4	2	26			24	2	63					0
	7:45 AM				2		1	0	21			29	3	56					0
	8:00 AM				3		0	1	23			23	2	52					0
	8:15 AM				4		1	0	22			36	1	64					0
	8:30 AM				0		1	0	13			33	0	47					0
	8:45 AM				1		2	0	14			20	2	39					0
	VOLUMES	0	0	0	20	0	9	7	171	0	0	215	10	432	0	0	0	0	0
	APPROACH %	0%	0%	0%	69%	0%	31%	4%	96%	0%	0%	96%	4%						
	APP/DEPART	0	/	17	29	/	0	178	/	191	225	/	224	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	0	0	0	14	0	6	3	92	0	0	112	8	235					
	APPROACH %	0%	0%	0%	70%	0%	30%	3%	97%	0%	0%	93%	7%						
	PEAK HR FACTOR		0.000			0.556			0.848			0.811		0.918					
	APP/DEPART	0	/	11	20	/	0	95	/	106	120	/	118	0					
PM	4:00 PM				2		0	0	47			20	5	74					0
	4:15 PM				4		1	0	28			24	2	59					0
	4:30 PM				1		0	0	40			23	1	65					0
	4:45 PM				2		0	0	27			30	4	63					0
	5:00 PM				1		0	0	34			19	3	57					0
	5:15 PM				3		0	0	31			24	8	66					0
	5:30 PM				3		1	0	18			21	2	45					0
	5:45 PM				0		0	0	14			21	1	36					0
	VOLUMES	0	0	0	16	0	2	0	239	0	0	182	26	465	0	0	0	0	0
	APPROACH %	0%	0%	0%	89%	0%	11%	0%	100%	0%	0%	88%	13%						
	APP/DEPART	0	/	26	18	/	0	239	/	255	208	/	184	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	0	0	0	9	0	1	0	142	0	0	97	12	261					
	APPROACH %	0%	0%	0%	90%	0%	10%	0%	100%	0%	0%	89%	11%						
	PEAK HR FACTOR		0.000			0.500			0.755			0.801		0.882					
	APP/DEPART	0	/	12	10	/	0	142	/	151	109	/	98	0					



		PEDESTRIAN CROSSINGS					PEDESTRIAN ACTIVATIONS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM					0					0					0
	7:15 AM					0					0					0
	7:30 AM					0					0					0
	7:45 AM					0					0					0
	8:00 AM					0	1				1					0
	8:15 AM					0					0					0
	8:30 AM					0					0					0
	8:45 AM					0					0					0
	TOTAL	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0
PM	4:00 PM	1				1					0					0
	4:15 PM					0					0					0
	4:30 PM					0					0					0
	4:45 PM					0					0					0
	5:00 PM					0					0					0
	5:15 PM					0					0					0
	5:30 PM					0					0					0
	5:45 PM					0	1				1					0
	TOTAL	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: ELITE TRAFFIC DYNAMICS, LLC

DATE:			
3/13/24	LOCATION:	OTAY MESA	PROJECT #: ETD24-0315-01
WEDNESDAY	NORTH & SOUTH:	CACTUS ROAD	LOCATION #: 8
	EAST & WEST:	AIRWAY ROAD	CONTROL: SIGNAL

NOTES:

INCLUDES BIKE & PED

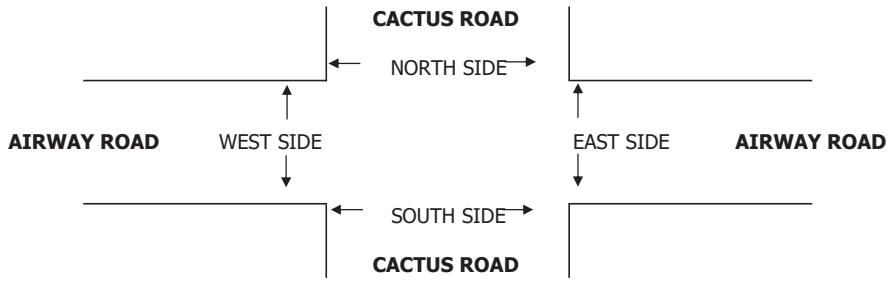
AM / PM / MD / OTHER / OTHER

N ▲ S ▼ E ► ◄ W

		NORTHBOUND CACTUS ROAD			SOUTHBOUND CACTUS ROAD			EASTBOUND AIRWAY ROAD			WESTBOUND AIRWAY ROAD			
	LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
AM	7:00 AM	0	0	29	1	0	0	0	0	0	35	0	1	66
	7:15 AM	0	0	20	3	0	0	0	3	0	17	0	0	43
	7:30 AM	0	0	26	3	0	0	0	0	0	26	0	1	56
	7:45 AM	0	0	18	3	0	0	0	0	0	28	1	0	50
	8:00 AM	1	0	23	0	0	0	0	1	0	21	0	2	48
	8:15 AM	1	0	7	4	0	0	0	0	1	34	0	4	51
	8:30 AM	1	0	15	0	0	0	0	1	1	32	0	2	52
	8:45 AM	0	0	8	3	0	0	0	0	0	18	1	4	34
	VOLUMES	3	0	146	17	0	0	0	5	2	211	2	14	400
	APPROACH %	2%	0%	98%	100%	0%	0%	0%	71%	29%	93%	1%	6%	
	APP/DEPART	149	/	14	17	/	213	7	/	168	227	/	5	0
	BEGIN PEAK HR		7:00 AM											
	VOLUMES	0	0	93	10	0	0	0	3	0	106	1	2	215
	APPROACH %	0%	0%	100%	100%	0%	0%	0%	100%	0%	97%	1%	2%	
	PEAK HR FACTOR		0.802			0.833			0.250			0.757		0.814
	APP/DEPART	93	/	2	10	/	106	3	/	106	109	/	1	0
PM	4:00 PM	0	0	46	2	0	0	0	0	0	16	0	4	68
	4:15 PM	0	0	23	3	0	0	0	1	0	23	0	2	52
	4:30 PM	0	0	40	2	0	0	0	0	0	22	0	2	66
	4:45 PM	0	0	25	1	0	0	0	0	0	25	0	4	55
	5:00 PM	0	1	33	2	0	0	0	0	0	18	0	1	55
	5:15 PM	0	0	26	5	0	0	0	0	0	22	0	1	54
	5:30 PM	0	0	17	0	0	0	0	0	0	19	1	3	40
	5:45 PM	0	0	10	3	0	0	0	0	0	17	0	4	34
	VOLUMES	0	1	220	18	0	0	0	1	0	162	1	21	424
	APPROACH %	0%	0%	100%	100%	0%	0%	0%	100%	0%	88%	1%	11%	
	APP/DEPART	221	/	22	18	/	162	1	/	239	184	/	1	0
	BEGIN PEAK HR		4:00 PM											
	VOLUMES	0	0	134	8	0	0	0	1	0	86	0	12	241
	APPROACH %	0%	0%	100%	100%	0%	0%	0%	100%	0%	88%	0%	12%	
	PEAK HR FACTOR		0.728			0.667			0.250			0.845		0.886
	APP/DEPART	134	/	12	8	/	86	1	/	143	98	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
X	X	X	X	
0	0	0	0	0



		PEDESTRIAN CROSSINGS					PEDESTRIAN ACTIVATIONS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM					0					0					0
	7:15 AM					0					0					0
	7:30 AM					0					0					0
	7:45 AM					0					0					0
	8:00 AM					0					0					0
	8:15 AM					0					0					0
	8:30 AM					0					0					0
	8:45 AM					0					0					0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	1			1	2					0					0
	4:15 PM					0					0					0
	4:30 PM					0					0					0
	4:45 PM					0					0					0
	5:00 PM					0					0					0
	5:15 PM					0					0					0
	5:30 PM					0					0					0
	5:45 PM					0					0					0
	TOTAL	1	0	0	1	2	0	0	0	0	0	0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: ELITE TRAFFIC DYNAMICS, LLC

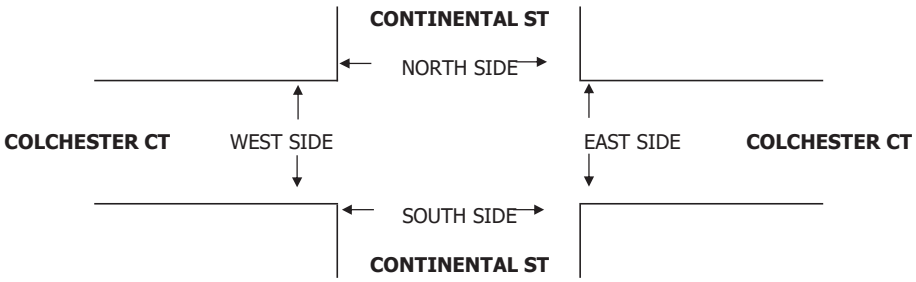
DATE:	LOCATION:	OTAY MESA	PROJECT #:	ETD24-0517-01
5/14/24	NORTH & SOUTH:	CONTINENTAL ST	LOCATION #:	1
TUESDAY	EAST & WEST:	COLCHESTER CT	CONTROL:	NONE

NOTES:

INCLUDES BIKE & PED

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

	NORTHBOUND CONTINENTAL ST			SOUTHBOUND CONTINENTAL ST			EASTBOUND COLCHESTER CT			WESTBOUND COLCHESTER CT				U-TURNS				
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB X	SB X	EB X	WB X	TTL
AM 7:00 AM		0	2	0	0					2		0	4					0
7:15 AM		1	3	0	0					4		0	8					0
7:30 AM		4	1	0	3					2		0	10					0
7:45 AM		3	4	0	2					3		0	12					0
8:00 AM		1	3	0	2					1		1	8					0
8:15 AM		0	3	1	2					2		0	8					0
8:30 AM		1	0	0	1					4		0	6					0
8:45 AM		0	0	0	0					0		0	0					0
VOLUMES	0	10	16	1	10	0	0	0	0	18	0	1	56	0	0	0	0	0
APPROACH %	0%	38%	62%	9%	91%	0%	0%	0%	0%	95%	0%	5%						
APP/DEPART	26	/	11	11	/	28	0	/	17	19	/	0	0					
BEGIN PEAK HR		7:30 AM																
VOLUMES	0	8	11	1	9	0	0	0	0	8	0	1	38					
APPROACH %	0%	42%	58%	10%	90%	0%	0%	0%	0%	89%	0%	11%						
PEAK HR FACTOR		0.679			0.833			0.000			0.563		0.792					
APP/DEPART	19	/	9	10	/	17	0	/	12	9	/	0	0					
PM 4:00 PM			1							0			1					0
4:15 PM			1							1			2					0
4:30 PM			3							1			4					0
4:45 PM			3							0			3					0
5:00 PM			1							2			3					0
5:15 PM			4							2			6					0
5:30 PM			0							1			1					0
5:45 PM			2							0			2					0
VOLUMES	0	0	15	0	0	0	0	0	0	7	0	0	22	0	0	0	0	0
APPROACH %	0%	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	0%						
APP/DEPART	15	/	0	0	/	7	0	/	15	7	/	0	0					
BEGIN PEAK HR		4:30 PM																
VOLUMES	0	0	11	0	0	0	0	0	0	5	0	0	16					
APPROACH %	0%	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	0%						
PEAK HR FACTOR		0.688			0.000			0.000			0.625		0.667					
APP/DEPART	11	/	0	0	/	5	0	/	11	5	/	0	0					



	PEDESTRIAN CROSSINGS					PEDESTRIAN ACTIVATIONS					BICYCLE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM 7:00 AM					0					0					0
7:15 AM			1		1					0					0
7:30 AM					0					0					0
7:45 AM					0					0					0
8:00 AM					0					0					0
8:15 AM					0					0					0
8:30 AM					0					0					0
8:45 AM					0					0					0
TOTAL	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
PM 4:00 PM					0					0					0
4:15 PM					0					0					0
4:30 PM					0					0					0
4:45 PM					0					0					0
5:00 PM					0					0					0
5:15 PM			1		1					0					0
5:30 PM					0					0					0
5:45 PM			1		1					0					0
TOTAL	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0

WEDNESDAY - MARCH 13, 2024 AREA: OTAY MESA PROJECT: ETD24-0315-01

OTAY MESA ROAD, WEST OF CACTUS ROAD

AM	NB	SB	EB		WB			PM	NB	SB	EB		WB		
00:00			13		7			12:00			140		110		
00:15			6		5			12:15			104		108		
00:30			12		9			12:30			121		117		
00:45			4	35	4	25	60	12:45			113	478	133	468	946
01:00			5		6			13:00			148		103		
01:15			6		7			13:15			115		141		
01:30			6		8			13:30			126		131		
01:45			6	23	15	36	59	13:45			129	518	104	479	997
02:00			6		10			14:00			152		141		
02:15			8		3			14:15			120		109		
02:30			12		12			14:30			118		146		
02:45			7	33	8	33	66	14:45			140	530	153	549	1079
03:00			9		5			15:00			105		102		
03:15			13		10			15:15			107		124		
03:30			6		16			15:30			133		130		
03:45			16	44	8	39	83	15:45			130	475	137	493	968
04:00			12		12			16:00			119		108		
04:15			14		6			16:15			104		101		
04:30			28		24			16:30			117		113		
04:45			32	86	24	66	152	16:45			103	443	99	421	864
05:00			29		43			17:00			120		108		
05:15			25		34			17:15			82		109		
05:30			49		45			17:30			70		80		
05:45			58	161	32	154	315	17:45			44	316	74	371	687
06:00			45		39			18:00			58		72		
06:15			47		35			18:15			54		43		
06:30			48		63			18:30			51		64		
06:45			81	221	42	179	400	18:45			32	195	51	230	425
07:00			68		50			19:00			39		59		
07:15			63		74			19:15			48		42		
07:30			76		59			19:30			48		50		
07:45			82	289	58	241	530	19:45			32	167	50	201	368
08:00			80		73			20:00			36		23		
08:15			82		65			20:15			30		32		
08:30			94		70			20:30			25		27		
08:45			81	337	63	271	608	20:45			33	124	25	107	231
09:00			81		103			21:00			14		32		
09:15			91		69			21:15			22		26		
09:30			103		91			21:30			27		32		
09:45			87	362	91	354	716	21:45			30	93	34	124	217
10:00			88		103			22:00			32		29		
10:15			90		90			22:15			21		16		
10:30			94		99			22:30			14		18		
10:45			113	385	104	396	781	22:45			18	85	12	75	160
11:00			90		111			23:00			16		17		
11:15			94		102			23:15			8		14		
11:30			93		108			23:30			14		12		
11:45			82	359	118	439	798	23:45			14	52	10	53	105
Total Vol.				2335		2233	**4568**					3476		3571	**7047**

Daily Totals

NB	SB	EB	WB	Combined
		5811	5804	**11615**

	AM			PM		
Split %	51.1%	48.9%	**39.3%**	49.3%	50.7%	**60.7%**
Peak Hour	11:45	11:45	**11:45**	14:00	14:00	**14:00**
Volume	447	453	**900**	530	549	**1079**
P.H.F.	0.80	0.96	**0.90**	0.87	0.90	**0.92**

PREPARED BY: ELITE TRAFFIC DYNAMICS, LLC

WEDNESDAY - MARCH 13, 2024 AREA: OTAY MESA PROJECT: ETD24-0315-01

OTAY MESA ROAD, BETWEEN CACTUS ROAD AND CONTINENTAL STREET

AM	NB	SB	EB		WB			PM	NB	SB	EB		WB		
00:00			14		8			12:00			143		114		
00:15			4		4			12:15			124		112		
00:30			8		8			12:30			143		128		
00:45			6	32	7	27	59	12:45			111	521	126	480	1001
01:00			9		6			13:00			147		118		
01:15			5		14			13:15			110		123		
01:30			13		10			13:30			123		140		
01:45			5	32	13	43	75	13:45			132	512	103	484	996
02:00			3		8			14:00			152		142		
02:15			9		9			14:15			133		108		
02:30			19		13			14:30			123		144		
02:45			9	40	9	39	79	14:45			142	550	154	548	1098
03:00			4		5			15:00			118		114		
03:15			10		13			15:15			124		136		
03:30			11		17			15:30			141		126		
03:45			16	41	6	41	82	15:45			131	514	139	515	1029
04:00			10		16			16:00			134		115		
04:15			17		13			16:15			120		97		
04:30			26		31			16:30			126		121		
04:45			25	78	34	94	172	16:45			111	491	90	423	914
05:00			28		37			17:00			127		118		
05:15			24		47			17:15			91		100		
05:30			38		47			17:30			84		88		
05:45			55	145	36	167	312	17:45			61	363	69	375	738
06:00			49		31			18:00			70		86		
06:15			49		54			18:15			67		60		
06:30			59		69			18:30			52		48		
06:45			83	240	52	206	446	18:45			34	223	60	254	477
07:00			78		54			19:00			50		56		
07:15			80		92			19:15			57		38		
07:30			85		62			19:30			42		45		
07:45			89	332	71	279	611	19:45			34	183	41	180	363
08:00			77		89			20:00			29		20		
08:15			76		74			20:15			30		28		
08:30			92		68			20:30			37		30		
08:45			83	328	79	310	638	20:45			32	128	28	106	234
09:00			84		120			21:00			20		34		
09:15			96		96			21:15			26		33		
09:30			120		93			21:30			30		27		
09:45			84	384	121	430	814	21:45			25	101	34	128	229
10:00			110		108			22:00			28		29		
10:15			94		111			22:15			26		23		
10:30			103		102			22:30			19		15		
10:45			105	412	114	435	847	22:45			21	94	14	81	175
11:00			86		121			23:00			13		13		
11:15			109		98			23:15			9		14		
11:30			95		135			23:30			13		14		
11:45			96	386	127	481	867	23:45			19	54	11	52	106
Total Vol.				2450		2552	**5002**					3734		3626	**7360**

Daily Totals

NB	SB	EB	WB	Combined
		6184	6178	**12362**

	AM			PM		
Split %	49.0%	51.0%	**40.5%**	50.7%	49.3%	**59.5%**
Peak Hour	11:45	11:30	**11:45**	14:00	14:00	**14:00**
Volume	506	488	**987**	550	548	**1098**
P.H.F.	0.88	0.90	**0.91**	0.90	0.89	**0.93**

PREPARED BY: ELITE TRAFFIC DYNAMICS, LLC

WEDNESDAY - MARCH 13, 2024 AREA: OTAY MESA PROJECT: ETD24-0315-01

OTAY MESA ROAD, BETWEEN CONTINENTAL STREET AND BRITTANIA BOULEVARD

AM	NB	SB	EB		WB			PM	NB	SB	EB		WB		
00:00			17		11			12:00			147		123		
00:15			5		3			12:15			126		126		
00:30			9		9			12:30			146		143		
00:45			6	37	8	31	68	12:45			109	528	133	525	1053
01:00			7		7			13:00			153		137		
01:15			8		13			13:15			119		140		
01:30			12		13			13:30			137		157		
01:45			6	33	11	44	77	13:45			130	539	117	551	1090
02:00			3		8			14:00			176		154		
02:15			8		9			14:15			138		126		
02:30			21		14			14:30			129		154		
02:45			9	41	10	41	82	14:45			145	588	161	595	1183
03:00			5		7			15:00			130		122		
03:15			14		15			15:15			136		142		
03:30			11		19			15:30			146		137		
03:45			15	45	7	48	93	15:45			150	562	153	554	1116
04:00			10		16			16:00			139		136		
04:15			17		18			16:15			122		105		
04:30			26		33			16:30			135		126		
04:45			23	76	47	114	190	16:45			114	510	109	476	986
05:00			30		52			17:00			125		135		
05:15			30		56			17:15			102		101		
05:30			44		59			17:30			78		88		
05:45			64	168	44	211	379	17:45			67	372	77	401	773
06:00			56		41			18:00			76		93		
06:15			53		61			18:15			66		71		
06:30			62		71			18:30			56		48		
06:45			89	260	65	238	498	18:45			34	232	70	282	514
07:00			82		61			19:00			58		63		
07:15			82		103			19:15			59		46		
07:30			91		68			19:30			49		52		
07:45			96	351	82	314	665	19:45			48	214	38	199	413
08:00			91		109			20:00			32		29		
08:15			78		81			20:15			33		36		
08:30			103		72			20:30			37		33		
08:45			90	362	93	355	717	20:45			38	140	32	130	270
09:00			85		122			21:00			25		39		
09:15			101		104			21:15			28		39		
09:30			130		107			21:30			33		29		
09:45			87	403	127	460	863	21:45			27	113	35	142	255
10:00			121		121			22:00			30		32		
10:15			108		116			22:15			24		24		
10:30			106		110			22:30			21		15		
10:45			114	449	121	468	917	22:45			26	101	14	85	186
11:00			93		130			23:00			15		13		
11:15			116		115			23:15			10		14		
11:30			109		154			23:30			15		15		
11:45			107	425	134	533	958	23:45			18	58	10	52	110
Total Vol.			2650		2857		**5507**				3957		3992		**7949**

Daily Totals

NB	SB	EB	WB	Combined
		6607	6849	**13456**

	AM			PM		
Split %	48.1%	51.9%	**40.9%**	49.8%	50.2%	**59.1%**
Peak Hour	11:45	11:30	**11:45**	14:00	14:00	**14:00**
Volume	526	537	**1052**	588	595	**1183**
P.H.F.	0.89	0.87	**0.91**	0.84	0.92	**0.90**

PREPARED BY: ELITE TRAFFIC DYNAMICS, LLC

WEDNESDAY - MARCH 13, 2024 AREA: OTAY MESA PROJECT: ETD24-0315-01

OTAY MESA ROAD, EAST OF BRITTANIA BOULEVARD

AM	NB	SB	EB		WB			PM	NB	SB	EB		WB		
00:00			14		8			12:00			120		118		
00:15			10		6			12:15			114		103		
00:30			7		9			12:30			126		106		
00:45			5	36	5	28	64	12:45			128	488	109	436	924
01:00			7		7			13:00			130		110		
01:15			19		8			13:15			106		109		
01:30			11		9			13:30			125		94		
01:45			12	49	11	35	84	13:45			136	497	103	416	913
02:00			15		14			14:00			152		103		
02:15			9		14			14:15			108		102		
02:30			25		22			14:30			120		122		
02:45			11	60	12	62	122	14:45			114	494	132	459	953
03:00			18		6			15:00			99		116		
03:15			21		19			15:15			89		109		
03:30			17		15			15:30			88		132		
03:45			39	95	10	50	145	15:45			95	371	106	463	834
04:00			28		11			16:00			107		115		
04:15			35		16			16:15			103		91		
04:30			34		21			16:30			116		134		
04:45			53	150	25	73	223	16:45			92	418	102	442	860
05:00			45		26			17:00			91		165		
05:15			39		21			17:15			97		88		
05:30			76		31			17:30			60		84		
05:45			72	232	28	106	338	17:45			59	307	83	420	727
06:00			50		30			18:00			77		97		
06:15			75		39			18:15			58		66		
06:30			86		47			18:30			57		52		
06:45			119	330	51	167	497	18:45			46	238	61	276	514
07:00			102		35			19:00			47		42		
07:15			108		63			19:15			31		32		
07:30			111		54			19:30			52		26		
07:45			137	458	53	205	663	19:45			24	154	31	131	285
08:00			111		77			20:00			30		19		
08:15			91		66			20:15			29		21		
08:30			108		78			20:30			18		22		
08:45			99	409	76	297	706	20:45			17	94	20	82	176
09:00			87		100			21:00			21		11		
09:15			96		89			21:15			17		13		
09:30			125		73			21:30			25		14		
09:45			112	420	87	349	769	21:45			25	88	22	60	148
10:00			108		97			22:00			20		19		
10:15			100		90			22:15			16		15		
10:30			116		98			22:30			14		13		
10:45			121	445	105	390	835	22:45			25	75	9	56	131
11:00			111		96			23:00			14		12		
11:15			102		86			23:15			16		14		
11:30			117		99			23:30			8		9		
11:45			110	440	127	408	848	23:45			22	60	5	40	100
Total Vol.				3124		2170	**5294**					3284		3281	**6565**

Daily Totals

NB	SB	EB	WB	Combined
		6408	5451	**11859**

	AM			PM		
Split %	59.0%	41.0%	**44.6%**	50.0%	50.0%	**55.4%**
Peak Hour	11:45	11:45	**11:45**	13:30	16:15	**14:00**
Volume	470	454	**924**	521	492	**953**
P.H.F.	0.93	0.89	**0.97**	0.86	0.75	**0.93**

PREPARED BY: ELITE TRAFFIC DYNAMICS, LLC

WEDNESDAY - MARCH 13, 2024 AREA: OTAY MESA PROJECT: ETD24-0315-01

BRITANNIA BOULEVARD, BETWEEN OTAY MESA ROAD AND SR-905 WESTBOUND RAMPS

AM	NB		SB		EB	WB		PM	NB		SB		EB	WB	
00:00	15		10					12:00	117		133				
00:15	6		9					12:15	105		102				
00:30	8		9					12:30	120		114				
00:45	9	38	7	35			73	12:45	140	482	117	466			948
01:00	8		11					13:00	123		114				
01:15	22		7					13:15	113		97				
01:30	16		14					13:30	143		105				
01:45	13	59	7	39			98	13:45	123	502	102	418			920
02:00	15		9					14:00	130		105				
02:15	10		18					14:15	113		98				
02:30	18		22					14:30	132		128				
02:45	13	56	15	64			120	14:45	113	488	125	456			944
03:00	23		8					15:00	99		112				
03:15	18		19					15:15	105		117				
03:30	23		15					15:30	109		155				
03:45	28	92	7	49			141	15:45	125	438	135	519			957
04:00	31		12					16:00	106		116				
04:15	36		10					16:15	98		111				
04:30	40		27					16:30	99		125				
04:45	66	173	22	71			244	16:45	82	385	105	457			842
05:00	61		23					17:00	103		149				
05:15	77		28					17:15	75		94				
05:30	83		32					17:30	61		76				
05:45	73	294	56	139			433	17:45	48	287	72	391			678
06:00	50		58					18:00	89		82				
06:15	76		37					18:15	56		67				
06:30	85		36					18:30	43		52				
06:45	99	310	63	194			504	18:45	67	255	48	249			504
07:00	84		45					19:00	55		48				
07:15	120		59					19:15	40		53				
07:30	97		61					19:30	60		39				
07:45	124	425	65	230			655	19:45	23	178	46	186			364
08:00	116		63					20:00	34		27				
08:15	85		49					20:15	38		28				
08:30	78		85					20:30	22		28				
08:45	88	367	69	266			633	20:45	25	119	32	115			234
09:00	103		70					21:00	42		19				
09:15	104		87					21:15	40		29				
09:30	128		86					21:30	35		25				
09:45	134	469	78	321			790	21:45	29	146	24	97			243
10:00	113		93					22:00	31		28				
10:15	109		83					22:15	23		24				
10:30	119		103					22:30	17		23				
10:45	131	472	97	376			848	22:45	22	93	18	93			186
11:00	138		92					23:00	10		12				
11:15	108		84					23:15	20		12				
11:30	136		77					23:30	10		13				
11:45	115	497	107	360			857	23:45	18	58	12	49			107
Total Vol.		3252		2144			**5396**			3431		3496			**6927**

Daily Totals

NB	SB	EB	WB	**Combined**
6683	5640			**12323**

	AM			PM		
Split %	60.3%	39.7%	**43.8%**	49.5%	50.5%	**56.2%**
Peak Hour	10:45	11:45	**11:45**	12:45	15:15	**15:15**
Volume	513	456	**913**	519	523	**968**
P.H.F.	0.93	0.86	**0.91**	0.87	0.84	**0.92**

PREPARED BY: ELITE TRAFFIC DYNAMICS, LLC

WEDNESDAY - MARCH 13, 2024 AREA: OTAY MESA PROJECT: ETD24-0315-01

BRITANNIA BOULEVARD, BETWEEN SR-905 WESTBOUND RAMPS AND SR-905 EASTBOUND RAMPS

AM	NB		SB		EB	WB		PM	NB		SB		EB	WB	
00:00	73		17					12:00	182		160				
00:15	46		16					12:15	177		154				
00:30	62		13					12:30	224		152				
00:45	52	233	11	57			290	12:45	225	808	153	619			1427
01:00	61		14					13:00	209		160				
01:15	60		13					13:15	255		144				
01:30	43		21					13:30	240		167				
01:45	26	190	13	61			251	13:45	266	970	166	637			1607
02:00	31		13					14:00	258		138				
02:15	32		18					14:15	218		144				
02:30	30		22					14:30	255		144				
02:45	35	128	17	70			198	14:45	231	962	177	603			1565
03:00	31		20					15:00	217		149				
03:15	33		15					15:15	205		143				
03:30	32		26					15:30	262		157				
03:45	49	145	16	77			222	15:45	234	918	138	587			1505
04:00	52		25					16:00	242		126				
04:15	51		25					16:15	230		125				
04:30	71		37					16:30	220		108				
04:45	78	252	46	133			385	16:45	226	918	105	464			1382
05:00	94		32					17:00	228		126				
05:15	89		35					17:15	205		103				
05:30	107		56					17:30	172		99				
05:45	117	407	75	198			605	17:45	155	760	75	403			1163
06:00	128		66					18:00	172		71				
06:15	114		96					18:15	152		57				
06:30	142		80					18:30	126		57				
06:45	160	544	99	341			885	18:45	137	587	45	230			817
07:00	153		79					19:00	110		49				
07:15	137		96					19:15	76		61				
07:30	155		100					19:30	133		65				
07:45	192	637	119	394			1031	19:45	100	419	43	218			637
08:00	163		114					20:00	97		39				
08:15	136		96					20:15	99		44				
08:30	144		131					20:30	64		32				
08:45	155	598	135	476			1074	20:45	74	334	35	150			484
09:00	145		139					21:00	79		30				
09:15	175		148					21:15	78		48				
09:30	171		161					21:30	85		32				
09:45	210	701	137	585			1286	21:45	82	324	38	148			472
10:00	229		136					22:00	107		31				
10:15	215		147					22:15	77		27				
10:30	213		169					22:30	81		34				
10:45	213	870	178	630			1500	22:45	97	362	36	128			490
11:00	205		123					23:00	69		21				
11:15	220		162					23:15	77		33				
11:30	216		140					23:30	56		20				
11:45	190	831	147	572			1403	23:45	62	264	14	88			352
Total Vol.		5536		3594			**9130**			7626		4275			**11901**

Daily Totals

NB	SB	EB	WB	**Combined**
13162	7869			**21031**

	AM			PM		
Split %	60.6%	39.4%	**43.4%**	64.1%	35.9%	**56.6%**
Peak Hour	10:00	10:30	**10:00**	13:15	13:00	**13:15**
Volume	870	632	**1500**	1019	637	**1634**
P.H.F.	0.95	0.89	**0.96**	0.97	0.95	**0.95**

PREPARED BY: ELITE TRAFFIC DYNAMICS, LLC

WEDNESDAY - MARCH 13, 2024 AREA: OTAY MESA PROJECT: ETD24-0315-01

BRITANNIA BOULEVARD, BETWEEN SR-905 EASTBOUND RAMPS AND AIRWAY ROAD

AM	NB		SB		EB	WB		PM	NB		SB		EB	WB	
00:00	74		54					12:00	251		252				
00:15	42		62					12:15	253		248				
00:30	68		44					12:30	244		235				
00:45	68	252	44	204			456	12:45	254	1002	259	994			1996
01:00	76		30					13:00	241		245				
01:15	65		44					13:15	282		251				
01:30	73		42					13:30	282		267				
01:45	43	257	38	154			411	13:45	287	1092	251	1014			2106
02:00	43		44					14:00	287		251				
02:15	43		56					14:15	266		246				
02:30	31		57					14:30	287		241				
02:45	48	165	61	218			383	14:45	300	1140	234	972			2112
03:00	30		60					15:00	279		239				
03:15	38		45					15:15	261		190				
03:30	24		62					15:30	353		197				
03:45	39	131	64	231			362	15:45	268	1161	212	838			1999
04:00	45		60					16:00	310		197				
04:15	51		71					16:15	266		197				
04:30	58		102					16:30	324		197				
04:45	50	204	152	385			589	16:45	272	1172	180	771			1943
05:00	79		118					17:00	285		169				
05:15	71		132					17:15	280		129				
05:30	92		190					17:30	207		154				
05:45	95	337	229	669			1006	17:45	181	953	140	592			1545
06:00	122		167					18:00	176		135				
06:15	118		214					18:15	178		130				
06:30	125		253					18:30	145		140				
06:45	110	475	298	932			1407	18:45	138	637	144	549			1186
07:00	162		226					19:00	113		107				
07:15	136		207					19:15	92		98				
07:30	164		242					19:30	132		98				
07:45	148	610	295	970			1580	19:45	104	441	74	377			818
08:00	162		229					20:00	94		77				
08:15	150		245					20:15	99		100				
08:30	164		271					20:30	60		76				
08:45	181	657	310	1055			1712	20:45	75	328	72	325			653
09:00	195		291					21:00	67		92				
09:15	191		282					21:15	73		108				
09:30	217		298					21:30	73		104				
09:45	263	866	254	1125			1991	21:45	88	301	115	419			720
10:00	237		249					22:00	104		92				
10:15	266		227					22:15	84		98				
10:30	280		259					22:30	80		104				
10:45	261	1044	258	993			2037	22:45	88	356	94	388			744
11:00	283		212					23:00	82		81				
11:15	251		240					23:15	77		84				
11:30	252		223					23:30	63		57				
11:45	237	1023	210	885			1908	23:45	52	274	44	266			540
Total Vol.		6021		7821			**13842**			8857		7505			**16362**

Daily Totals

NB	SB	EB	WB	**Combined**
14878	15326			**30204**

	AM			**PM**		
Split %	43.5%	56.5%	**45.8%**	54.1%	45.9%	**54.2%**
Peak Hour	10:15	08:45	**10:15**	15:30	12:45	**13:15**
Volume	1090	1181	**2046**	1197	1022	**2158**
P.H.F.	0.96	0.95	**0.95**	0.88	0.96	**0.98**

PREPARED BY: ELITE TRAFFIC DYNAMICS, LLC

WEDNESDAY - MARCH 13, 2024 AREA: OTAY MESA PROJECT: ETD24-0315-01

BRITANNIA BOULEVARD, SOUTH OF AIRWAY ROAD

AM	NB		SB		EB	WB		PM	NB		SB		EB	WB	
00:00	57		30					12:00	146		153				
00:15	24		41					12:15	157		171				
00:30	36		26					12:30	156		156				
00:45	31	148	24	121			269	12:45	171	630	159	639			1269
01:00	48		17					13:00	166		155				
01:15	36		25					13:15	173		144				
01:30	35		22					13:30	196		179				
01:45	21	140	13	77			217	13:45	208	743	164	642			1385
02:00	17		23					14:00	196		137				
02:15	15		31					14:15	180		135				
02:30	12		31					14:30	164		146				
02:45	22	66	31	116			182	14:45	184	724	152	570			1294
03:00	19		31					15:00	142		127				
03:15	18		22					15:15	167		109				
03:30	12		31					15:30	208		122				
03:45	22	71	34	118			189	15:45	137	654	123	481			1135
04:00	24		31					16:00	135		111				
04:15	24		48					16:15	176		117				
04:30	28		52					16:30	204		111				
04:45	24	100	85	216			316	16:45	163	678	112	451			1129
05:00	42		62					17:00	155		104				
05:15	38		77					17:15	134		72				
05:30	39		111					17:30	143		99				
05:45	36	155	115	365			520	17:45	131	563	82	357			920
06:00	61		76					18:00	123		84				
06:15	57		106					18:15	136		76				
06:30	58		109					18:30	110		79				
06:45	60	236	151	442			678	18:45	93	462	90	329			791
07:00	89		119					19:00	77		58				
07:15	67		132					19:15	58		60				
07:30	81		128					19:30	98		48				
07:45	71	308	185	564			872	19:45	79	312	45	211			523
08:00	96		155					20:00	70		52				
08:15	84		138					20:15	68		54				
08:30	108		132					20:30	40		42				
08:45	130	418	144	569			987	20:45	57	235	40	188			423
09:00	135		160					21:00	43		62				
09:15	127		162					21:15	49		77				
09:30	141		160					21:30	56		71				
09:45	181	584	153	635			1219	21:45	48	196	83	293			489
10:00	157		170					22:00	87		61				
10:15	167		145					22:15	69		71				
10:30	195		174					22:30	71		73				
10:45	178	697	164	653			1350	22:45	64	291	73	278			569
11:00	168		139					23:00	63		53				
11:15	172		151					23:15	65		52				
11:30	148		151					23:30	50		40				
11:45	155	643	124	565			1208	23:45	45	223	31	176			399
Total Vol.		3566		4441			**8007**			5711		4615			**10326**

Daily Totals

NB	SB	EB	WB	**Combined**
9277	9056			**18333**

	AM			PM		
Split %	44.5%	55.5%	**43.7%**	55.3%	44.7%	**56.3%**
Peak Hour	10:30	10:00	**10:00**	13:30	13:00	**13:15**
Volume	713	653	**1350**	780	642	**1397**
P.H.F.	0.91	0.94	**0.91**	0.96	0.90	**0.93**

PREPARED BY: ELITE TRAFFIC DYNAMICS, LLC

WEDNESDAY - MARCH 13, 2024 AREA: OTAY MESA PROJECT: ETD24-0315-01

AIRWAY ROAD, WEST OF CONTINENTAL STREET

AM	NB	SB	EB		WB			PM	NB	SB	EB		WB		
00:00			2		3			12:00			41		44		
00:15			0		0			12:15			28		33		
00:30			0		1			12:30			31		23		
00:45			0	2	5	9	11	12:45			27	127	34	134	261
01:00			1		0			13:00			50		39		
01:15			0		1			13:15			29		28		
01:30			1		3			13:30			50		33		
01:45			0	2	3	7	9	13:45			35	164	20	120	284
02:00			0		5			14:00			31		21		
02:15			1		2			14:15			45		46		
02:30			2		7			14:30			28		37		
02:45			1	4	3	17	21	14:45			48	152	37	141	293
03:00			1		6			15:00			67		31		
03:15			3		1			15:15			49		34		
03:30			2		6			15:30			116		26		
03:45			1	7	9	22	29	15:45			43	275	38	129	404
04:00			3		8			16:00			51		20		
04:15			4		4			16:15			29		28		
04:30			5		10			16:30			42		24		
04:45			4	16	10	32	48	16:45			27	149	32	104	253
05:00			16		9			17:00			33		21		
05:15			11		10			17:15			32		23		
05:30			19		19			17:30			18		22		
05:45			42	88	26	64	152	17:45			14	97	22	88	185
06:00			31		12			18:00			20		28		
06:15			16		38			18:15			31		30		
06:30			30		51			18:30			18		24		
06:45			21	98	54	155	253	18:45			7	76	21	103	179
07:00			35		36			19:00			22		18		
07:15			27		16			19:15			12		17		
07:30			28		28			19:30			19		18		
07:45			25	115	28	108	223	19:45			6	59	14	67	126
08:00			25		22			20:00			10		10		
08:15			22		38			20:15			8		14		
08:30			15		33			20:30			10		17		
08:45			14	76	24	117	193	20:45			6	34	10	51	85
09:00			17		31			21:00			8		10		
09:15			27		21			21:15			2		13		
09:30			22		30			21:30			4		10		
09:45			30	96	22	104	200	21:45			13	27	13	46	73
10:00			17		31			22:00			11		8		
10:15			31		17			22:15			4		6		
10:30			26		23			22:30			1		4		
10:45			19	93	24	95	188	22:45			6	22	8	26	48
11:00			25		22			23:00			3		6		
11:15			27		25			23:15			2		4		
11:30			35		20			23:30			1		1		
11:45			21	108	20	87	195	23:45			1	7	4	15	22
Total Vol.				705		817	**1522**					1189		1024	**2213**

	Daily Totals				
	NB	SB	EB	WB	**Combined**
			1894	1841	**3735**

	AM			**PM**		
Split %	46.3%	53.7%	**40.7%**	53.7%	46.3%	**59.3%**
Peak Hour	11:30	06:15	**06:15**	14:45	14:15	**14:45**
Volume	125	179	**281**	280	151	**408**
P.H.F.	0.76	0.83	**0.87**	0.60	0.82	**0.72**

PREPARED BY: ELITE TRAFFIC DYNAMICS, LLC

WEDNESDAY - MARCH 13, 2024 AREA: OTAY MESA PROJECT: ETD24-0315-01

AIRWAY ROAD, BETWEEN CONTINENTAL STREET AND BRITANNIA BOULEVARD

AM	NB	SB	EB		WB			PM	NB	SB	EB		WB		
00:00			2		6			12:00			53		42		
00:15			0		3			12:15			31		35		
00:30			1		1			12:30			41		31		
00:45			0	3	5	15	18	12:45			34	159	38	146	305
01:00			1		0			13:00			51		41		
01:15			0		4			13:15			26		33		
01:30			1		3			13:30			55		40		
01:45			0	2	3	10	12	13:45			42	174	20	134	308
02:00			0		5			14:00			34		26		
02:15			1		2			14:15			55		53		
02:30			2		7			14:30			30		44		
02:45			1	4	5	19	23	14:45			54	173	37	160	333
03:00			1		5			15:00			70		43		
03:15			3		1			15:15			49		34		
03:30			2		7			15:30			114		38		
03:45			2	8	9	22	30	15:45			55	288	44	159	447
04:00			3		8			16:00			56		32		
04:15			6		4			16:15			38		33		
04:30			7		10			16:30			43		29		
04:45			7	23	11	33	56	16:45			35	172	42	136	308
05:00			21		9			17:00			39		25		
05:15			17		11			17:15			38		36		
05:30			23		19			17:30			25		30		
05:45			54	115	23	62	177	17:45			17	119	31	122	241
06:00			38		13			18:00			23		36		
06:15			21		40			18:15			35		36		
06:30			39		53			18:30			19		30		
06:45			25	123	56	162	285	18:45			13	90	32	134	224
07:00			48		37			19:00			26		27		
07:15			29		14			19:15			16		22		
07:30			46		29			19:30			27		22		
07:45			35	158	34	114	272	19:45			9	78	19	90	168
08:00			33		32			20:00			11		14		
08:15			31		36			20:15			13		21		
08:30			18		31			20:30			14		23		
08:45			20	102	25	124	226	20:45			8	46	14	72	118
09:00			18		35			21:00			11		16		
09:15			31		23			21:15			4		16		
09:30			26		30			21:30			5		17		
09:45			35	110	27	115	225	21:45			19	39	20	69	108
10:00			17		32			22:00			10		17		
10:15			31		17			22:15			4		12		
10:30			29		23			22:30			6		5		
10:45			21	98	26	98	196	22:45			7	27	9	43	70
11:00			27		25			23:00			3		10		
11:15			28		33			23:15			3		6		
11:30			39		25			23:30			1		3		
11:45			20	114	24	107	221	23:45			2	9	4	23	32
Total Vol.				860		881	**1741**				1374		1288		**2662**

Daily Totals

NB	SB	EB	WB	Combined
		2234	2169	**4403**

	AM			PM		
Split %	49.4%	50.6%	**39.5%**	51.6%	48.4%	**60.5%**
Peak Hour	07:00	06:15	**06:15**	15:00	14:15	**15:00**
Volume	158	186	**319**	288	177	**447**
P.H.F.	0.82	0.83	**0.87**	0.63	0.83	**0.74**

PREPARED BY: ELITE TRAFFIC DYNAMICS, LLC

TUESDAY - MAY 14, 2024 AREA: OTAY MESA PROJECT: ETD24-0517-01

AIRWAY RD, BETWEEN BRITANNIA BLVD AND LA MEDIA RD

AM	NB	SB	EB		WB			PM	NB	SB	EB		WB		
00:00			12		17			12:00			82		73		
00:15			14		7			12:15			72		65		
00:30			19		18			12:30			98		84		
00:45			15	60	13	55	115	12:45			99	351	90	312	663
01:00			5		27			13:00			85		100		
01:15			17		17			13:15			59		61		
01:30			24		8			13:30			54		89		
01:45			16	62	10	62	124	13:45			41	239	74	324	563
02:00			6		7			14:00			62		72		
02:15			7		6			14:15			68		62		
02:30			12		5			14:30			56		82		
02:45			7	32	3	21	53	14:45			72	258	89	305	563
03:00			16		2			15:00			66		74		
03:15			21		7			15:15			73		63		
03:30			10		6			15:30			46		120		
03:45			18	65	7	22	87	15:45			67	252	112	369	621
04:00			16		9			16:00			64		90		
04:15			10		8			16:15			55		63		
04:30			23		15			16:30			37		91		
04:45			40	89	7	39	128	16:45			60	216	54	298	514
05:00			24		33			17:00			32		99		
05:15			26		9			17:15			49		54		
05:30			36		12			17:30			37		44		
05:45			60	146	18	72	218	17:45			28	146	37	234	380
06:00			36		16			18:00			13		37		
06:15			52		25			18:15			20		33		
06:30			64		26			18:30			18		30		
06:45			105	257	23	90	347	18:45			13	64	34	134	198
07:00			91		46			19:00			19		18		
07:15			68		40			19:15			20		16		
07:30			72		33			19:30			10		15		
07:45			109	340	34	153	493	19:45			9	58	18	67	125
08:00			81		40			20:00			9		15		
08:15			93		41			20:15			11		31		
08:30			106		47			20:30			14		12		
08:45			108	388	42	170	558	20:45			12	46	11	69	115
09:00			88		69			21:00			19		8		
09:15			94		62			21:15			15		7		
09:30			82		72			21:30			14		14		
09:45			89	353	58	261	614	21:45			12	60	16	45	105
10:00			72		96			22:00			18		10		
10:15			54		76			22:15			11		8		
10:30			75		90			22:30			12		19		
10:45			69	270	81	343	613	22:45			16	57	18	55	112
11:00			75		108			23:00			19		24		
11:15			112		78			23:15			5		15		
11:30			54		93			23:30			16		10		
11:45			63	304	68	347	651	23:45			12	52	14	63	115
Total Vol.			2366		1635		**4001**				1799		2275		**4074**

Daily Totals

NB	SB	EB	WB	Combined
		4165	3910	**8075**

	AM			PM		
Split %	59.1%	40.9%	**49.5%**	44.2%	55.8%	**50.5%**
Peak Hour	08:30	10:45	**10:30**	12:15	15:15	**12:15**
Volume	396	360	**688**	354	385	**693**
P.H.F.	0.92	0.83	**0.91**	0.89	0.80	**0.92**

PREPARED BY: ELITE TRAFFIC DYNAMICS, LLC

TUESDAY - MAY 14, 2024 AREA: OTAY MESA PROJECT: ETD24-0517-01

CACTUS RD, NORTH OF AIRWAY RD

AM	NB		SB		EB	WB		PM	NB		SB		EB	WB	
00:00	0		0					12:00	3		5				
00:15	1		0					12:15	9		3				
00:30	1		2					12:30	4		4				
00:45	0	2	2	4			6	12:45	1	17	4	16			33
01:00	0		0					13:00	3		4				
01:15	1		0					13:15	6		3				
01:30	0		0					13:30	4		3				
01:45	0	1	1	1			2	13:45	1	14	0	10			24
02:00	1		0					14:00	3		3				
02:15	2		0					14:15	3		5				
02:30	1		1					14:30	5		4				
02:45	0	4	2	3			7	14:45	4	15	4	16			31
03:00	0		0					15:00	1		1				
03:15	0		0					15:15	1		3				
03:30	0		0					15:30	1		4				
03:45	1	1	0	0			1	15:45	1	4	1	9			13
04:00	1		0					16:00	4		4				
04:15	1		2					16:15	3		1				
04:30	0		0					16:30	2		2				
04:45	0	2	0	2			4	16:45	6	15	5	12			27
05:00	2		2					17:00	3		3				
05:15	0		0					17:15	1		0				
05:30	0		0					17:30	4		1				
05:45	0	2	0	2			4	17:45	5	13	3	7			20
06:00	1		2					18:00	1		1				
06:15	0		0					18:15	1		3				
06:30	2		3					18:30	3		1				
06:45	0	3	4	9			12	18:45	2	7	4	9			16
07:00	1		0					19:00	3		4				
07:15	1		0					19:15	0		3				
07:30	1		3					19:30	2		3				
07:45	1	4	0	3			7	19:45	2	7	0	10			17
08:00	4		2					20:00	1		1				
08:15	2		4					20:15	0		0				
08:30	2		0					20:30	1		2				
08:45	1	9	3	9			18	20:45	2	4	4	7			11
09:00	1		3					21:00	1		0				
09:15	1		0					21:15	1		1				
09:30	0		0					21:30	4		3				
09:45	0	2	2	5			7	21:45	1	7	3	7			14
10:00	4		3					22:00	2		1				
10:15	6		1					22:15	4		2				
10:30	2		2					22:30	0		2				
10:45	3	15	5	11			26	22:45	2	8	2	7			15
11:00	9		4					23:00	0		0				
11:15	3		2					23:15	0		0				
11:30	2		3					23:30	0		0				
11:45	0	14	3	12			26	23:45	1	1	0	0			1
Total Vol.		59		61			**120**			112		110			**222**

Daily Totals

NB	SB	EB	WB	**Combined**
171	171			**342**

	AM			PM		
Split %	49.2%	50.8%	**35.1%**	50.5%	49.5%	**64.9%**
Peak Hour	10:15	11:45	**10:15**	12:00	12:00	**12:00**
Volume	20	15	**32**	17	16	**33**
P.H.F.	0.56	0.75	**0.62**	0.56	0.80	**0.69**

PREPARED BY: ELITE TRAFFIC DYNAMICS, LLC

TUESDAY - MAY 14, 2024 AREA: OTAY MESA PROJECT: ETD24-0517-01

CACTUS RD, SOUTH OF AIRWAY RD

AM	NB		SB		EB	WB		PM	NB		SB		EB	WB	
00:00	0		3					12:00	27		27				
00:15	2		1					12:15	23		41				
00:30	2		3					12:30	31		34				
00:45	1	5	2	9			14	12:45	31	112	42	144			256
01:00	1		1					13:00	24		24				
01:15	0		0					13:15	22		23				
01:30	0		2					13:30	30		21				
01:45	1	2	1	4			6	13:45	15	91	36	104			195
02:00	0		2					14:00	27		20				
02:15	2		3					14:15	29		30				
02:30	0		1					14:30	46		24				
02:45	0	2	2	8			10	14:45	39	141	43	117			258
03:00	4		2					15:00	50		34				
03:15	0		0					15:15	40		21				
03:30	0		0					15:30	35		27				
03:45	2	6	2	4			10	15:45	31	156	40	122			278
04:00	2		3					16:00	34		24				
04:15	3		0					16:15	18		29				
04:30	3		2					16:30	34		24				
04:45	4	12	2	7			19	16:45	20	106	30	107			213
05:00	10		10					17:00	15		19				
05:15	15		10					17:15	13		30				
05:30	19		12					17:30	25		24				
05:45	32	76	21	53			129	17:45	15	68	21	94			162
06:00	17		22					18:00	8		15				
06:15	25		27					18:15	14		12				
06:30	43		35					18:30	13		16				
06:45	46	131	50	134			265	18:45	10	45	17	60			105
07:00	32		31					19:00	7		18				
07:15	28		43					19:15	14		18				
07:30	30		39					19:30	6		24				
07:45	35	125	34	147			272	19:45	5	32	14	74			106
08:00	26		32					20:00	13		16				
08:15	35		24					20:15	11		13				
08:30	19		57					20:30	6		9				
08:45	15	95	28	141			236	20:45	3	33	10	48			81
09:00	13		30					21:00	5		6				
09:15	25		16					21:15	6		9				
09:30	24		39					21:30	4		9				
09:45	25	87	43	128			215	21:45	6	21	8	32			53
10:00	20		26					22:00	8		10				
10:15	22		32					22:15	7		11				
10:30	28		44					22:30	2		10				
10:45	19	89	35	137			226	22:45	5	22	6	37			59
11:00	29		30					23:00	4		2				
11:15	20		41					23:15	2		4				
11:30	23		29					23:30	1		1				
11:45	17	89	30	130			219	23:45	0	7	1	8			15
Total Vol.		719		902			**1621**			834		947			**1781**

Daily Totals

NB	SB	EB	WB	**Combined**
1553	1849			**3402**

	AM			**PM**		
Split %	44.4%	55.6%	**47.6%**	46.8%	53.2%	**52.4%**
Peak Hour	06:30	06:45	**06:30**	14:30	12:00	**14:30**
Volume	149	163	**308**	175	144	**297**
P.H.F.	0.81	0.82	**0.80**	0.93	0.86	**0.88**

PREPARED BY: ELITE TRAFFIC DYNAMICS, LLC

TUESDAY - MAY 14, 2024 AREA: OTAY MESA PROJECT: ETD24-0517-01

CONTINENTAL ST, BETWEEN COLCHESTER CT AND AIRWAY RD

AM	NB		SB		EB	WB		PM	NB		SB		EB	WB	
00:00	0		0					12:00	3		2				
00:15	0		1					12:15	8		5				
00:30	0		1					12:30	2		5				
00:45	1	1	1	3			4	12:45	2	15	3	15			30
01:00	0		0					13:00	1		2				
01:15	0		0					13:15	3		3				
01:30	2		0					13:30	4		6				
01:45	1	3	0	0			3	13:45	4	12	7	18			30
02:00	0		0					14:00	5		8				
02:15	0		0					14:15	8		7				
02:30	0		0					14:30	3		16				
02:45	0	0	0	0				14:45	5	21	5	36			57
03:00	0		0					15:00	5		4				
03:15	0		0					15:15	7		7				
03:30	0		0					15:30	10		3				
03:45	0	0	0	0				15:45	1	23	0	14			37
04:00	0		1					16:00	2		0				
04:15	0		0					16:15	2		1				
04:30	1		1					16:30	3		2				
04:45	0	1	1	3			4	16:45	3	10	2	5			15
05:00	2		1					17:00	4		2				
05:15	1		1					17:15	4		2				
05:30	2		7					17:30	1		1				
05:45	2	7	0	9			16	17:45	1	10	1	6			16
06:00	2		3					18:00	4		2				
06:15	6		0					18:15	1		3				
06:30	4		0					18:30	0		2				
06:45	9	21	2	5			26	18:45	3	8	0	7			15
07:00	2		3					19:00	2		1				
07:15	5		5					19:15	0		2				
07:30	5		8					19:30	0		1				
07:45	8	20	7	23			43	19:45	3	5	3	7			12
08:00	3		3					20:00	3		1				
08:15	3		5					20:15	4		2				
08:30	2		5					20:30	4		0				
08:45	0	8	1	14			22	20:45	3	14	1	4			18
09:00	1		5					21:00	3		2				
09:15	2		3					21:15	3		2				
09:30	5		7					21:30	1		0				
09:45	1	9	7	22			31	21:45	2	9	0	4			13
10:00	4		1					22:00	6		0				
10:15	4		4					22:15	2		2				
10:30	5		4					22:30	1		3				
10:45	6	19	4	13			32	22:45	1	10	2	7			17
11:00	3		7					23:00	0		0				
11:15	4		2					23:15	1		0				
11:30	4		4					23:30	0		0				
11:45	1	12	0	13			25	23:45	1	2	0	0			2
Total Vol.		101		105			**206**			139		123			**262**

Daily Totals

NB	SB	EB	WB	Combined
240	228			**468**

	AM			PM		
Split %	49.0%	51.0%	**44.0%**	53.1%	46.9%	**56.0%**
Peak Hour	06:00	07:00	**07:15**	14:45	13:45	**13:45**
Volume	21	23	**44**	27	38	**58**
P.H.F.	0.58	0.72	**0.73**	0.86	0.59	**0.76**

PREPARED BY: ELITE TRAFFIC DYNAMICS, LLC

Appendix G - LOS Calculation Worksheets – Existing Conditions



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	258	59	78	224	6	42	1	51	3	2	5
Future Volume (vph)	7	258	59	78	224	6	42	1	51	3	2	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1641	4563		1641	4694		1641	1727	1449	1641	1727	1468
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1641	4563		1641	4694		1641	1727	1449	1641	1727	1468
Peak-hour factor, PHF	0.90	0.90	0.90	0.88	0.88	0.88	0.87	0.87	0.87	0.83	0.83	0.83
Adj. Flow (vph)	8	287	66	89	255	7	48	1	59	4	2	6
RTOR Reduction (vph)	0	20	0	0	1	0	0	0	51	0	0	5
Lane Group Flow (vph)	8	333	0	89	261	0	48	1	8	4	2	1
Confl. Peds. (#/hr)			3			2			2			
Confl. Bikes (#/hr)			1			1						
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	0.5	25.8		5.0	30.3		2.8	7.5	7.5	0.5	5.2	5.2
Effective Green, g (s)	0.5	25.8		5.0	30.3		2.8	7.5	7.5	0.5	5.2	5.2
Actuated g/C Ratio	0.01	0.44		0.09	0.52		0.05	0.13	0.13	0.01	0.09	0.09
Clearance Time (s)	4.4	6.0		4.4	6.0		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.4		2.0	4.2		2.0	3.2	3.2	2.0	2.0	2.0
Lane Grp Cap (vph)	14	2012		140	2431		78	221	185	14	153	130
v/s Ratio Prot	0.00	c0.07		c0.05	0.06		c0.03	0.00		0.00	0.00	
v/s Ratio Perm									c0.01			0.00
v/c Ratio	0.57	0.17		0.64	0.11		0.62	0.00	0.04	0.29	0.01	0.00
Uniform Delay, d1	28.9	9.9		25.9	7.2		27.3	22.2	22.3	28.8	24.3	24.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	30.5	0.1		6.8	0.0		9.7	0.0	0.1	4.1	0.0	0.0
Delay (s)	59.4	9.9		32.6	7.2		37.0	22.3	22.4	32.9	24.3	24.3
Level of Service	E	A		C	A		D	C	C	C	C	C
Approach Delay (s)		11.0			13.7			28.9			27.2	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	14.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	58.5	Sum of lost time (s)	19.7
Intersection Capacity Utilization	38.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	316	1	30	310	1	23
Future Volume (vph)	316	1	30	310	1	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0		5.4	7.0	5.9	5.9
Lane Util. Factor	0.91		1.00	0.91	0.97	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	4713		1641	4715	3183	1468
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	4713		1641	4715	3183	1468
Peak-hour factor, PHF	0.88	0.88	0.83	0.83	0.67	0.67
Adj. Flow (vph)	359	1	36	373	1	34
RTOR Reduction (vph)	0	0	0	0	0	33
Lane Group Flow (vph)	360	0	36	373	1	1
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Actuated Green, G (s)	27.4		0.9	33.7	0.7	0.7
Effective Green, g (s)	27.4		0.9	33.7	0.7	0.7
Actuated g/C Ratio	0.58		0.02	0.71	0.01	0.01
Clearance Time (s)	7.0		5.4	7.0	5.9	5.9
Vehicle Extension (s)	4.5		2.0	4.5	2.0	2.0
Lane Grp Cap (vph)	2730		31	3359	47	21
v/s Ratio Prot	c0.08		c0.02	0.08	0.00	
v/s Ratio Perm						c0.00
v/c Ratio	0.13		1.16	0.11	0.02	0.02
Uniform Delay, d1	4.5		23.2	2.1	23.0	23.0
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0		214.2	0.0	0.1	0.2
Delay (s)	4.6		237.4	2.1	23.0	23.1
Level of Service	A		F	A	C	C
Approach Delay (s)	4.6			22.9	23.1	
Approach LOS	A			C	C	

Intersection Summary			
HCM 2000 Control Delay	14.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.16		
Actuated Cycle Length (s)	47.3	Sum of lost time (s)	18.3
Intersection Capacity Utilization	30.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	209	143	102	152	188	243
Future Volume (vph)	209	143	102	152	188	243
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.3	4.4	6.0	5.3	5.3
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	4715	1457	1641	4715	3183	1448
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	4715	1457	1641	4715	3183	1448
Peak-hour factor, PHF	0.87	0.87	0.81	0.81	0.88	0.88
Adj. Flow (vph)	240	164	126	188	214	276
RTOR Reduction (vph)	0	75	0	0	0	210
Lane Group Flow (vph)	240	89	126	188	214	66
Confl. Peds. (#/hr)		5				4
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Actuated Green, G (s)	15.5	27.9	7.9	27.8	12.4	12.4
Effective Green, g (s)	15.5	27.9	7.9	27.8	12.4	12.4
Actuated g/C Ratio	0.30	0.54	0.15	0.54	0.24	0.24
Clearance Time (s)	6.0	5.3	4.4	6.0	5.3	5.3
Vehicle Extension (s)	4.4	2.0	2.0	4.3	2.0	2.0
Lane Grp Cap (vph)	1419	789	251	2545	766	348
v/s Ratio Prot	c0.05	0.03	c0.08	0.04	c0.07	
v/s Ratio Perm		0.03				0.05
v/c Ratio	0.17	0.11	0.50	0.07	0.28	0.19
Uniform Delay, d1	13.3	5.8	20.0	5.7	15.9	15.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.0	0.6	0.0	0.1	0.1
Delay (s)	13.4	5.8	20.6	5.7	16.0	15.7
Level of Service	B	A	C	A	B	B
Approach Delay (s)	10.3			11.7	15.8	
Approach LOS	B			B	B	

Intersection Summary			
HCM 2000 Control Delay	12.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	51.5	Sum of lost time (s)	15.7
Intersection Capacity Utilization	40.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	239	0	119	303	321	0	0	177	68
Future Volume (vph)	0	0	0	239	0	119	303	321	0	0	177	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1795	1795	1630	1630	1630
Total Lost time (s)				5.1	5.1	5.1	4.7	5.1			5.1	
Lane Util. Factor				1.00	0.95	0.95	0.97	0.91			0.91	
Frpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Frt				1.00	0.85	0.85	1.00	1.00			0.96	
Flt Protected				0.95	1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1641	1395	1395	3183	4455			3863	
Flt Permitted				0.95	1.00	1.00	0.95	1.00			1.00	
Satd. Flow (perm)				1641	1395	1395	3183	4455			3863	
Peak-hour factor, PHF	0.90	0.90	0.90	0.84	0.84	0.84	0.84	0.84	0.84	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	285	0	142	361	382	0	0	190	73
RTOR Reduction (vph)	0	0	0	0	52	52	0	0	0	0	55	0
Lane Group Flow (vph)	0	0	0	285	19	19	361	382	0	0	208	0
Confl. Peds. (#/hr)									6			1
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8		8						
Actuated Green, G (s)				16.0	16.0	16.0	13.0	32.1			14.4	
Effective Green, g (s)				16.0	16.0	16.0	13.0	32.1			14.4	
Actuated g/C Ratio				0.27	0.27	0.27	0.22	0.55			0.25	
Clearance Time (s)				5.1	5.1	5.1	4.7	5.1			5.1	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				450	382	382	709	2452			954	
v/s Ratio Prot					0.01		c0.11	0.09			c0.05	
v/s Ratio Perm				c0.17		0.01						
v/c Ratio				0.63	0.05	0.05	0.51	0.16			0.22	
Uniform Delay, d1				18.6	15.6	15.6	19.9	6.4			17.5	
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2				2.9	0.1	0.1	0.6	0.0			0.1	
Delay (s)				21.5	15.6	15.6	20.4	6.5			17.6	
Level of Service				C	B	B	C	A			B	
Approach Delay (s)		0.0			19.5			13.3			17.6	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	15.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	58.3	Sum of lost time (s)	14.9
Intersection Capacity Utilization	47.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	204	2	642	0	0	0	0	405	194	80	367	0
Future Volume (vph)	204	2	642	0	0	0	0	405	194	80	367	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1728	1728	1900	1781	1781
Total Lost time (s)		5.1	5.1					5.1		4.7	5.1	
Lane Util. Factor		1.00	0.88					0.95		0.97	0.91	
Frpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Frt		1.00	0.85					0.95		1.00	1.00	
Flt Protected		0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)		1646	2584					2828		3183	4420	
Flt Permitted		0.95	1.00					1.00		0.95	1.00	
Satd. Flow (perm)		1646	2584					2828		3183	4420	
Peak-hour factor, PHF	0.79	0.79	0.79	0.88	0.88	0.88	0.94	0.94	0.94	0.86	0.86	0.86
Adj. Flow (vph)	258	3	813	0	0	0	0	431	206	93	427	0
RTOR Reduction (vph)	0	0	566	0	0	0	0	58	0	0	0	0
Lane Group Flow (vph)	0	261	247	0	0	0	0	579	0	93	427	0
Confl. Peds. (#/hr)									2			
Confl. Bikes (#/hr)												2
Turn Type	Perm	NA	Perm					NA		Prot	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4									
Actuated Green, G (s)		17.7	17.7					19.8		5.8	30.3	
Effective Green, g (s)		17.7	17.7					19.8		5.8	30.3	
Actuated g/C Ratio		0.30	0.30					0.34		0.10	0.52	
Clearance Time (s)		5.1	5.1					5.1		4.7	5.1	
Vehicle Extension (s)		3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)		500	785					962		317	2301	
v/s Ratio Prot								c0.20		c0.03	0.10	
v/s Ratio Perm		0.16	0.10									
v/c Ratio		0.52	0.31					0.60		0.29	0.19	
Uniform Delay, d1		16.8	15.6					15.9		24.3	7.4	
Progression Factor		1.00	1.00					1.00		1.00	1.00	
Incremental Delay, d2		1.0	0.2					1.1		0.5	0.0	
Delay (s)		17.7	15.8					17.0		24.8	7.4	
Level of Service		B	B					B		C	A	
Approach Delay (s)		16.3			0.0			17.0			10.5	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	15.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	58.2	Sum of lost time (s)	14.9
Intersection Capacity Utilization	47.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	21	4	16	0	134	2	355	12	358	526	147
Future Volume (vph)	97	21	4	16	0	134	2	355	12	358	526	147
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.2	5.2	4.4	4.9		4.4	5.1	5.1
Lane Util. Factor	0.95	0.95			1.00	1.00	1.00	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99			1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.97			0.95	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1559	1578			1641	1468	1641	3266		1641	1727	1450
Flt Permitted	0.95	0.97			0.95	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1559	1578			1641	1468	1641	3266		1641	1727	1450
Peak-hour factor, PHF	0.51	0.51	0.51	0.87	0.87	0.87	0.85	0.85	0.85	0.82	0.82	0.82
Adj. Flow (vph)	190	41	8	18	0	154	2	418	14	437	641	179
RTOR Reduction (vph)	0	2	0	0	0	131	0	2	0	0	0	68
Lane Group Flow (vph)	120	117	0	0	18	23	2	430	0	437	641	111
Confl. Peds. (#/hr)												1
Turn Type	Split	NA		Split	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8						6
Actuated Green, G (s)	12.8	12.8			15.4	15.4	0.5	24.8		32.1	56.2	56.2
Effective Green, g (s)	12.8	12.8			15.4	15.4	0.5	24.8		32.1	56.2	56.2
Actuated g/C Ratio	0.12	0.12			0.15	0.15	0.00	0.24		0.31	0.54	0.54
Clearance Time (s)	5.3	5.3			5.2	5.2	4.4	4.9		4.4	5.1	5.1
Vehicle Extension (s)	2.0	2.0			3.7	3.7	2.0	3.8		2.0	3.8	3.8
Lane Grp Cap (vph)	190	192			240	215	7	772		502	925	776
v/s Ratio Prot	c0.08	0.07			0.01		0.00	0.13		c0.27	c0.37	
v/s Ratio Perm						c0.02						0.08
v/c Ratio	0.63	0.61			0.07	0.11	0.29	0.56		0.87	0.69	0.14
Uniform Delay, d1	43.8	43.7			38.6	38.8	52.0	35.2		34.4	18.0	12.2
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	5.0	4.0			0.2	0.3	8.0	1.0		14.7	2.4	0.1
Delay (s)	48.8	47.7			38.8	39.1	60.1	36.3		49.2	20.4	12.4
Level of Service	D	D			D	D	E	D		D	C	B
Approach Delay (s)		48.2			39.0			36.4			29.2	
Approach LOS		D			D			D			C	

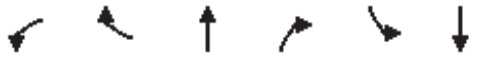
Intersection Summary			
HCM 2000 Control Delay	33.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	104.9	Sum of lost time (s)	20.0
Intersection Capacity Utilization	53.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	92	112	8	14	6
Future Volume (Veh/h)	3	92	112	8	14	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.81	0.81	0.57	0.57
Hourly flow rate (vph)	4	108	138	10	25	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			1251			
pX, platoon unblocked						
vC, conflicting volume	148				254	138
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	148				254	138
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	100				97	99
cM capacity (veh/h)	1386				716	889

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total	112	138	10	36
Volume Left	4	0	0	25
Volume Right	0	0	10	11
cSH	1386	1700	1700	761
Volume to Capacity	0.00	0.08	0.01	0.05
Queue Length 95th (ft)	0	0	0	4
Control Delay (s)	0.3	0.0	0.0	10.0
Lane LOS	A			A
Approach Delay (s)	0.3	0.0		10.0
Approach LOS				A

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	17.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	106	2	0	93	10	0
Future Volume (vph)	106	2	0	93	10	0
Peak Hour Factor	0.76	0.76	0.80	0.80	0.83	0.83
Hourly flow rate (vph)	139	3	0	116	12	0

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	142	116	12
Volume Left (vph)	139	0	12
Volume Right (vph)	3	116	0
Hadj (s)	0.22	-0.57	0.23
Departure Headway (s)	4.4	3.7	4.6
Degree Utilization, x	0.17	0.12	0.02
Capacity (veh/h)	800	936	745
Control Delay (s)	8.3	7.2	7.7
Approach Delay (s)	8.3	7.2	7.7
Approach LOS	A	A	A

Intersection Summary			
Delay		7.8	
Level of Service		A	
Intersection Capacity Utilization		19.9%	ICU Level of Service A
Analysis Period (min)		15	



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	8	1	8	11	1	9
Future Volume (vph)	8	1	8	11	1	9
Peak Hour Factor	0.56	0.56	0.68	0.68	0.83	0.83
Hourly flow rate (vph)	14	2	12	16	1	11

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	16	28	12
Volume Left (vph)	14	0	1
Volume Right (vph)	2	16	0
Hadj (s)	0.13	-0.31	0.05
Departure Headway (s)	4.1	3.6	4.0
Degree Utilization, x	0.02	0.03	0.01
Capacity (veh/h)	861	981	888
Control Delay (s)	7.2	6.7	7.1
Approach Delay (s)	7.2	6.7	7.1
Approach LOS	A	A	A

Intersection Summary			
Delay		6.9	
Level of Service		A	
Intersection Capacity Utilization		13.3%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	363	73	76	338	7	65	2	92	10	1	10
Future Volume (vph)	5	363	73	76	338	7	65	2	92	10	1	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1641	4581		1641	4699		1641	1727	1447	1641	1727	1468
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1641	4581		1641	4699		1641	1727	1447	1641	1727	1468
Peak-hour factor, PHF	0.91	0.91	0.91	0.88	0.88	0.88	0.90	0.90	0.90	0.53	0.53	0.53
Adj. Flow (vph)	5	399	80	86	384	8	72	2	102	19	2	19
RTOR Reduction (vph)	0	21	0	0	1	0	0	0	85	0	0	17
Lane Group Flow (vph)	5	458	0	86	391	0	72	2	17	19	2	2
Confl. Peds. (#/hr)			2			3			3			
Confl. Bikes (#/hr)									1			
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	0.5	22.7		7.9	30.1		5.1	10.2	10.2	0.7	5.8	5.8
Effective Green, g (s)	0.5	22.7		7.9	30.1		5.1	10.2	10.2	0.7	5.8	5.8
Actuated g/C Ratio	0.01	0.37		0.13	0.49		0.08	0.17	0.17	0.01	0.09	0.09
Clearance Time (s)	4.4	6.0		4.4	6.0		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.4		2.0	4.2		2.0	3.2	3.2	2.0	2.0	2.0
Lane Grp Cap (vph)	13	1699		211	2311		136	287	241	18	163	139
v/s Ratio Prot	0.00	c0.10		c0.05	0.08		c0.04	0.00		0.01	0.00	
v/s Ratio Perm									c0.01			0.00
v/c Ratio	0.38	0.27		0.41	0.17		0.53	0.01	0.07	1.06	0.01	0.01
Uniform Delay, d1	30.2	13.5		24.5	8.6		26.9	21.3	21.5	30.2	25.1	25.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.8	0.1		0.5	0.1		1.7	0.0	0.1	230.8	0.0	0.0
Delay (s)	37.0	13.6		25.0	8.7		28.6	21.3	21.6	261.1	25.1	25.1
Level of Service	D	B		C	A		C	C	C	F	C	C
Approach Delay (s)		13.8			11.6			24.5			137.2	
Approach LOS		B			B			C			F	

Intersection Summary			
HCM 2000 Control Delay	18.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	61.2	Sum of lost time (s)	19.7
Intersection Capacity Utilization	39.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	469	2	38	424	5	19
Future Volume (vph)	469	2	38	424	5	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0		5.4	7.0	5.9	5.9
Lane Util. Factor	0.91		1.00	0.91	0.97	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	4713		1641	4715	3183	1468
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	4713		1641	4715	3183	1468
Peak-hour factor, PHF	0.89	0.89	0.83	0.83	0.52	0.52
Adj. Flow (vph)	527	2	46	511	10	37
RTOR Reduction (vph)	0	0	0	0	0	36
Lane Group Flow (vph)	529	0	46	511	10	1
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Actuated Green, G (s)	25.4		2.2	33.0	1.8	1.8
Effective Green, g (s)	25.4		2.2	33.0	1.8	1.8
Actuated g/C Ratio	0.53		0.05	0.69	0.04	0.04
Clearance Time (s)	7.0		5.4	7.0	5.9	5.9
Vehicle Extension (s)	4.5		2.0	4.5	2.0	2.0
Lane Grp Cap (vph)	2509		75	3261	120	55
v/s Ratio Prot	c0.11		c0.03	0.11	c0.00	
v/s Ratio Perm						0.00
v/c Ratio	0.21		0.61	0.16	0.08	0.03
Uniform Delay, d1	5.9		22.3	2.5	22.2	22.1
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1		10.0	0.0	0.1	0.1
Delay (s)	5.9		32.3	2.6	22.3	22.2
Level of Service	A		C	A	C	C
Approach Delay (s)	5.9			5.0	22.2	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	6.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	47.7	Sum of lost time (s)	18.3
Intersection Capacity Utilization	31.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	223	256	219	240	204	160
Future Volume (vph)	223	256	219	240	204	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.3	4.4	6.0	5.3	5.3
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	4715	1458	1641	4715	3183	1441
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	4715	1458	1641	4715	3183	1441
Peak-hour factor, PHF	0.94	0.94	0.74	0.74	0.92	0.92
Adj. Flow (vph)	237	272	296	324	222	174
RTOR Reduction (vph)	0	90	0	0	0	138
Lane Group Flow (vph)	237	182	296	324	222	36
Confl. Peds. (#/hr)		2				14
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Actuated Green, G (s)	15.9	28.9	18.7	39.0	13.0	13.0
Effective Green, g (s)	15.9	28.9	18.7	39.0	13.0	13.0
Actuated g/C Ratio	0.25	0.46	0.30	0.62	0.21	0.21
Clearance Time (s)	6.0	5.3	4.4	6.0	5.3	5.3
Vehicle Extension (s)	4.4	2.0	2.0	4.3	2.0	2.0
Lane Grp Cap (vph)	1184	665	484	2904	653	295
v/s Ratio Prot	0.05	c0.06	c0.18	0.07	c0.07	
v/s Ratio Perm		0.07				0.02
v/c Ratio	0.20	0.27	0.61	0.11	0.34	0.12
Uniform Delay, d1	18.7	10.7	19.2	5.0	21.5	20.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.1	1.6	0.0	0.1	0.1
Delay (s)	18.8	10.8	20.8	5.0	21.6	20.6
Level of Service	B	B	C	A	C	C
Approach Delay (s)	14.5			12.6	21.1	
Approach LOS	B			B	C	

Intersection Summary			
HCM 2000 Control Delay	15.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	63.3	Sum of lost time (s)	15.7
Intersection Capacity Utilization	51.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	200	0	130	665	263	0	0	255	191
Future Volume (vph)	0	0	0	200	0	130	665	263	0	0	255	191
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1795	1795	1630	1630	1630
Total Lost time (s)				5.1	5.1	5.1	4.7	5.1			5.1	
Lane Util. Factor				1.00	0.95	0.95	0.97	0.91			0.91	
Frpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			0.99	
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Frt				1.00	0.85	0.85	1.00	1.00			0.94	
Flt Protected				0.95	1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1641	1395	1395	3183	4455			3764	
Flt Permitted				0.95	1.00	1.00	0.95	1.00			1.00	
Satd. Flow (perm)				1641	1395	1395	3183	4455			3764	
Peak-hour factor, PHF	0.90	0.90	0.90	0.93	0.93	0.93	0.92	0.92	0.92	0.85	0.85	0.85
Adj. Flow (vph)	0	0	0	215	0	140	723	286	0	0	300	225
RTOR Reduction (vph)	0	0	0	0	54	54	0	0	0	0	110	0
Lane Group Flow (vph)	0	0	0	215	16	16	723	286	0	0	415	0
Confl. Peds. (#/hr)									4			1
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8		8						
Actuated Green, G (s)				15.6	15.6	15.6	22.7	43.1			15.7	
Effective Green, g (s)				15.6	15.6	15.6	22.7	43.1			15.7	
Actuated g/C Ratio				0.23	0.23	0.23	0.33	0.63			0.23	
Clearance Time (s)				5.1	5.1	5.1	4.7	5.1			5.1	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				371	315	315	1048	2786			857	
v/s Ratio Prot					0.01		c0.23	0.06			c0.11	
v/s Ratio Perm				c0.13		0.01						
v/c Ratio				0.58	0.05	0.05	0.69	0.10			0.48	
Uniform Delay, d1				23.7	20.9	20.9	20.0	5.2			23.1	
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2				2.2	0.1	0.1	1.9	0.0			0.4	
Delay (s)				25.9	20.9	20.9	22.0	5.2			23.5	
Level of Service				C	C	C	C	A			C	
Approach Delay (s)		0.0			24.0			17.2			23.5	
Approach LOS		A			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	20.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	68.9	Sum of lost time (s)	14.9
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	1	428	0	0	0	0	799	332	156	292	0
Future Volume (vph)	105	1	428	0	0	0	0	799	332	156	292	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1728	1728	1900	1781	1781
Total Lost time (s)		5.1	5.1					5.1		4.7	5.1	
Lane Util. Factor		1.00	0.88					0.95		0.97	0.91	
Frpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Frt		1.00	0.85					0.96		1.00	1.00	
Flt Protected		0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)		1646	2584					2840		3183	4420	
Flt Permitted		0.95	1.00					1.00		0.95	1.00	
Satd. Flow (perm)		1646	2584					2840		3183	4420	
Peak-hour factor, PHF	0.90	0.90	0.90	0.88	0.88	0.88	0.94	0.94	0.94	0.93	0.93	0.93
Adj. Flow (vph)	117	1	476	0	0	0	0	850	353	168	314	0
RTOR Reduction (vph)	0	0	402	0	0	0	0	33	0	0	0	0
Lane Group Flow (vph)	0	118	74	0	0	0	0	1170	0	168	314	0
Confl. Peds. (#/hr)									4			2
Confl. Bikes (#/hr)												2
Turn Type	Perm	NA	Perm					NA		Prot	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4									
Actuated Green, G (s)		12.2	12.2					41.7		10.0	56.4	
Effective Green, g (s)		12.2	12.2					41.7		10.0	56.4	
Actuated g/C Ratio		0.15	0.15					0.53		0.13	0.72	
Clearance Time (s)		5.1	5.1					5.1		4.7	5.1	
Vehicle Extension (s)		3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)		254	400					1502		403	3163	
v/s Ratio Prot								c0.41		c0.05	0.07	
v/s Ratio Perm		0.07	0.03									
v/c Ratio		0.46	0.18					0.78		0.42	0.10	
Uniform Delay, d1		30.3	29.0					14.9		31.7	3.4	
Progression Factor		1.00	1.00					1.00		1.00	1.00	
Incremental Delay, d2		1.3	0.2					2.6		0.7	0.0	
Delay (s)		31.7	29.2					17.5		32.4	3.4	
Level of Service		C	C					B		C	A	
Approach Delay (s)		29.7			0.0			17.5			13.5	
Approach LOS		C			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	19.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	78.8	Sum of lost time (s)	14.9
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	168	13	3	13	1	330	1	639	8	192	435	132
Future Volume (vph)	168	13	3	13	1	330	1	639	8	192	435	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.2	5.2	4.4	4.9		4.4	5.1	5.1
Lane Util. Factor	0.95	0.95			1.00	1.00	1.00	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00			1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.96			0.95	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1559	1568			1649	1468	1641	3275		1641	1727	1450
Flt Permitted	0.95	0.96			0.95	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1559	1568			1649	1468	1641	3275		1641	1727	1450
Peak-hour factor, PHF	0.87	0.87	0.87	0.75	0.75	0.75	0.79	0.79	0.79	0.91	0.91	0.91
Adj. Flow (vph)	193	15	3	17	1	440	1	809	10	211	478	145
RTOR Reduction (vph)	0	1	0	0	0	290	0	1	0	0	0	69
Lane Group Flow (vph)	106	104	0	0	18	150	1	818	0	211	478	76
Confl. Peds. (#/hr)			1						3			1
Turn Type	Split	NA		Split	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8						6
Actuated Green, G (s)	12.0	12.0			16.6	16.6	0.6	36.4		18.7	54.3	54.3
Effective Green, g (s)	12.0	12.0			16.6	16.6	0.6	36.4		18.7	54.3	54.3
Actuated g/C Ratio	0.12	0.12			0.16	0.16	0.01	0.35		0.18	0.52	0.52
Clearance Time (s)	5.3	5.3			5.2	5.2	4.4	4.9		4.4	5.1	5.1
Vehicle Extension (s)	2.0	2.0			3.7	3.7	2.0	3.8		2.0	3.8	3.8
Lane Grp Cap (vph)	180	181			264	235	9	1151		296	906	760
v/s Ratio Prot	c0.07	0.07			0.01		0.00	c0.25		c0.13	0.28	
v/s Ratio Perm						c0.10						0.05
v/c Ratio	0.59	0.58			0.07	0.64	0.11	0.71		0.71	0.53	0.10
Uniform Delay, d1	43.4	43.3			36.9	40.7	51.2	29.0		39.9	16.2	12.3
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	3.2	2.7			0.1	6.1	2.0	2.2		6.6	0.7	0.1
Delay (s)	46.6	46.1			37.0	46.7	53.2	31.2		46.5	16.9	12.4
Level of Service	D	D			D	D	D	C		D	B	B
Approach Delay (s)		46.3			46.3			31.2			23.6	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	32.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	103.5	Sum of lost time (s)	20.0
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	142	97	12	9	1
Future Volume (Veh/h)	0	142	97	12	9	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.76	0.76	0.80	0.80	0.50	0.50
Hourly flow rate (vph)	0	187	121	15	18	2
Pedestrians					1	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			1251			
pX, platoon unblocked						
vC, conflicting volume	137				309	122
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	137				309	122
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	100				97	100
cM capacity (veh/h)	1398				666	907

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total	187	121	15	20
Volume Left	0	0	0	18
Volume Right	0	0	15	2
cSH	1398	1700	1700	685
Volume to Capacity	0.00	0.07	0.01	0.03
Queue Length 95th (ft)	0	0	0	2
Control Delay (s)	0.0	0.0	0.0	10.4
Lane LOS				B
Approach Delay (s)	0.0	0.0		10.4
Approach LOS				B

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	17.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	86	12	0	134	8	0
Future Volume (vph)	86	12	0	134	8	0
Peak Hour Factor	0.84	0.84	0.73	0.73	0.67	0.67
Hourly flow rate (vph)	102	14	0	184	12	0

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	116	184	12
Volume Left (vph)	102	0	12
Volume Right (vph)	14	184	0
Hadj (s)	0.14	-0.57	0.23
Departure Headway (s)	4.4	3.6	4.6
Degree Utilization, x	0.14	0.19	0.02
Capacity (veh/h)	781	958	747
Control Delay (s)	8.1	7.4	7.6
Approach Delay (s)	8.1	7.4	7.6
Approach LOS	A	A	A

Intersection Summary			
Delay		7.7	
Level of Service		A	
Intersection Capacity Utilization		20.5%	ICU Level of Service A
Analysis Period (min)		15	



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	5	0	0	11	0	0
Future Volume (vph)	5	0	0	11	0	0
Peak Hour Factor	0.63	0.63	0.69	0.69	0.83	0.83
Hourly flow rate (vph)	8	0	0	16	0	0

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	8	16	0
Volume Left (vph)	8	0	0
Volume Right (vph)	0	16	0
Hadj (s)	0.23	-0.57	0.00
Departure Headway (s)	4.2	3.4	3.9
Degree Utilization, x	0.01	0.01	0.00
Capacity (veh/h)	855	1067	900
Control Delay (s)	7.2	6.4	6.9
Approach Delay (s)	7.2	6.4	0.0
Approach LOS	A	A	A

Intersection Summary			
Delay	6.7		
Level of Service	A		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Appendix H - Excerpts from Caltrans Traffic Census Program (2021)

Caltrans Traffic Census Program (2021)

DISTRICT	ROUTE	ROUTE_SFX	COUNTY	PM_PFX	PM	PM_SFX	LOCATION DESCRIPTION	BACK_PEAK_HOUR	BACK_PEAK_MADT	BACK_AADT	AHEAD_PEAK_HOUR	AHEAD_PEAK_MADT	AHEAD_AADT
11	905		SD	R	6.723		CALIENTE ROAD	6400	78000	74000	5800	67000	66000
11	905		SD	R	8.782		BRITANNIA BLVD	5800	67000	66000	4500	59000	54000
11	905		SD	R	9.778		LA MEDIA ROAD	8200	99000	78000	4900	78000	62000

Appendix I - Estimated ADT Signal Warrants – All Scenarios

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

		COUNT DATE	Existing
Major St:	Airway Road	# of Lanes:	1
Minor St:	Continental Street	# of Lanes:	1

Speed limit or critical speed on major street traffic > 64 km/h (40 mph) .....

or } **RURAL (R)**

In built up area of isolated community of < 10,000 population.....

URBAN (U)

Major St ADT (Total):	4403	Roadway Type:	Urban
Minor Street ADT (Highest Direction):	468		

(Based on Estimated Average Daily Traffic - See Note)

CONDITION A - Minimum Vehicular Volume			Minimum Requirements EADT	
Satisfied	Not Satisfied	X	Vehichles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Number of lanes for moving traffic on each approach				
Major Street	Minor Street		Urban / Rural	Urban / Rural
1	1		8000 / 5,600	2,400 / 1,680
2 or more	1		9,600 / 6,720	2,400 / 1,680
2 or more	2 or more		9,600 / 6,720	3,200 / 2,240
1	2 or more		8,000 / 5,600	3,200 / 2,240
CONDITION B - Interruption of Continuous Traffc			Vehichles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Staisfied	Not Satisfied	X		
Number of lanes for moving traffic on each approach				
Major Street	Minor Street		Urban / Rural	Urban / Rural
1	1		12,000 / 8,400	1,200 / 850
2 or more	1		14,400 / 10,080	1,200 / 850
2 or more	2 or more		14,400 / 10,080	1,600 / 1,120
1	2 or more		12,000 / 8,400	1,600 / 1,120
Combination of CONDITIONS A+B				
Satisfied	Not Satisfied	X	2 CONDITIONS 80%	2 CONDITIONS 80%
No one condition satisfied, but following conditions fulfilled 80% or More	20% A	37% B		

Note: To be used only for NEW INTERSECTIONS or other locations wehre it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

		COUNT DATE	Existing
Major St:	Airway Road	# of Lanes:	1
Minor St:	Cactus Road	# of Lanes:	1

Speed limit or critical speed on major street traffic > 64 km/h (40 mph) .....

or } **RURAL (R)**

In built up area of isolated community of < 10,000 population.....

URBAN (U)

Major St ADT (Total):	3735	Roadway Type:	Urban
Minor Street ADT (Highest Direction):	3402		

(Based on Estimated Average Daily Traffic - See Note)

CONDITION A - Minimum Vehicular Volume			Minimum Requirements EADT	
Satisfied	Not Satisfied	X	Vehichles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Number of lanes for moving traffic on each approach				
Major Street	Minor Street		Urban / Rural	Urban / Rural
1	1		8000 / 5,600	2,400 / 1,680
2 or more	1		9,600 / 6,720	2,400 / 1,680
2 or more	2 or more		9,600 / 6,720	3,200 / 2,240
1	2 or more		8,000 / 5,600	3,200 / 2,240
CONDITION B - Interruption of Continuous Traffc			Vehichles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Staisfied	Not Satisfied	X		
Number of lanes for moving traffic on each approach				
Major Street	Minor Street		Urban / Rural	Urban / Rural
1	1		12,000 / 8,400	1,200 / 850
2 or more	1		14,400 / 10,080	1,200 / 850
2 or more	2 or more		14,400 / 10,080	1,600 / 1,120
1	2 or more		12,000 / 8,400	1,600 / 1,120
Combination of CONDITIONS A+B				
Satisfied	Not Satisfied	X	2 CONDITIONS 80%	2 CONDITIONS 80%
No one condition satisfied, but following conditions fulfilled 80% or More	47% A	31% B		

Note: To be used only for NEW INTERSECTIONS or other locations wehre it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

		COUNT DATE	Ex+P
Major St:	Airway Road	# of Lanes:	2 or more
Minor St:	Cactus Road	# of Lanes:	2 or more

Speed limit or critical speed on major street traffic > 64 km/h (40 mph) .....

or } **RURAL (R)**

In built up area of isolated community of < 10,000 population.....

URBAN (U)

Major St ADT (Total):	4709	Roadway Type:	Urban
Minor Street ADT (Highest Direction):	1823		

(Based on Estimated Average Daily Traffic - See Note)

CONDITION A - Minimum Vehicular Volume			Minimum Requirements EADT	
Satisfied	Not Satisfied	X	Vehichles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Number of lanes for moving traffic on each approach				
Major Street	Minor Street		Urban / Rural	Urban / Rural
1	1		8000 / 5,600	2,400 / 1,680
2 or more	1		9,600 / 6,720	2,400 / 1,680
2 or more	2 or more		9,600 / 6,720	3,200 / 2,240
1	2 or more		8,000 / 5,600	3,200 / 2,240
CONDITION B - Interruption of Continuous Traffc			Vehichles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Staisfied	Not Satisfied	X		
Number of lanes for moving traffic on each approach				
Major Street	Minor Street		Urban / Rural	Urban / Rural
1	1		12,000 / 8,400	1,200 / 850
2 or more	1		14,400 / 10,080	1,200 / 850
2 or more	2 or more		14,400 / 10,080	1,600 / 1,120
1	2 or more		12,000 / 8,400	1,600 / 1,120
Combination of CONDITIONS A+B				
Satisfied	Not Satisfied	X	2 CONDITIONS 80%	2 CONDITIONS 80%
No one condition satisfied, but following conditions fulfilled 80% or More	49% (A)	33% (B)		

Note: To be used only for NEW INTERSECTIONS or other locations wehre it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

		COUNT DATE	Ex+P
Major St:	Cactus Road	# of Lanes:	2 or more
Minor St:	Street D	# of Lanes:	1

Speed limit or critical speed on major street traffic > 64 km/h (40 mph) .....

or } **RURAL (R)**

In built up area of isolated community of < 10,000 population.....

URBAN (U)

Major St ADT (Total):	1559	Roadway Type:	Urban
Minor Street ADT (Highest Direction):	761		

(Based on Estimated Average Daily Traffic - See Note)

CONDITION A - Minimum Vehicular Volume			Minimum Requirements EADT	
Satisfied	Not Satisfied	X	Vehichles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Number of lanes for moving traffic on each approach				
Major Street	Minor Street		Urban / Rural	Urban / Rural
1	1		8000 / 5,600	2,400 / 1,680
2 or more	1		9,600 / 6,720	2,400 / 1,680
2 or more	2 or more		9,600 / 6,720	3,200 / 2,240
1	2 or more		8,000 / 5,600	3,200 / 2,240
CONDITION B - Interruption of Continuous Traffc			Vehichles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Staisfied	Not Satisfied	X		
Number of lanes for moving traffic on each approach				
Major Street	Minor Street		Urban / Rural	Urban / Rural
1	1		12,000 / 8,400	1,200 / 850
2 or more	1		14,400 / 10,080	1,200 / 850
2 or more	2 or more		14,400 / 10,080	1,600 / 1,120
1	2 or more		12,000 / 8,400	1,600 / 1,120
Combination of CONDITIONS A+B				
Satisfied	Not Satisfied	X	2 CONDITIONS 80%	2 CONDITIONS 80%
No one condition satisfied, but following conditions fulfilled 80% or More	16% (A)	11% (B)		

Note: To be used only for NEW INTERSECTIONS or other locations wehre it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

		COUNT DATE	Ex+P
Major St:	Airway Road	# of Lanes:	2 or more
Minor St:	Continental Street	# of Lanes:	1

Speed limit or critical speed on major street traffic > 64 km/h (40 mph) .....

or } **RURAL (R)**

In built up area of isolated community of < 10,000 population.....

URBAN (U)

Major St ADT (Total):	10245	Roadway Type:	Urban
Minor Street ADT (Highest Direction):	2060		

(Based on Estimated Average Daily Traffic - See Note)

CONDITION A - Minimum Vehicular Volume			Minimum Requirements EADT	
Satisfied	Not Satisfied	X	Vehichles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Number of lanes for moving traffic on each approach				
Major Street	Minor Street		Urban Rural	Urban Rural
1	1		8000 5,600	2,400 1,680
2 or more	1		9,600 6,720	2,400 1,680
2 or more	2 or more		9,600 6,720	3,200 2,240
1	2 or more		8,000 5,600	3,200 2,240
CONDITION B - Interruption of Continuous Traffc			Vehichles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Staisfied	Not Satisfied	X		
Number of lanes for moving traffic on each approach				
Major Street	Minor Street		Urban Rural	Urban Rural
1	1		12,000 8,400	1,200 850
2 or more	1		14,400 10,080	1,200 850
2 or more	2 or more		14,400 10,080	1,600 1,120
1	2 or more		12,000 8,400	1,600 1,120
Combination of CONDITIONS A+B				
Satisfied	Not Satisfied	X	2 CONDITIONS 80%	2 CONDITIONS 80%
No one condition satisfied, but following conditions fulfilled 80% or More	86% A	71% B		

Note: To be used only for NEW INTERSECTIONS or other locations wehre it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

		COUNT DATE	Near-Term Year
Major St:	Airway Road	# of Lanes:	1
Minor St:	Continental Street	# of Lanes:	1

Speed limit or critical speed on major street traffic > 64 km/h (40 mph) .....

In built up area of isolated community of < 10,000 population.....

or } **RURAL (R)** / **URBAN (U)**

Major St ADT (Total):	23130	Roadway Type:	Urban
Minor Street ADT (Highest Direction):	3220		

(Based on Estimated Average Daily Traffic - See Note)

CONDITION A - Minimum Vehicular Volume	Minimum Requirements EADT	
Satisfied X Not Satisfied	Vehichles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Number of lanes for moving traffic on each approach		
Major Street / Minor Street	Urban / Rural	Urban / Rural
1 / 1	8000 / 5,600	2,400 / 1,680
2 or more / 1	9,600 / 6,720	2,400 / 1,680
2 or more / 2 or more	9,600 / 6,720	3,200 / 2,240
1 / 2 or more	8,000 / 5,600	3,200 / 2,240
CONDITION B - Interruption of Continuous Traffc	Vehichles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Staisfied X Not Satisfied		
Number of lanes for moving traffic on each approach		
Major Street / Minor Street	Urban / Rural	Urban / Rural
1 / 1	12,000 / 8,400	1,200 / 850
2 or more / 1	14,400 / 10,080	1,200 / 850
2 or more / 2 or more	14,400 / 10,080	1,600 / 1,120
1 / 2 or more	12,000 / 8,400	1,600 / 1,120
Combination of CONDITIONS A+B		
Satisfied X Not Satisfied	2 CONDITIONS 80%	2 CONDITIONS 80%
No one condition satisfied, but following conditions fulfilled 80% or More — 134% (A) / 193% (B)		

Note: To be used only for NEW INTERSECTIONS or other locations wehre it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

		COUNT DATE	Near-Term Year
Major St:	Airway Road	# of Lanes:	1
Minor St:	Cactus Road	# of Lanes:	1

Speed limit or critical speed on major street traffic > 64 km/h (40 mph) .....

or } **RURAL (R)**

In built up area of isolated community of < 10,000 population.....

URBAN (U)

Major St ADT (Total):	19550	Roadway Type:	Urban
Minor Street ADT (Highest Direction):	10750		

(Based on Estimated Average Daily Traffic - See Note)

CONDITION A - Minimum Vehicular Volume		Minimum Requirements EADT	
Satisfied X Not Satisfied		Vehichles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Number of lanes for moving traffic on each approach			
Major Street	Minor Street	Urban / Rural	Urban / Rural
1	1	8000 / 5,600	2,400 / 1,680
2 or more	1	9,600 / 6,720	2,400 / 1,680
2 or more	2 or more	9,600 / 6,720	3,200 / 2,240
1	2 or more	8,000 / 5,600	3,200 / 2,240
CONDITION B - Interruption of Continuous Traffc		Vehichles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Staisfied X Not Satisfied			
Number of lanes for moving traffic on each approach			
Major Street	Minor Street	Urban / Rural	Urban / Rural
1	1	12,000 / 8,400	1,200 / 850
2 or more	1	14,400 / 10,080	1,200 / 850
2 or more	2 or more	14,400 / 10,080	1,600 / 1,120
1	2 or more	12,000 / 8,400	1,600 / 1,120
Combination of CONDITIONS A+B			
Satisfied X Not Satisfied		2 CONDITIONS 80%	2 CONDITIONS 80%
No one condition satisfied, but following conditions fulfilled 80% or More	244% (A) / 163% (B)		

Note: To be used only for NEW INTERSECTIONS or other locations wehre it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

		COUNT DATE	OY2027+P
Major St:	Airway Road	# of Lanes:	2 or more
Minor St:	Cactus Road	# of Lanes:	2 or more

Speed limit or critical speed on major street traffic > 64 km/h (40 mph) .....

In built up area of isolated community of < 10,000 population.....

or } **RURAL (R)** / **URBAN (U)**

Major St ADT (Total):	20524	Roadway Type:	Urban
Minor Street ADT (Highest Direction):	5497		

(Based on Estimated Average Daily Traffic - See Note)

CONDITION A - Minimum Vehicular Volume		Minimum Requirements EADT	
Satisfied X Not Satisfied		Vehichles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Number of lanes for moving traffic on each approach			
Major Street	Minor Street	Urban / Rural	Urban / Rural
1	1	8000 / 5,600	2,400 / 1,680
2 or more	1	9,600 / 6,720	2,400 / 1,680
2 or more	2 or more	9,600 / 6,720	3,200 / 2,240
1	2 or more	8,000 / 5,600	3,200 / 2,240
CONDITION B - Interruption of Continuous Traffc		Vehichles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Staisfied X Not Satisfied			
Number of lanes for moving traffic on each approach			
Major Street	Minor Street	Urban / Rural	Urban / Rural
1	1	12,000 / 8,400	1,200 / 850
2 or more	1	14,400 / 10,080	1,200 / 850
2 or more	2 or more	14,400 / 10,080	1,600 / 1,120
1	2 or more	12,000 / 8,400	1,600 / 1,120
Combination of CONDITIONS A+B			
Satisfied X Not Satisfied		2 CONDITIONS 80%	2 CONDITIONS 80%
No one condition satisfied, but following conditions fulfilled 80% or More	172% (A) / 143% (B)		

Note: To be used only for NEW INTERSECTIONS or other locations wehre it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

		COUNT DATE	OY2027+P
Major St:	Cactus Road	# of Lanes:	2 or more
Minor St:	Street D	# of Lanes:	1

Speed limit or critical speed on major street traffic > 64 km/h (40 mph) .....

In built up area of isolated community of < 10,000 population.....

or } **RURAL (R)**

URBAN (U)

Major St ADT (Total):	3837	Roadway Type:	Urban
Minor Street ADT (Highest Direction):	761		

(Based on Estimated Average Daily Traffic - See Note)

CONDITION A - Minimum Vehicular Volume			Minimum Requirements EADT	
Satisfied	Not Satisfied	X	Vehichles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Number of lanes for moving traffic on each approach				
Major Street	Minor Street		Urban / Rural	Urban / Rural
1	1		8000 / 5,600	2,400 / 1,680
2 or more	1		9,600 / 6,720	2,400 / 1,680
2 or more	2 or more		9,600 / 6,720	3,200 / 2,240
1	2 or more		8,000 / 5,600	3,200 / 2,240
CONDITION B - Interruption of Continuous Traffc			Vehichles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Staisfied	Not Satisfied	X		
Number of lanes for moving traffic on each approach				
Major Street	Minor Street		Urban / Rural	Urban / Rural
1	1		12,000 / 8,400	1,200 / 850
2 or more	1		14,400 / 10,080	1,200 / 850
2 or more	2 or more		14,400 / 10,080	1,600 / 1,120
1	2 or more		12,000 / 8,400	1,600 / 1,120
Combination of CONDITIONS A+B				
Satisfied	Not Satisfied	X	2 CONDITIONS 80%	2 CONDITIONS 80%
No one condition satisfied, but following conditions fulfilled 80% or More	32% (A)	27% (B)		

Note: To be used only for NEW INTERSECTIONS or other locations wehre it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

		COUNT DATE	OY2027+P
Major St:	Airway Road	# of Lanes:	2 or more
Minor St:	Continental Street	# of Lanes:	1

Speed limit or critical speed on major street traffic > 64 km/h (40 mph) .....

or } **RURAL (R)**

In built up area of isolated community of < 10,000 population.....

URBAN (U)

Major St ADT (Total):	28972	Roadway Type:	Urban
Minor Street ADT (Highest Direction):	3436		

(Based on Estimated Average Daily Traffic - See Note)

CONDITION A - Minimum Vehicular Volume		Minimum Requirements EADT	
Satisfied X Not Satisfied		Vehichles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Number of lanes for moving traffic on each approach			
Major Street	Minor Street	Urban / Rural	Urban / Rural
1	1	8000 / 5,600	2,400 / 1,680
2 or more	1	9,600 / 6,720	2,400 / 1,680
2 or more	2 or more	9,600 / 6,720	3,200 / 2,240
1	2 or more	8,000 / 5,600	3,200 / 2,240
CONDITION B - Interruption of Continuous Traffc		Vehichles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Staisfied X Not Satisfied			
Number of lanes for moving traffic on each approach			
Major Street	Minor Street	Urban / Rural	Urban / Rural
1	1	12,000 / 8,400	1,200 / 850
2 or more	1	14,400 / 10,080	1,200 / 850
2 or more	2 or more	14,400 / 10,080	1,600 / 1,120
1	2 or more	12,000 / 8,400	1,600 / 1,120
Combination of CONDITIONS A+B			
Satisfied X Not Satisfied		2 CONDITIONS 80%	2 CONDITIONS 80%
No one condition satisfied, but following conditions fulfilled 80% or More	143% A / 201% B		

Note: To be used only for NEW INTERSECTIONS or other locations wehre it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

		COUNT DATE	Horizon Year
Major St:	Airway Road	# of Lanes:	1
Minor St:	Continental Street	# of Lanes:	1

Speed limit or critical speed on major street traffic > 64 km/h (40 mph) .....

In built up area of isolated community of < 10,000 population.....

or } **RURAL (R)** / **URBAN (U)**

Major St ADT (Total):	26760
Minor Street ADT (Highest Direction):	3380

Roadway Type: Urban

(Based on Estimated Average Daily Traffic - See Note)

CONDITION A - Minimum Vehicular Volume	Minimum Requirements EADT	
Satisfied X Not Satisfied	Vehichles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Number of lanes for moving traffic on each approach		
Major Street / Minor Street	Urban / Rural	Urban / Rural
1 / 1	8000 / 5,600	2,400 / 1,680
2 or more / 1	9,600 / 6,720	2,400 / 1,680
2 or more / 2 or more	9,600 / 6,720	3,200 / 2,240
1 / 2 or more	8,000 / 5,600	3,200 / 2,240
CONDITION B - Interruption of Continuous Traffc	Vehichles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Staisfied X Not Satisfied		
Number of lanes for moving traffic on each approach		
Major Street / Minor Street	Urban / Rural	Urban / Rural
1 / 1	12,000 / 8,400	1,200 / 850
2 or more / 1	14,400 / 10,080	1,200 / 850
2 or more / 2 or more	14,400 / 10,080	1,600 / 1,120
1 / 2 or more	12,000 / 8,400	1,600 / 1,120
Combination of CONDITIONS A+B		
Satisfied X Not Satisfied	2 CONDITIONS 80%	2 CONDITIONS 80%
No one condition satisfied, but following conditions fulfilled 80% or More — 141% (A) / 223% (B)		

Note: To be used only for NEW INTERSECTIONS or other locations wehre it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

		COUNT DATE	Horizon Year
Major St:	Airway Road	# of Lanes:	1
Minor St:	Cactus Road	# of Lanes:	1

Speed limit or critical speed on major street traffic > 64 km/h (40 mph) .....

or } **RURAL (R)**

In built up area of isolated community of < 10,000 population.....

URBAN (U)

Major St ADT (Total):	20680	Roadway Type:	Urban
Minor Street ADT (Highest Direction):	14390		

(Based on Estimated Average Daily Traffic - See Note)

CONDITION A - Minimum Vehicular Volume		Minimum Requirements EADT	
Satisfied X Not Satisfied		Vehichles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Number of lanes for moving traffic on each approach			
Major Street	Minor Street	Urban Rural	Urban Rural
1	1	8000 5,600	2,400 1,680
2 or more	1	9,600 6,720	2,400 1,680
2 or more	2 or more	9,600 6,720	3,200 2,240
1	2 or more	8,000 5,600	3,200 2,240
CONDITION B - Interruption of Continuous Traffc		Vehichles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Staisfied X Not Satisfied			
Number of lanes for moving traffic on each approach			
Major Street	Minor Street	Urban Rural	Urban Rural
1	1	12,000 8,400	1,200 850
2 or more	1	14,400 10,080	1,200 850
2 or more	2 or more	14,400 10,080	1,600 1,120
1	2 or more	12,000 8,400	1,600 1,120
Combination of CONDITIONS A+B			
Satisfied X Not Satisfied		2 CONDITIONS 80%	2 CONDITIONS 80%
No one condition satisfied, but following conditions fulfilled 80% or More	259% (A) 172% (B)		

Note: To be used only for NEW INTERSECTIONS or other locations wehre it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

		COUNT DATE	HY2062+P
Major St:	Airway Road	# of Lanes:	2 or more
Minor St:	Cactus Road	# of Lanes:	2 or more

Speed limit or critical speed on major street traffic > 64 km/h (40 mph) .....

or } **RURAL (R)**

In built up area of isolated community of < 10,000 population.....

URBAN (U)

Major St ADT (Total):	21654	Roadway Type:	Urban
Minor Street ADT (Highest Direction):	7317		

(Based on Estimated Average Daily Traffic - See Note)

CONDITION A - Minimum Vehicular Volume		Minimum Requirements EADT	
Satisfied X Not Satisfied		Vehichles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Number of lanes for moving traffic on each approach			
Major Street	Minor Street	Urban / Rural	Urban / Rural
1	1	8000 / 5,600	2,400 / 1,680
2 or more	1	9,600 / 6,720	2,400 / 1,680
2 or more	2 or more	9,600 / 6,720	3,200 / 2,240
1	2 or more	8,000 / 5,600	3,200 / 2,240
CONDITION B - Interruption of Continuous Traffc		Vehichles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Staisfied X Not Satisfied			
Number of lanes for moving traffic on each approach			
Major Street	Minor Street	Urban / Rural	Urban / Rural
1	1	12,000 / 8,400	1,200 / 850
2 or more	1	14,400 / 10,080	1,200 / 850
2 or more	2 or more	14,400 / 10,080	1,600 / 1,120
1	2 or more	12,000 / 8,400	1,600 / 1,120
Combination of CONDITIONS A+B			
Satisfied X Not Satisfied		2 CONDITIONS 80%	2 CONDITIONS 80%
No one condition satisfied, but following conditions fulfilled 80% or More	226% (A) / 150% (B)		

Note: To be used only for NEW INTERSECTIONS or other locations wehre it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

		COUNT DATE	HY2062+P
Major St:	Cactus Road	# of Lanes:	2 or more
Minor St:	Street D	# of Lanes:	1

Speed limit or critical speed on major street traffic > 64 km/h (40 mph) .....

or } **RURAL (R)**

In built up area of isolated community of < 10,000 population.....

URBAN (U)

Major St ADT (Total):	7337	Roadway Type:	Urban
Minor Street ADT (Highest Direction):	761		

(Based on Estimated Average Daily Traffic - See Note)

CONDITION A - Minimum Vehicular Volume			Minimum Requirements EADT	
Satisfied	Not Satisfied	X	Vehichles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Number of lanes for moving traffic on each approach				
Major Street	Minor Street		Urban / Rural	Urban / Rural
1	1		8000 / 5,600	2,400 / 1,680
2 or more	1		9,600 / 6,720	2,400 / 1,680
2 or more	2 or more		9,600 / 6,720	3,200 / 2,240
1	2 or more		8,000 / 5,600	3,200 / 2,240
CONDITION B - Interruption of Continuous Traffc			Vehichles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Staisfied	Not Satisfied	X		
Number of lanes for moving traffic on each approach				
Major Street	Minor Street		Urban / Rural	Urban / Rural
1	1		12,000 / 8,400	1,200 / 850
2 or more	1		14,400 / 10,080	1,200 / 850
2 or more	2 or more		14,400 / 10,080	1,600 / 1,120
1	2 or more		12,000 / 8,400	1,600 / 1,120
Combination of CONDITIONS A+B				
Satisfied	Not Satisfied	X	2 CONDITIONS 80%	2 CONDITIONS 80%
No one condition satisfied, but following conditions fulfilled 80% or More	32% A	51% B		

Note: To be used only for NEW INTERSECTIONS or other locations wehre it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

		COUNT DATE	HY2062+P
Major St:	Airway Road	# of Lanes:	2 or more
Minor St:	Continental Street	# of Lanes:	1

Speed limit or critical speed on major street traffic > 64 km/h (40 mph) .....

or } **RURAL (R)**

In built up area of isolated community of < 10,000 population.....

URBAN (U)

Major St ADT (Total):	32602	Roadway Type:	Urban
Minor Street ADT (Highest Direction):	3516		

(Based on Estimated Average Daily Traffic - See Note)

CONDITION A - Minimum Vehicular Volume		Minimum Requirements EADT	
Satisfied X Not Satisfied		Vehichles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Number of lanes for moving traffic on each approach			
Major Street	Minor Street	Urban / Rural	Urban / Rural
1	1	8000 / 5,600	2,400 / 1,680
2 or more	1	9,600 / 6,720	2,400 / 1,680
2 or more	2 or more	9,600 / 6,720	3,200 / 2,240
1	2 or more	8,000 / 5,600	3,200 / 2,240
CONDITION B - Interruption of Continuous Traffc		Vehichles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Staisfied X Not Satisfied			
Number of lanes for moving traffic on each approach			
Major Street	Minor Street	Urban / Rural	Urban / Rural
1	1	12,000 / 8,400	1,200 / 850
2 or more	1	14,400 / 10,080	1,200 / 850
2 or more	2 or more	14,400 / 10,080	1,600 / 1,120
1	2 or more	12,000 / 8,400	1,600 / 1,120
Combination of CONDITIONS A+B			
Satisfied X Not Satisfied		2 CONDITIONS 80%	2 CONDITIONS 80%
No one condition satisfied, but following conditions fulfilled 80% or More	147% A / 226% B		

Note: To be used only for NEW INTERSECTIONS or other locations wehre it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Appendix J - LOS Calculation Worksheets – Existing with Project Conditions



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	270	59	98	270	20	42	1	56	7	2	5
Future Volume (vph)	7	270	59	98	270	20	42	1	56	7	2	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1641	4568		1641	4659		1641	1727	1449	1641	1727	1468
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1641	4568		1641	4659		1641	1727	1449	1641	1727	1468
Peak-hour factor, PHF	0.90	0.90	0.90	0.88	0.88	0.88	0.87	0.87	0.87	0.83	0.83	0.83
Adj. Flow (vph)	8	300	66	111	307	23	48	1	64	8	2	6
RTOR Reduction (vph)	0	20	0	0	5	0	0	0	56	0	0	5
Lane Group Flow (vph)	8	346	0	111	325	0	48	1	8	8	2	1
Confl. Peds. (#/hr)			3			2			2			
Confl. Bikes (#/hr)			1			1						
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	0.5	24.3		8.1	31.9		2.8	7.5	7.5	0.5	5.2	5.2
Effective Green, g (s)	0.5	24.3		8.1	31.9		2.8	7.5	7.5	0.5	5.2	5.2
Actuated g/C Ratio	0.01	0.40		0.13	0.53		0.05	0.12	0.12	0.01	0.09	0.09
Clearance Time (s)	4.4	6.0		4.4	6.0		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.4		2.0	4.2		2.0	3.2	3.2	2.0	2.0	2.0
Lane Grp Cap (vph)	13	1846		221	2472		76	215	180	13	149	127
v/s Ratio Prot	0.00	c0.08		c0.07	0.07		c0.03	0.00		0.00	0.00	
v/s Ratio Perm									c0.01			0.00
v/c Ratio	0.62	0.19		0.50	0.13		0.63	0.00	0.04	0.62	0.01	0.00
Uniform Delay, d1	29.7	11.5		24.1	7.1		28.1	23.0	23.1	29.7	25.1	25.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	48.2	0.1		0.7	0.0		11.9	0.0	0.1	48.2	0.0	0.0
Delay (s)	77.9	11.6		24.8	7.1		40.0	23.0	23.3	77.9	25.1	25.1
Level of Service	E	B		C	A		D	C	C	E	C	C
Approach Delay (s)		13.0			11.6			30.4			51.5	
Approach LOS		B			B			C			D	

Intersection Summary			
HCM 2000 Control Delay	15.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	60.1	Sum of lost time (s)	19.7
Intersection Capacity Utilization	39.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	337	1	30	390	1	23
Future Volume (vph)	337	1	30	390	1	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0		5.4	7.0	5.9	5.9
Lane Util. Factor	0.91		1.00	0.91	0.97	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	4714		1641	4715	3183	1468
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	4714		1641	4715	3183	1468
Peak-hour factor, PHF	0.88	0.88	0.83	0.83	0.67	0.67
Adj. Flow (vph)	383	1	36	470	1	34
RTOR Reduction (vph)	0	0	0	0	0	33
Lane Group Flow (vph)	384	0	36	470	1	1
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Actuated Green, G (s)	27.5		0.8	33.7	0.7	0.7
Effective Green, g (s)	27.5		0.8	33.7	0.7	0.7
Actuated g/C Ratio	0.58		0.02	0.71	0.01	0.01
Clearance Time (s)	7.0		5.4	7.0	5.9	5.9
Vehicle Extension (s)	4.5		2.0	4.5	2.0	2.0
Lane Grp Cap (vph)	2740		27	3359	47	21
v/s Ratio Prot	0.08		c0.02	c0.10	0.00	
v/s Ratio Perm						c0.00
v/c Ratio	0.14		1.33	0.14	0.02	0.02
Uniform Delay, d1	4.5		23.2	2.2	23.0	23.0
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0		288.6	0.0	0.1	0.2
Delay (s)	4.6		311.9	2.2	23.0	23.1
Level of Service	A		F	A	C	C
Approach Delay (s)	4.6			24.2	23.1	
Approach LOS	A			C	C	

Intersection Summary			
HCM 2000 Control Delay	16.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.18		
Actuated Cycle Length (s)	47.3	Sum of lost time (s)	18.3
Intersection Capacity Utilization	30.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	209	164	116	152	268	297
Future Volume (vph)	209	164	116	152	268	297
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.3	4.4	6.0	5.3	5.3
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	4715	1457	1641	4715	3183	1448
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	4715	1457	1641	4715	3183	1448
Peak-hour factor, PHF	0.87	0.87	0.81	0.81	0.88	0.88
Adj. Flow (vph)	240	189	143	188	305	338
RTOR Reduction (vph)	0	90	0	0	0	257
Lane Group Flow (vph)	240	99	143	188	305	81
Confl. Peds. (#/hr)		5				4
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Actuated Green, G (s)	15.9	29.3	10.7	31.0	13.4	13.4
Effective Green, g (s)	15.9	29.3	10.7	31.0	13.4	13.4
Actuated g/C Ratio	0.29	0.53	0.19	0.56	0.24	0.24
Clearance Time (s)	6.0	5.3	4.4	6.0	5.3	5.3
Vehicle Extension (s)	4.4	2.0	2.0	4.3	2.0	2.0
Lane Grp Cap (vph)	1345	766	315	2624	765	348
v/s Ratio Prot	c0.05	0.03	c0.09	0.04	c0.10	
v/s Ratio Perm		0.04				0.06
v/c Ratio	0.18	0.13	0.45	0.07	0.40	0.23
Uniform Delay, d1	15.0	6.7	19.9	5.7	17.8	17.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.0	0.4	0.0	0.1	0.1
Delay (s)	15.1	6.7	20.3	5.7	17.9	17.1
Level of Service	B	A	C	A	B	B
Approach Delay (s)	11.4			12.0	17.5	
Approach LOS	B			B	B	

Intersection Summary			
HCM 2000 Control Delay	14.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	55.7	Sum of lost time (s)	15.7
Intersection Capacity Utilization	42.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	256	0	119	429	455	0	0	212	68
Future Volume (vph)	0	0	0	256	0	119	429	455	0	0	212	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1795	1795	1630	1630	1630
Total Lost time (s)				5.1	5.1	5.1	4.7	5.1			5.1	
Lane Util. Factor				1.00	0.95	0.95	0.97	0.91			0.91	
Frpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Frt				1.00	0.85	0.85	1.00	1.00			0.96	
Flt Protected				0.95	1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1641	1395	1395	3183	4455			3886	
Flt Permitted				0.95	1.00	1.00	0.95	1.00			1.00	
Satd. Flow (perm)				1641	1395	1395	3183	4455			3886	
Peak-hour factor, PHF	0.90	0.90	0.90	0.84	0.84	0.84	0.84	0.84	0.84	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	305	0	142	511	542	0	0	228	73
RTOR Reduction (vph)	0	0	0	0	50	50	0	0	0	0	48	0
Lane Group Flow (vph)	0	0	0	305	21	21	511	542	0	0	253	0
Confl. Peds. (#/hr)									6			1
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8		8						
Actuated Green, G (s)				18.8	18.8	18.8	17.0	36.1			14.4	
Effective Green, g (s)				18.8	18.8	18.8	17.0	36.1			14.4	
Actuated g/C Ratio				0.29	0.29	0.29	0.26	0.55			0.22	
Clearance Time (s)				5.1	5.1	5.1	4.7	5.1			5.1	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				473	402	402	831	2470			859	
v/s Ratio Prot					0.01		c0.16	0.12			c0.07	
v/s Ratio Perm				c0.19		0.01						
v/c Ratio				0.64	0.05	0.05	0.61	0.22			0.30	
Uniform Delay, d1				20.2	16.7	16.7	21.2	7.4			21.1	
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2				3.0	0.1	0.1	1.4	0.0			0.2	
Delay (s)				23.2	16.8	16.8	22.5	7.4			21.3	
Level of Service				C	B	B	C	A			C	
Approach Delay (s)		0.0			21.2			14.7			21.3	
Approach LOS		A			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	17.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	65.1	Sum of lost time (s)	14.9
Intersection Capacity Utilization	57.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	204	2	675	0	0	0	0	665	255	80	419	0
Future Volume (vph)	204	2	675	0	0	0	0	665	255	80	419	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1728	1728	1900	1781	1781
Total Lost time (s)		5.1	5.1					5.1		4.7	5.1	
Lane Util. Factor		1.00	0.88					0.95		0.97	0.91	
Frpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Frt		1.00	0.85					0.96		1.00	1.00	
Flt Protected		0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)		1646	2584					2850		3183	4420	
Flt Permitted		0.95	1.00					1.00		0.95	1.00	
Satd. Flow (perm)		1646	2584					2850		3183	4420	
Peak-hour factor, PHF	0.79	0.79	0.79	0.88	0.88	0.88	0.94	0.94	0.94	0.86	0.86	0.86
Adj. Flow (vph)	258	3	854	0	0	0	0	707	271	93	487	0
RTOR Reduction (vph)	0	0	521	0	0	0	0	35	0	0	0	0
Lane Group Flow (vph)	0	261	333	0	0	0	0	943	0	93	487	0
Confl. Peds. (#/hr)									2			
Confl. Bikes (#/hr)												2
Turn Type	Perm	NA	Perm					NA		Prot	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4									
Actuated Green, G (s)		22.0	22.0					33.8		6.2	44.7	
Effective Green, g (s)		22.0	22.0					33.8		6.2	44.7	
Actuated g/C Ratio		0.29	0.29					0.44		0.08	0.58	
Clearance Time (s)		5.1	5.1					5.1		4.7	5.1	
Vehicle Extension (s)		3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)		470	739					1252		256	2569	
v/s Ratio Prot								c0.33		c0.03	0.11	
v/s Ratio Perm		0.16	0.13									
v/c Ratio		0.56	0.45					0.75		0.36	0.19	
Uniform Delay, d1		23.3	22.5					18.1		33.5	7.6	
Progression Factor		1.00	1.00					1.00		1.00	1.00	
Incremental Delay, d2		1.4	0.4					2.6		0.9	0.0	
Delay (s)		24.7	22.9					20.7		34.4	7.6	
Level of Service		C	C					C		C	A	
Approach Delay (s)		23.4			0.0			20.7			11.9	
Approach LOS		C			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	19.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	76.9	Sum of lost time (s)	14.9
Intersection Capacity Utilization	57.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	418	47	19	16	7	134	6	355	12	358	526	232
Future Volume (vph)	418	47	19	16	7	134	6	355	12	358	526	232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.2	5.2	4.4	4.9		4.4	5.1	5.1
Lane Util. Factor	0.95	0.95			1.00	1.00	1.00	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99			1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.96			0.97	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1559	1565			1669	1468	1641	3266		1641	1727	1450
Flt Permitted	0.95	0.96			0.97	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1559	1565			1669	1468	1641	3266		1641	1727	1450
Peak-hour factor, PHF	0.51	0.51	0.51	0.87	0.87	0.87	0.85	0.85	0.85	0.82	0.82	0.82
Adj. Flow (vph)	820	92	37	18	8	154	7	418	14	437	641	283
RTOR Reduction (vph)	0	2	0	0	0	135	0	2	0	0	0	106
Lane Group Flow (vph)	476	471	0	0	26	19	7	430	0	437	641	177
Confl. Peds. (#/hr)												1
Turn Type	Split	NA		Split	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8						6
Actuated Green, G (s)	36.3	36.3			16.4	16.4	0.7	25.2		32.2	56.5	56.5
Effective Green, g (s)	36.3	36.3			16.4	16.4	0.7	25.2		32.2	56.5	56.5
Actuated g/C Ratio	0.28	0.28			0.13	0.13	0.01	0.19		0.25	0.43	0.43
Clearance Time (s)	5.3	5.3			5.2	5.2	4.4	4.9		4.4	5.1	5.1
Vehicle Extension (s)	2.0	2.0			3.7	3.7	2.0	3.8		2.0	3.8	3.8
Lane Grp Cap (vph)	435	437			210	185	8	633		406	751	630
v/s Ratio Prot	c0.31	0.30			c0.02		0.00	0.13		c0.27	c0.37	
v/s Ratio Perm						0.01						0.12
v/c Ratio	1.09	1.08			0.12	0.11	0.88	0.68		1.08	0.85	0.28
Uniform Delay, d1	46.8	46.8			50.4	50.3	64.6	48.6		48.9	33.0	23.6
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	71.1	65.4			0.3	0.3	233.9	3.1		66.6	9.6	0.3
Delay (s)	117.9	112.2			50.7	50.6	298.5	51.7		115.5	42.6	23.9
Level of Service	F	F			D	D	F	D		F	D	C
Approach Delay (s)		115.0			50.6			55.7			62.1	
Approach LOS		F			D			E			E	

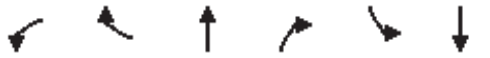
Intersection Summary			
HCM 2000 Control Delay	77.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	129.9	Sum of lost time (s)	20.0
Intersection Capacity Utilization	63.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	190	168	48	282	6
Future Volume (Veh/h)	3	190	168	48	282	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.81	0.81	0.57	0.57
Hourly flow rate (vph)	4	224	207	59	495	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			1251			
pX, platoon unblocked						
vC, conflicting volume	266				439	207
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	266				439	207
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				14	99
cM capacity (veh/h)	1298				573	833

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total	228	207	59	506
Volume Left	4	0	0	495
Volume Right	0	0	59	11
cSH	1298	1700	1700	577
Volume to Capacity	0.00	0.12	0.03	0.88
Queue Length 95th (ft)	0	0	0	250
Control Delay (s)	0.2	0.0	0.0	40.3
Lane LOS	A			E
Approach Delay (s)	0.2	0.0		40.3
Approach LOS				E

Intersection Summary			
Average Delay	20.4		
Intersection Capacity Utilization	35.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	144	18	4	93	70	15
Future Volume (vph)	144	18	4	93	70	15
Peak Hour Factor	0.76	0.76	0.80	0.80	0.83	0.83
Hourly flow rate (vph)	189	24	5	116	84	18

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	213	121	102
Volume Left (vph)	189	0	84
Volume Right (vph)	24	116	0
Hadj (s)	0.28	-0.41	0.33
Departure Headway (s)	4.7	4.2	4.9
Degree Utilization, x	0.28	0.14	0.14
Capacity (veh/h)	727	814	691
Control Delay (s)	9.5	7.8	8.7
Approach Delay (s)	9.5	7.8	8.7
Approach LOS	A	A	A

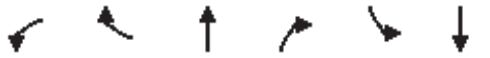
Intersection Summary			
Delay	8.9		
Level of Service	A		
Intersection Capacity Utilization	27.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	193	134	40	0	38
Future Volume (Veh/h)	0	193	134	40	0	38
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	210	146	43	0	41
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	189				378	168
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	189				378	168
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	95
cM capacity (veh/h)	1385				624	877

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	210	189	41
Volume Left	0	0	0
Volume Right	0	43	41
cSH	1700	1700	877
Volume to Capacity	0.12	0.11	0.05
Queue Length 95th (ft)	0	0	4
Control Delay (s)	0.0	0.0	9.3
Lane LOS			A
Approach Delay (s)	0.0	0.0	9.3
Approach LOS			A

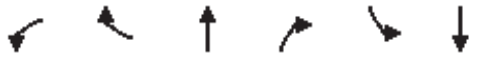
Intersection Summary			
Average Delay		0.9	
Intersection Capacity Utilization		19.5%	ICU Level of Service
Analysis Period (min)		15	



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	18	0	17	5	0	67
Future Volume (Veh/h)	18	0	17	5	0	67
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	20	0	18	5	0	73
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	94	20			23	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	94	20			23	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	100			100	
cM capacity (veh/h)	906	1057			1592	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	20	0	23	73
Volume Left	20	0	0	0
Volume Right	0	0	5	0
cSH	906	1700	1700	1592
Volume to Capacity	0.02	0.00	0.01	0.00
Queue Length 95th (ft)	2	0	0	0
Control Delay (s)	9.1	0.0	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	9.1		0.0	0.0
Approach LOS	A			

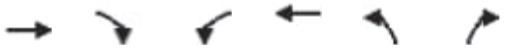
Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	13.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	57	0	2	15	0	10
Future Volume (Veh/h)	57	0	2	15	0	10
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	62	0	2	16	0	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	21	10			18	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	21	10			18	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	94	100			100	
cM capacity (veh/h)	996	1071			1599	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	62	18	11
Volume Left	62	0	0
Volume Right	0	16	0
cSH	996	1700	1599
Volume to Capacity	0.06	0.01	0.00
Queue Length 95th (ft)	5	0	0
Control Delay (s)	8.9	0.0	0.0
Lane LOS	A		
Approach Delay (s)	8.9	0.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	6.0		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	76	0	0	0	20	38
Future Volume (Veh/h)	76	0	0	0	20	38
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	83	0	0	0	22	41
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			None		
Median storage veh)	2					
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			83		83	83
vC1, stage 1 conf vol					83	
vC2, stage 2 conf vol					0	
vCu, unblocked vol			83		83	83
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		98	96
cM capacity (veh/h)			1514		917	976

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	83	0	0	63
Volume Left	0	0	0	22
Volume Right	0	0	0	41
cSH	1700	1700	1700	955
Volume to Capacity	0.05	0.00	0.00	0.07
Queue Length 95th (ft)	0	0	0	5
Control Delay (s/veh)	0.0	0.0	0.0	9.0
Lane LOS				A
Approach Delay (s/veh)	0.0	0.0		9.0
Approach LOS				A

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	14.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	230	8	0	1	30	18	11	1	47	0
Future Volume (vph)	0	0	230	8	0	1	30	18	11	1	47	0
Peak Hour Factor	0.92	0.92	0.92	0.56	0.92	0.56	0.92	0.68	0.68	0.83	0.83	0.92
Hourly flow rate (vph)	0	0	250	14	0	2	33	26	16	1	57	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	250	16	75	58
Volume Left (vph)	0	14	33	1
Volume Right (vph)	250	2	16	0
Hadj (s)	-0.57	0.13	-0.01	0.04
Departure Headway (s)	3.7	4.6	4.5	4.6
Degree Utilization, x	0.25	0.02	0.09	0.07
Capacity (veh/h)	951	740	751	734
Control Delay (s)	7.9	7.7	8.0	7.9
Approach Delay (s)	7.9	7.7	8.0	7.9
Approach LOS	A	A	A	A

Intersection Summary				
Delay	7.9			
Level of Service	A			
Intersection Capacity Utilization	30.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	0	19	19	0	19	10	20	10	0	0	0
Future Volume (Veh/h)	19	0	19	19	0	19	10	20	10	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	21	0	21	21	0	21	11	22	11	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	70	55	0	70	50	28	0			33		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	70	55	0	70	50	28	0			33		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	98	98	100	98	99			100		
cM capacity (veh/h)	898	831	1085	899	836	1048	1623			1579		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	42	42	44	0
Volume Left	21	21	11	0
Volume Right	21	21	11	0
cSH	983	968	1623	1700
Volume to Capacity	0.04	0.04	0.01	0.00
Queue Length 95th (ft)	3	3	1	0
Control Delay (s)	8.8	8.9	1.8	0.0
Lane LOS	A	A	A	
Approach Delay (s)	8.8	8.9	1.8	0.0
Approach LOS	A	A		

Intersection Summary				
Average Delay	6.4			
Intersection Capacity Utilization	13.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	410	73	84	358	14	65	2	112	23	1	10
Future Volume (vph)	5	410	73	84	358	14	65	2	112	23	1	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1641	4594		1641	4685		1641	1727	1447	1641	1727	1468
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1641	4594		1641	4685		1641	1727	1447	1641	1727	1468
Peak-hour factor, PHF	0.91	0.91	0.91	0.88	0.88	0.88	0.90	0.90	0.90	0.53	0.53	0.53
Adj. Flow (vph)	5	451	80	95	407	16	72	2	124	43	2	19
RTOR Reduction (vph)	0	20	0	0	3	0	0	0	92	0	0	18
Lane Group Flow (vph)	5	511	0	95	420	0	72	2	32	43	2	1
Confl. Peds. (#/hr)			2			3			3			
Confl. Bikes (#/hr)									1			
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	0.5	19.5		5.1	24.1		17.0	17.0	17.0	5.1	5.1	5.1
Effective Green, g (s)	0.5	19.5		5.1	24.1		17.0	17.0	17.0	5.1	5.1	5.1
Actuated g/C Ratio	0.01	0.29		0.08	0.36		0.26	0.26	0.26	0.08	0.08	0.08
Clearance Time (s)	4.4	6.0		4.4	6.0		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.4		2.0	4.2		2.0	3.2	3.2	2.0	2.0	2.0
Lane Grp Cap (vph)	12	1349		126	1700		420	442	370	126	132	112
v/s Ratio Prot	0.00	c0.11		c0.06	0.09		c0.04	0.00		c0.03	0.00	
v/s Ratio Perm									c0.02			0.00
v/c Ratio	0.42	0.38		0.75	0.25		0.17	0.00	0.09	0.34	0.02	0.01
Uniform Delay, d1	32.8	18.6		30.0	14.8		19.2	18.4	18.8	29.1	28.3	28.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.3	0.3		20.0	0.1		0.1	0.0	0.1	0.6	0.0	0.0
Delay (s)	41.1	18.9		50.1	14.9		19.3	18.4	18.9	29.6	28.3	28.3
Level of Service	D	B		D	B		B	B	B	C	C	C
Approach Delay (s)		19.1			21.4			19.0			29.2	
Approach LOS		B			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	20.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	66.4	Sum of lost time (s)	19.7
Intersection Capacity Utilization	41.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	549	2	38	459	5	19
Future Volume (vph)	549	2	38	459	5	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0		5.4	7.0	5.9	5.9
Lane Util. Factor	0.91		1.00	0.91	0.97	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	4713		1641	4715	3183	1468
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	4713		1641	4715	3183	1468
Peak-hour factor, PHF	0.89	0.89	0.83	0.83	0.52	0.52
Adj. Flow (vph)	617	2	46	553	10	37
RTOR Reduction (vph)	0	0	0	0	0	35
Lane Group Flow (vph)	619	0	46	553	10	2
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Actuated Green, G (s)	23.2		4.8	33.4	2.0	2.0
Effective Green, g (s)	23.2		4.8	33.4	2.0	2.0
Actuated g/C Ratio	0.48		0.10	0.69	0.04	0.04
Clearance Time (s)	7.0		5.4	7.0	5.9	5.9
Vehicle Extension (s)	4.5		2.0	4.5	2.0	2.0
Lane Grp Cap (vph)	2263		163	3260	131	60
v/s Ratio Prot	c0.13		c0.03	0.12	c0.00	
v/s Ratio Perm						0.00
v/c Ratio	0.27		0.28	0.17	0.08	0.03
Uniform Delay, d1	7.5		20.2	2.6	22.3	22.2
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1		0.3	0.0	0.1	0.1
Delay (s)	7.6		20.5	2.6	22.4	22.3
Level of Service	A		C	A	C	C
Approach Delay (s)	7.6			4.0	22.3	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	6.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	48.3	Sum of lost time (s)	18.3
Intersection Capacity Utilization	32.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	223	336	273	240	239	183
Future Volume (vph)	223	336	273	240	239	183
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.3	4.4	6.0	5.3	5.3
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	4715	1458	1641	4715	3183	1440
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	4715	1458	1641	4715	3183	1440
Peak-hour factor, PHF	0.94	0.94	0.74	0.74	0.92	0.92
Adj. Flow (vph)	237	357	369	324	260	199
RTOR Reduction (vph)	0	62	0	0	0	162
Lane Group Flow (vph)	237	295	369	324	260	37
Confl. Peds. (#/hr)		2				14
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Actuated Green, G (s)	15.2	29.0	30.1	49.7	13.8	13.8
Effective Green, g (s)	15.2	29.0	30.1	49.7	13.8	13.8
Actuated g/C Ratio	0.20	0.39	0.40	0.66	0.18	0.18
Clearance Time (s)	6.0	5.3	4.4	6.0	5.3	5.3
Vehicle Extension (s)	4.4	2.0	2.0	4.3	2.0	2.0
Lane Grp Cap (vph)	958	565	660	3132	587	265
v/s Ratio Prot	0.05	c0.10	c0.22	0.07	0.08	
v/s Ratio Perm		0.11				0.03
v/c Ratio	0.25	0.52	0.56	0.10	0.44	0.14
Uniform Delay, d1	25.0	17.6	17.2	4.5	27.1	25.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.4	0.6	0.0	0.2	0.1
Delay (s)	25.2	18.0	17.8	4.5	27.3	25.6
Level of Service	C	B	B	A	C	C
Approach Delay (s)	20.9			11.6	26.6	
Approach LOS	C			B	C	

Intersection Summary			
HCM 2000 Control Delay	18.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	74.8	Sum of lost time (s)	15.7
Intersection Capacity Utilization	55.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	261	0	130	720	321	0	0	389	191
Future Volume (vph)	0	0	0	261	0	130	720	321	0	0	389	191
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1795	1795	1630	1630	1630
Total Lost time (s)				5.1	5.1	5.1	4.7	5.1			5.1	
Lane Util. Factor				1.00	0.95	0.95	0.97	0.91			0.91	
Frpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Frt				1.00	0.85	0.85	1.00	1.00			0.95	
Flt Protected				0.95	1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1641	1395	1395	3183	4455			3829	
Flt Permitted				0.95	1.00	1.00	0.95	1.00			1.00	
Satd. Flow (perm)				1641	1395	1395	3183	4455			3829	
Peak-hour factor, PHF	0.90	0.90	0.90	0.93	0.93	0.93	0.92	0.92	0.92	0.85	0.85	0.85
Adj. Flow (vph)	0	0	0	281	0	140	783	349	0	0	458	225
RTOR Reduction (vph)	0	0	0	0	53	53	0	0	0	0	71	0
Lane Group Flow (vph)	0	0	0	281	17	17	783	349	0	0	612	0
Confl. Peds. (#/hr)									6			1
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8		8						
Actuated Green, G (s)				20.7	20.7	20.7	28.4	54.1			21.0	
Effective Green, g (s)				20.7	20.7	20.7	28.4	54.1			21.0	
Actuated g/C Ratio				0.24	0.24	0.24	0.33	0.64			0.25	
Clearance Time (s)				5.1	5.1	5.1	4.7	5.1			5.1	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				399	339	339	1063	2835			945	
v/s Ratio Prot					0.01		c0.25	0.08			c0.16	
v/s Ratio Perm				c0.17		0.01						
v/c Ratio				0.70	0.05	0.05	0.74	0.12			0.65	
Uniform Delay, d1				29.4	24.6	24.6	25.0	6.1			28.7	
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2				5.6	0.1	0.1	2.7	0.0			1.5	
Delay (s)				34.9	24.7	24.7	27.7	6.1			30.2	
Level of Service				C	C	C	C	A			C	
Approach Delay (s)		0.0			31.5			21.0			30.2	
Approach LOS		A			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	25.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	14.9
Intersection Capacity Utilization	63.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	1	553	0	0	0	0	912	360	156	487	0
Future Volume (vph)	105	1	553	0	0	0	0	912	360	156	487	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1728	1728	1900	1781	1781
Total Lost time (s)		5.1	5.1					5.1		4.7	5.1	
Lane Util. Factor		1.00	0.88					0.95		0.97	0.91	
Frpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Frt		1.00	0.85					0.96		1.00	1.00	
Flt Protected		0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)		1646	2584					2845		3183	4420	
Flt Permitted		0.95	1.00					1.00		0.95	1.00	
Satd. Flow (perm)		1646	2584					2845		3183	4420	
Peak-hour factor, PHF	0.90	0.90	0.90	0.88	0.88	0.88	0.94	0.94	0.94	0.93	0.93	0.93
Adj. Flow (vph)	117	1	614	0	0	0	0	970	383	168	524	0
RTOR Reduction (vph)	0	0	526	0	0	0	0	27	0	0	0	0
Lane Group Flow (vph)	0	118	88	0	0	0	0	1326	0	168	524	0
Confl. Peds. (#/hr)									4	2		
Confl. Bikes (#/hr)												2
Turn Type	Perm	NA	Perm					NA		Prot	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4									
Actuated Green, G (s)		12.5	12.5					50.2		10.0	64.9	
Effective Green, g (s)		12.5	12.5					50.2		10.0	64.9	
Actuated g/C Ratio		0.14	0.14					0.57		0.11	0.74	
Clearance Time (s)		5.1	5.1					5.1		4.7	5.1	
Vehicle Extension (s)		3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)		234	368					1630		363	3274	
v/s Ratio Prot								c0.47		c0.05	0.12	
v/s Ratio Perm		0.07	0.03									
v/c Ratio		0.50	0.24					0.81		0.46	0.16	
Uniform Delay, d1		34.7	33.3					15.0		36.3	3.3	
Progression Factor		1.00	1.00					1.00		1.00	1.00	
Incremental Delay, d2		1.7	0.3					3.2		0.9	0.0	
Delay (s)		36.4	33.7					18.2		37.2	3.4	
Level of Service		D	C					B		D	A	
Approach Delay (s)		34.1			0.0			18.2			11.6	
Approach LOS		C			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	20.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	87.6	Sum of lost time (s)	14.9
Intersection Capacity Utilization	63.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	309	24	10	13	26	330	17	639	8	192	435	452
Future Volume (vph)	309	24	10	13	26	330	17	639	8	192	435	452
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.2	5.2	4.4	4.9		4.4	5.1	5.1
Lane Util. Factor	0.95	0.95			1.00	1.00	1.00	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99			1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.96			0.98	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1559	1562			1699	1468	1641	3275		1641	1727	1450
Flt Permitted	0.95	0.96			0.98	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1559	1562			1699	1468	1641	3275		1641	1727	1450
Peak-hour factor, PHF	0.87	0.87	0.87	0.75	0.75	0.75	0.79	0.79	0.79	0.91	0.91	0.91
Adj. Flow (vph)	355	28	11	17	35	440	22	809	10	211	478	497
RTOR Reduction (vph)	0	2	0	0	0	233	0	1	0	0	0	259
Lane Group Flow (vph)	195	197	0	0	52	207	22	818	0	211	478	238
Confl. Peds. (#/hr)			1						3			1
Turn Type	Split	NA		Split	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8						6
Actuated Green, G (s)	19.6	19.6			21.9	21.9	3.3	38.4		20.0	54.9	54.9
Effective Green, g (s)	19.6	19.6			21.9	21.9	3.3	38.4		20.0	54.9	54.9
Actuated g/C Ratio	0.16	0.16			0.18	0.18	0.03	0.32		0.17	0.46	0.46
Clearance Time (s)	5.3	5.3			5.2	5.2	4.4	4.9		4.4	5.1	5.1
Vehicle Extension (s)	2.0	2.0			3.7	3.7	2.0	3.8		2.0	3.8	3.8
Lane Grp Cap (vph)	255	255			310	268	45	1050		274	792	665
v/s Ratio Prot	0.13	c0.13			0.03		0.01	c0.25		c0.13	0.28	
v/s Ratio Perm						c0.14						0.16
v/c Ratio	0.76	0.77			0.17	0.77	0.49	0.78		0.77	0.60	0.36
Uniform Delay, d1	47.8	47.9			41.2	46.5	57.4	36.8		47.7	24.3	21.0
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	11.6	12.5			0.3	13.5	3.0	3.9		11.5	1.5	0.4
Delay (s)	59.4	60.4			41.5	60.0	60.4	40.7		59.1	25.7	21.4
Level of Service	E	E			D	E	E	D		E	C	C
Approach Delay (s)		59.9			58.0			41.2			29.9	
Approach LOS		E			E			D			C	

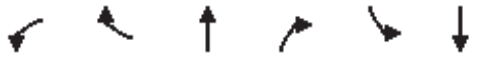
Intersection Summary			
HCM 2000 Control Delay	42.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	119.7	Sum of lost time (s)	20.0
Intersection Capacity Utilization	61.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	185	311	164	126	1
Future Volume (Veh/h)	0	185	311	164	126	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.76	0.76	0.80	0.80	0.50	0.50
Hourly flow rate (vph)	0	243	389	205	252	2
Pedestrians					1	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			1251			
pX, platoon unblocked						
vC, conflicting volume	595				633	390
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	595				633	390
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				43	100
cM capacity (veh/h)	980				443	658

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total	243	389	205	254
Volume Left	0	0	0	252
Volume Right	0	0	205	2
cSH	980	1700	1700	445
Volume to Capacity	0.00	0.23	0.12	0.57
Queue Length 95th (ft)	0	0	0	87
Control Delay (s)	0.0	0.0	0.0	23.3
Lane LOS				C
Approach Delay (s)	0.0	0.0		23.3
Approach LOS				C

Intersection Summary			
Average Delay	5.4		
Intersection Capacity Utilization	30.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	102	74	15	134	35	6
Future Volume (vph)	102	74	15	134	35	6
Peak Hour Factor	0.84	0.84	0.73	0.73	0.67	0.67
Hourly flow rate (vph)	121	88	21	184	52	9

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	209	205	61
Volume Left (vph)	121	0	52
Volume Right (vph)	88	184	0
Hadj (s)	0.03	-0.37	0.34
Departure Headway (s)	4.5	4.1	5.0
Degree Utilization, x	0.26	0.23	0.08
Capacity (veh/h)	749	831	678
Control Delay (s)	9.1	8.4	8.4
Approach Delay (s)	9.1	8.4	8.4
Approach LOS	A	A	A

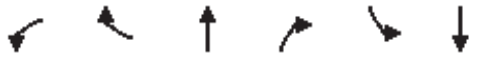
Intersection Summary			
Delay		8.7	
Level of Service		A	
Intersection Capacity Utilization		32.6%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	185	160	152	0	16
Future Volume (Veh/h)	0	185	160	152	0	16
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	201	174	165	0	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	339				458	256
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	339				458	256
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	98
cM capacity (veh/h)	1220				561	782

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	201	339	17
Volume Left	0	0	0
Volume Right	0	165	17
cSH	1700	1700	782
Volume to Capacity	0.12	0.20	0.02
Queue Length 95th (ft)	0	0	2
Control Delay (s)	0.0	0.0	9.7
Lane LOS			A
Approach Delay (s)	0.0	0.0	9.7
Approach LOS			A

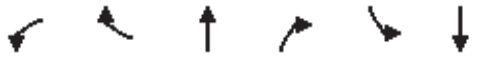
Intersection Summary			
Average Delay		0.3	
Intersection Capacity Utilization		27.7%	ICU Level of Service
Analysis Period (min)		15	



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	8	0	69	20	0	33
Future Volume (Veh/h)	8	0	69	20	0	33
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	0	75	22	0	36
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	122	86			97	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	122	86			97	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	873	973			1496	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	9	0	97	36
Volume Left	9	0	0	0
Volume Right	0	0	22	0
cSH	873	1700	1700	1496
Volume to Capacity	0.01	0.00	0.06	0.00
Queue Length 95th (ft)	1	0	0	0
Control Delay (s)	9.2	0.0	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	9.2		0.0	0.0
Approach LOS	A			

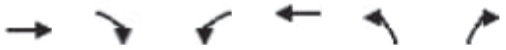
Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	14.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	25	0	12	57	0	8
Future Volume (Veh/h)	25	0	12	57	0	8
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	0	13	62	0	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	53	44			75	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	53	44			75	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	100			100	
cM capacity (veh/h)	955	1026			1524	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	27	75	9
Volume Left	27	0	0
Volume Right	0	62	0
cSH	955	1700	1524
Volume to Capacity	0.03	0.04	0.00
Queue Length 95th (ft)	2	0	0
Control Delay (s)	8.9	0.0	0.0
Lane LOS	A		
Approach Delay (s)	8.9	0.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	14.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	34	0	0	0	76	16
Future Volume (Veh/h)	34	0	0	0	76	16
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	37	0	0	0	83	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			None		
Median storage veh)	2					
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			37		37	37
vC1, stage 1 conf vol					37	
vC2, stage 2 conf vol					0	
vCu, unblocked vol			37		37	37
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		91	98
cM capacity (veh/h)			1574		962	1035

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	37	0	0	100
Volume Left	0	0	0	83
Volume Right	0	0	0	17
cSH	1700	1700	1700	973
Volume to Capacity	0.02	0.00	0.00	0.10
Queue Length 95th (ft)	0	0	0	9
Control Delay (s/veh)	0.0	0.0	0.0	9.1
Lane LOS				A
Approach Delay (s/veh)	0.0	0.0		9.1
Approach LOS				A

Intersection Summary			
Average Delay	6.7		
Intersection Capacity Utilization	15.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	101	5	0	0	114	38	11	0	16	0
Future Volume (vph)	0	0	101	5	0	0	114	38	11	0	16	0
Peak Hour Factor	0.92	0.92	0.92	0.63	0.63	0.63	0.69	0.69	0.69	0.83	0.83	0.83
Hourly flow rate (vph)	0	0	110	8	0	0	165	55	16	0	19	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	110	8	236	19
Volume Left (vph)	0	8	165	0
Volume Right (vph)	110	0	16	0
Hadj (s)	-0.57	0.23	0.13	0.03
Departure Headway (s)	3.9	4.8	4.3	4.4
Degree Utilization, x	0.12	0.01	0.28	0.02
Capacity (veh/h)	862	690	812	768
Control Delay (s)	7.5	7.9	9.0	7.5
Approach Delay (s)	7.5	7.9	9.0	7.5
Approach LOS	A	A	A	A

Intersection Summary			
Delay	8.4		
Level of Service	A		
Intersection Capacity Utilization	28.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	0	8	8	0	8	38	76	38	0	0	0
Future Volume (Veh/h)	8	0	8	8	0	8	38	76	38	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	0	9	9	0	9	41	83	41	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	194	206	0	194	186	104	0			124		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	194	206	0	194	186	104	0			124		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	99	99	100	99	97			100		
cM capacity (veh/h)	743	673	1085	744	691	951	1623			1463		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	18	18	165	0
Volume Left	9	9	41	0
Volume Right	9	9	41	0
cSH	882	835	1623	1700
Volume to Capacity	0.02	0.02	0.03	0.00
Queue Length 95th (ft)	2	2	2	0
Control Delay (s)	9.2	9.4	2.0	0.0
Lane LOS	A	A	A	
Approach Delay (s)	9.2	9.4	2.0	0.0
Approach LOS	A	A		

Intersection Summary				
Average Delay	3.3			
Intersection Capacity Utilization	18.4%	ICU Level of Service	A	
Analysis Period (min)	15			

Appendix K - Cumulative Project Information

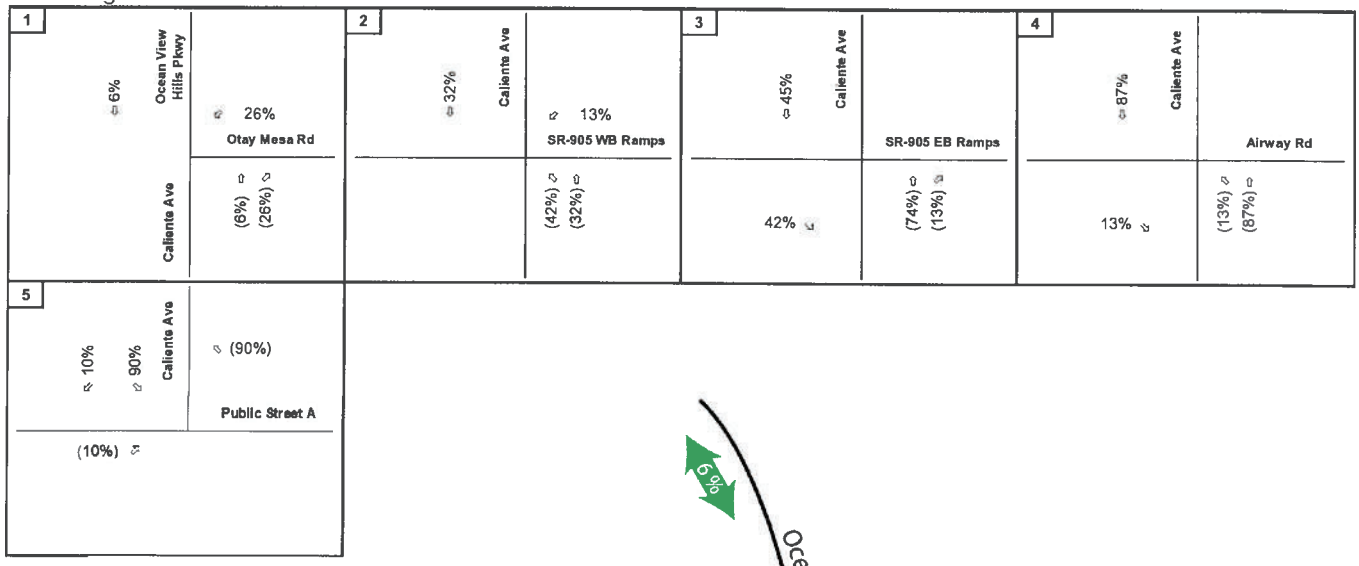
TABLE 4-1
TRIP GENERATION SUMMARY

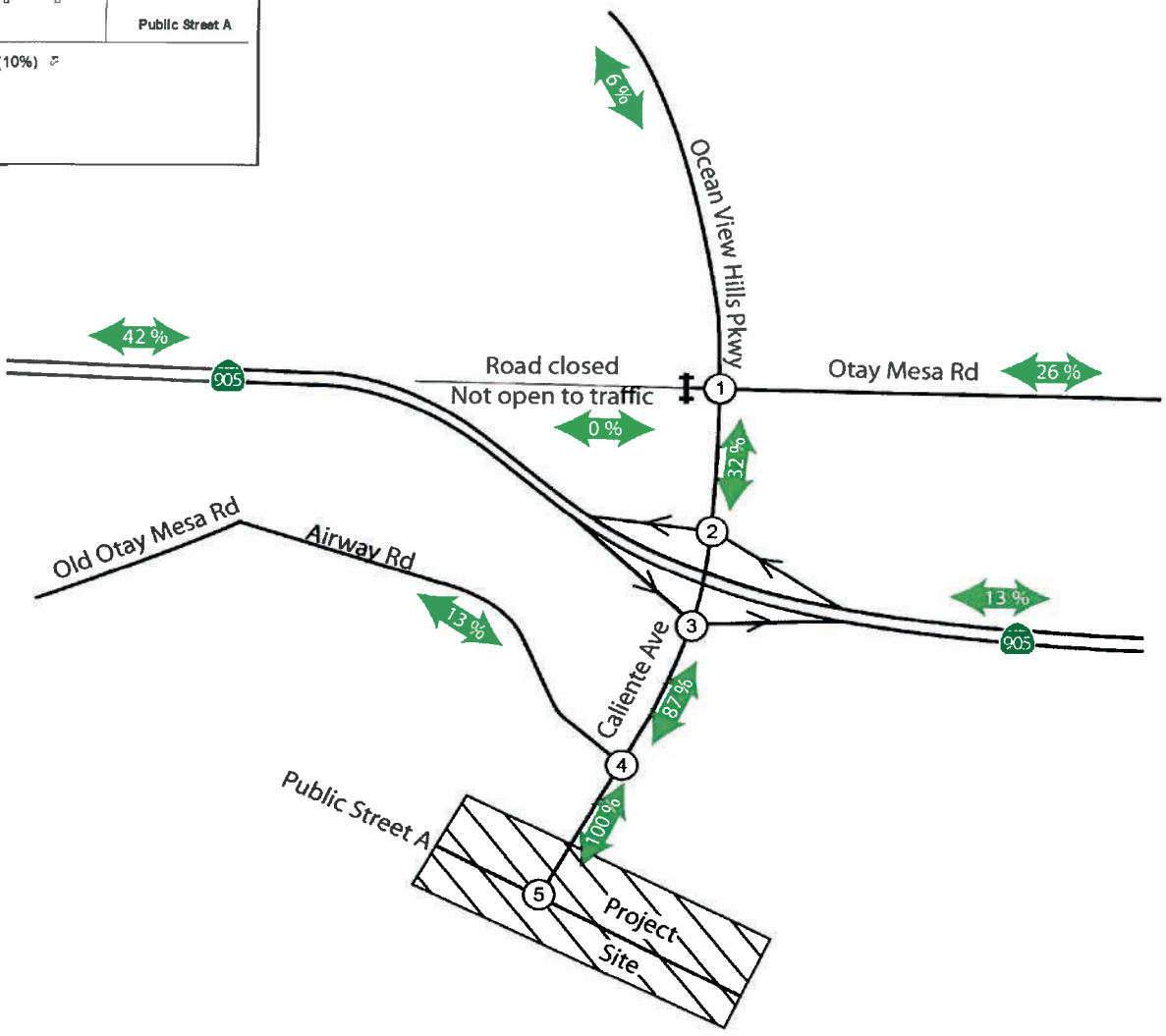
Land Use		Units[1]	Daily Trip Rate[2]	Daily Trips	AM Peak-Hour					PM Peak-Hour				
					% of ADT[2]	In:Out Ratio[2]	In	Out	Total	% of ADT[2]	In:Out Ratio[2]	In	Out	Total
Driveway Trips[3]														
Proposed														
Candlelight	Multiple Dwelling Unit - Over 20 dwelling units/acre	475 du	6 / du	2,850	8%	2.00 : 8.00	46	182	228	9%	7.00 : 3.00	180	77	257
Proposed Total				**2,850**			**46**	**182**	**228**			**180**	**77**	**257**
NET TRIP GENERATION =				**2,850**			**46**	**182**	**228**			**180**	**77**	**257**

Note:
1. DU = Dwelling Unit
2. Trip rates referenced from the City of San Diego Land Development Code - Trip Generation Manual, May 2003.
3. Driveway trips are the total number of trips generated by a site.

K:\SND_TPT\709580900l-Candlelight\Excel\[809001TG01.xlsm]Summary

Candlelight





Legend

X% / (Y%) = IN / OUT PERCENT DISTRIBUTION

NOT TO SCALE

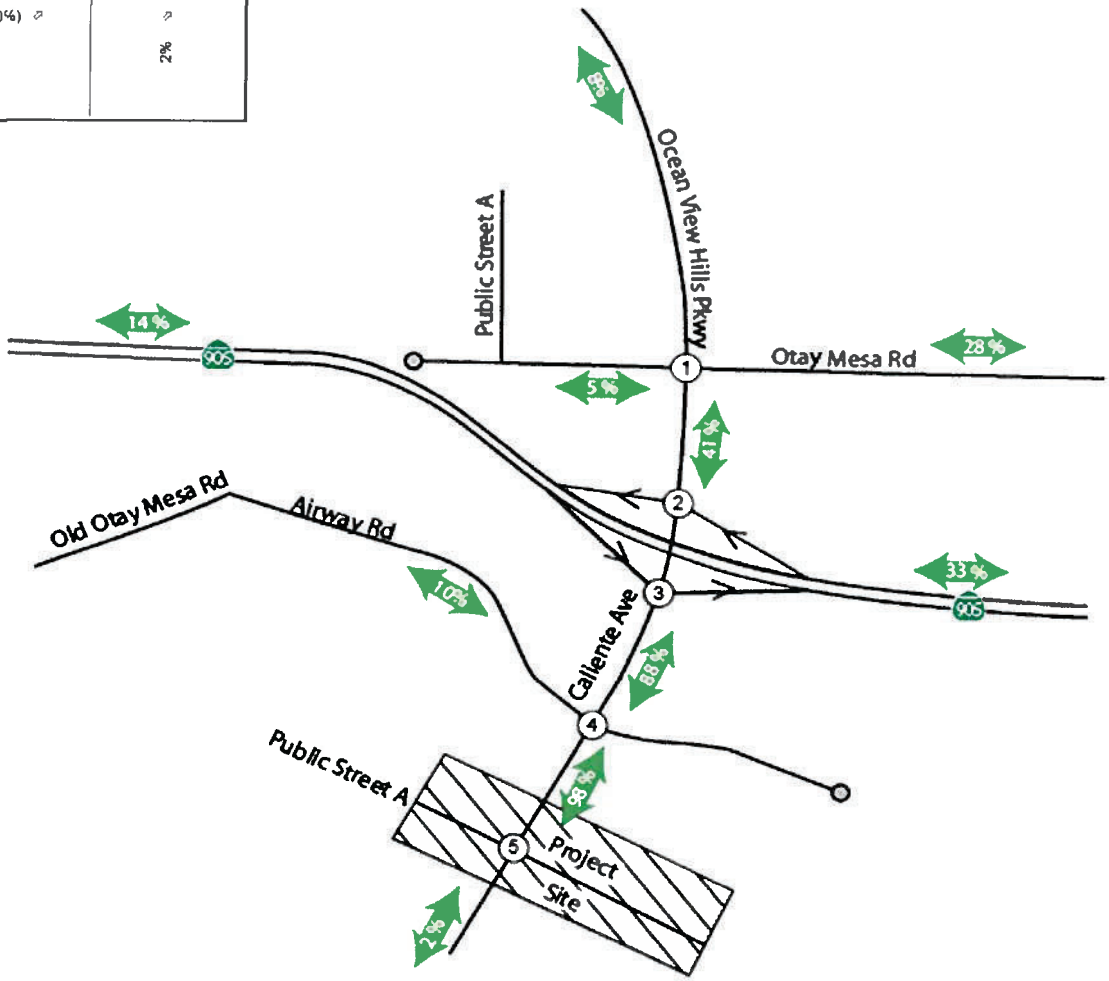
Kimley-Horn and Associates, Inc.

K:\SND_TPTO\095809001-Candlelight\Excel\[809001TA01.xlsm]NT Dist Figure 1-16

FIGURE 4-1
Existing and Near Term Conditions Project Trip Distribution

1				2				3				4			
8%	Ocean View Hills Pkwy	28%	Otay Mesa Rd	41%	Caliente Ave	33%	SR-905 WB Ramps	74%	Caliente Ave		SR-905 EB Ramps	50%	Caliente Ave	22%	Airway Rd
5%	Caliente Ave	(5%) (8%) (28%)				(14%) (41%)		14%		(55%) (33%)		10%		(10%) (50%) (22%)	

5			
10% 88%	Caliente Ave	(88%) (2%)	Public Street A
(10%)		2%	



Legend

X% / (Y%) = IN / OUT PERCENT DISTRIBUTION

NOT TO SCALE

Kimley-Horn and Associates, Inc.

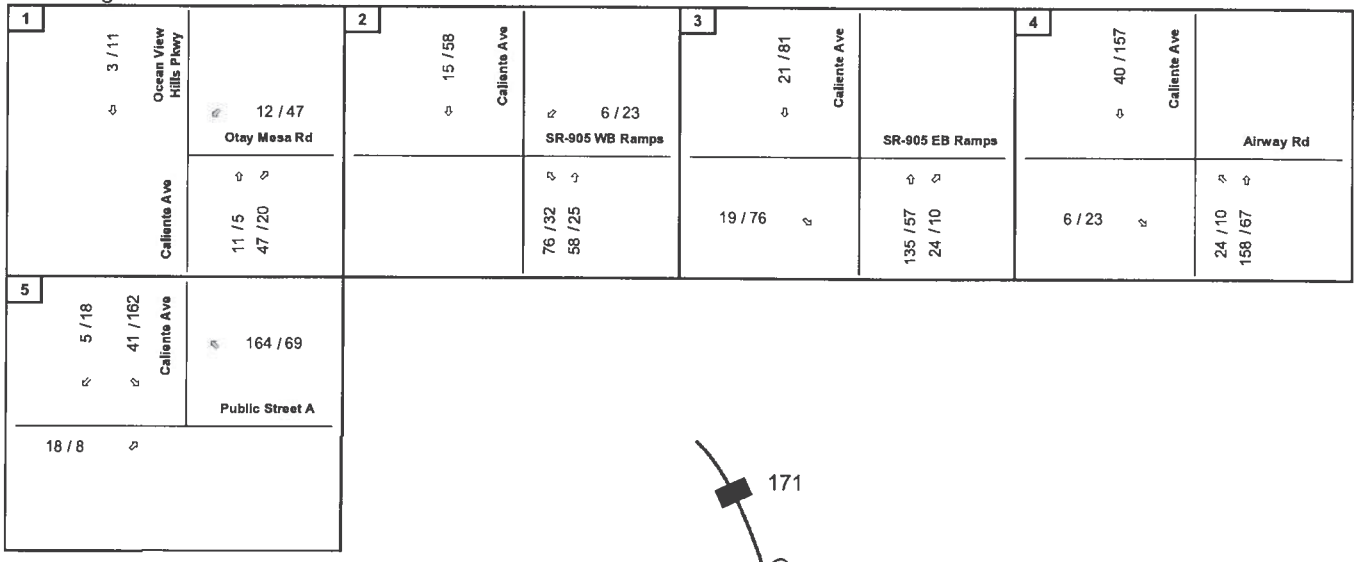
FIGURE 4-2

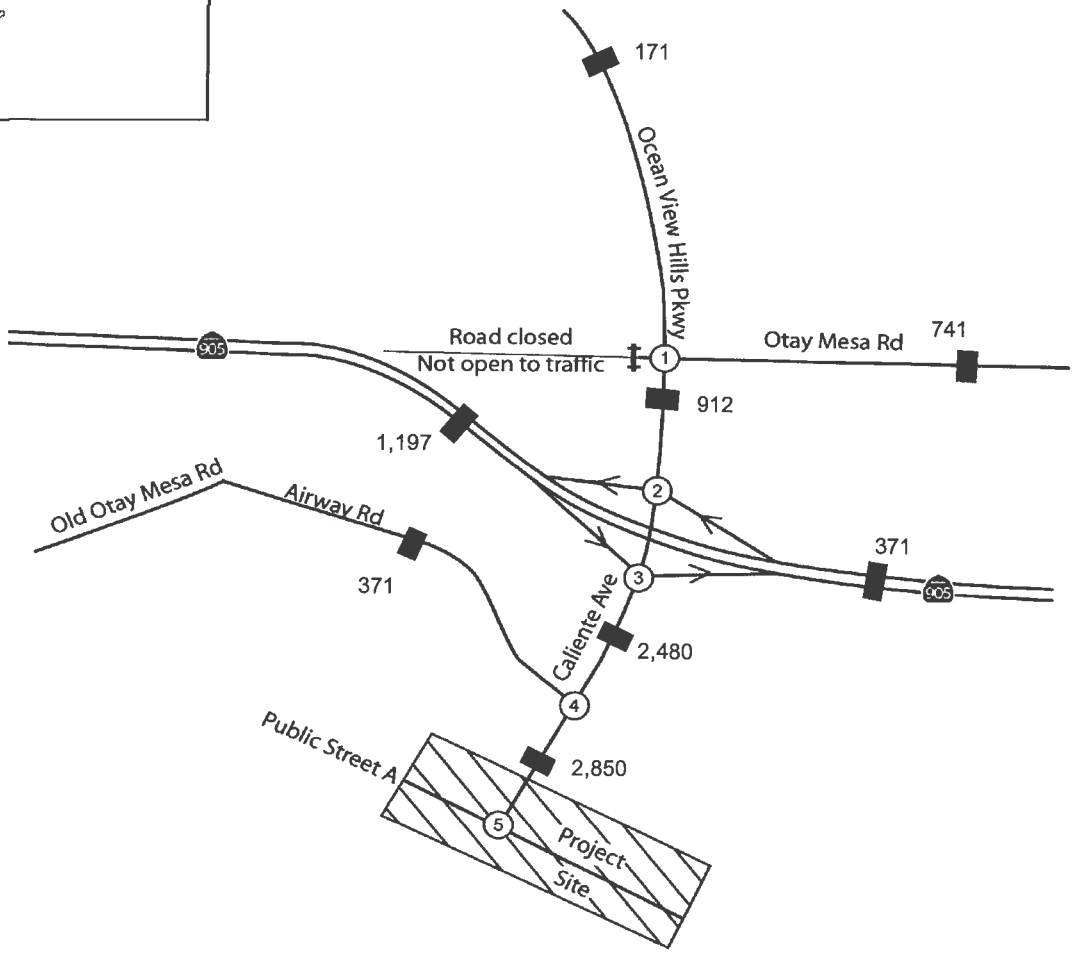
Horizon Year Conditions Project Trip Distribution

K:\SND_TPTO\095809001-Candlelight\Excel\[609001TA01.xlsm]HY Dist Figure 1-16

Trip Assignment

Based on the project trip distributions, daily and a.m. and p.m. peak-hour project trips were assigned to the local roadway network and through the study intersections. **Figure 4-3** shows the project traffic assignment for the Existing and Near Term conditions and **Figure 4-4** shows the project traffic assignment for Horizon Year conditions.





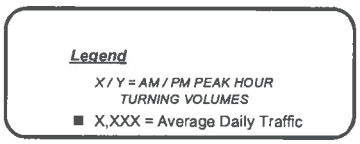
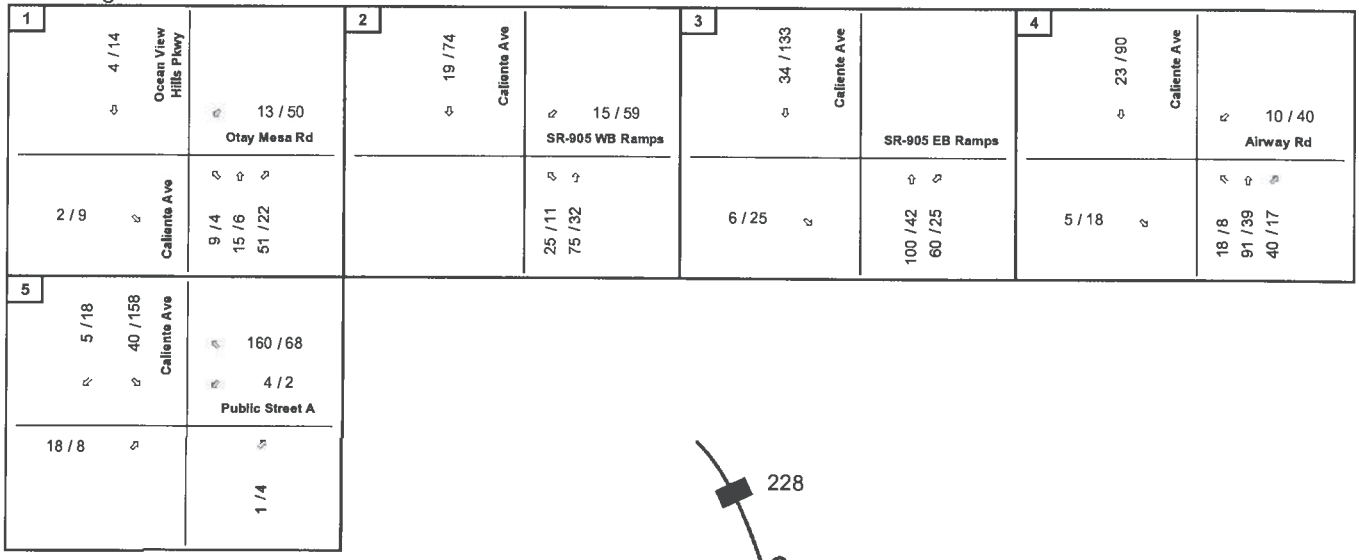
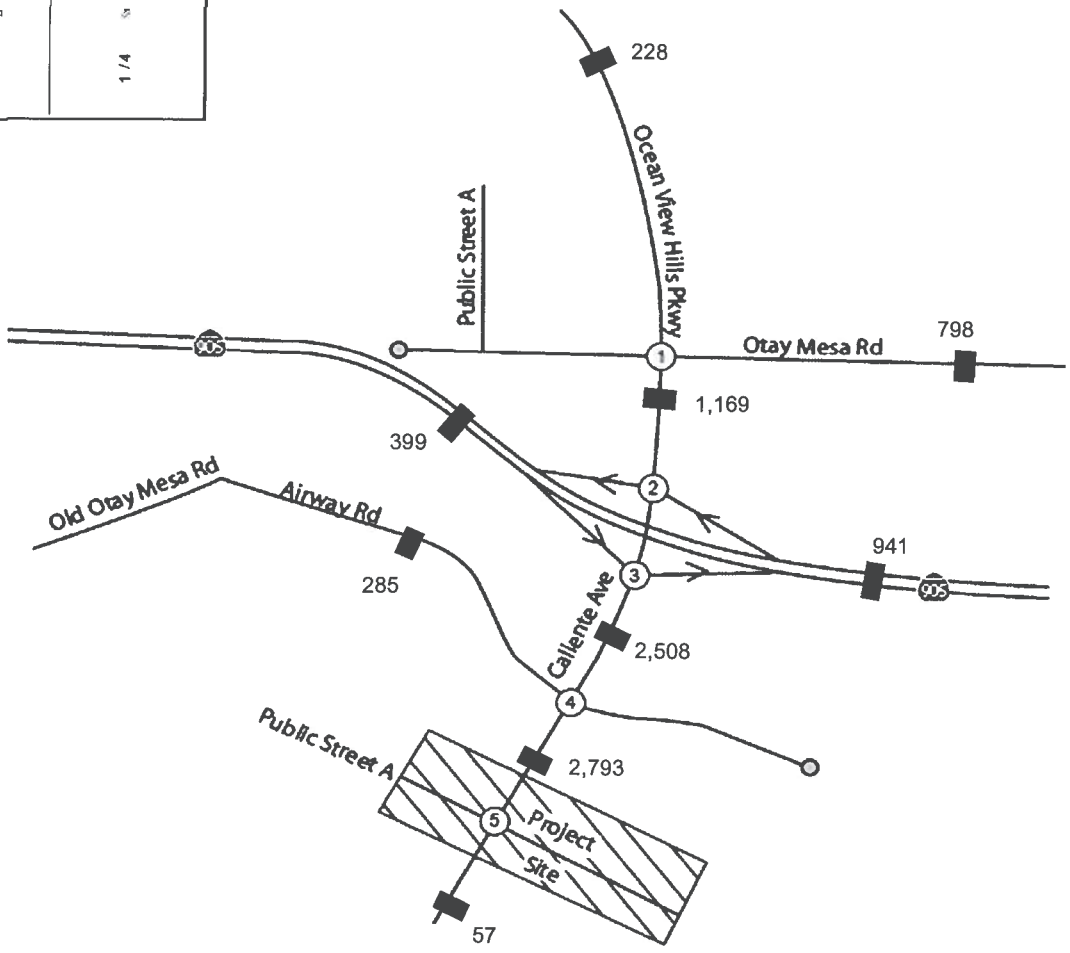
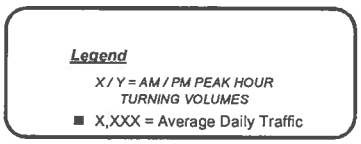




FIGURE 4-3
Existing and Near Term Conditions Project Trip Assignment


1
4 / 14
Ocean View Hills Pkwy
13 / 50
Otay Mesa Rd
2 / 9
Caliente Ave
9 / 4
15 / 6
51 / 22
2
19 / 74
Caliente Ave
15 / 59
SR-905 WB Ramps
25 / 11
75 / 32
3
34 / 133
Caliente Ave
SR-905 EB Ramps
6 / 25
100 / 42
60 / 25
4
23 / 90
Caliente Ave
10 / 40
Airway Rd
5 / 25
18 / 8
91 / 39
40 / 17
5
5 / 18
40 / 158
Caliente Ave
160 / 68
4 / 2
Public Street A
18 / 8
1 / 4


228
Ocean View Hills Pkwy
Public Street A
905
Otay Mesa Rd
798
1,169
399
Old Otay Mesa Rd
Airway Rd
285
941
905
Caliente Ave
2,508
Public Street A
2,793
Project Site
57
1
2
3
4
5


Legend
X / Y = AM / PM PEAK HOUR TURNING VOLUMES
X,XXX = Average Daily Traffic


NOT TO SCALE

Figure 1: Approved PA61 Distribution

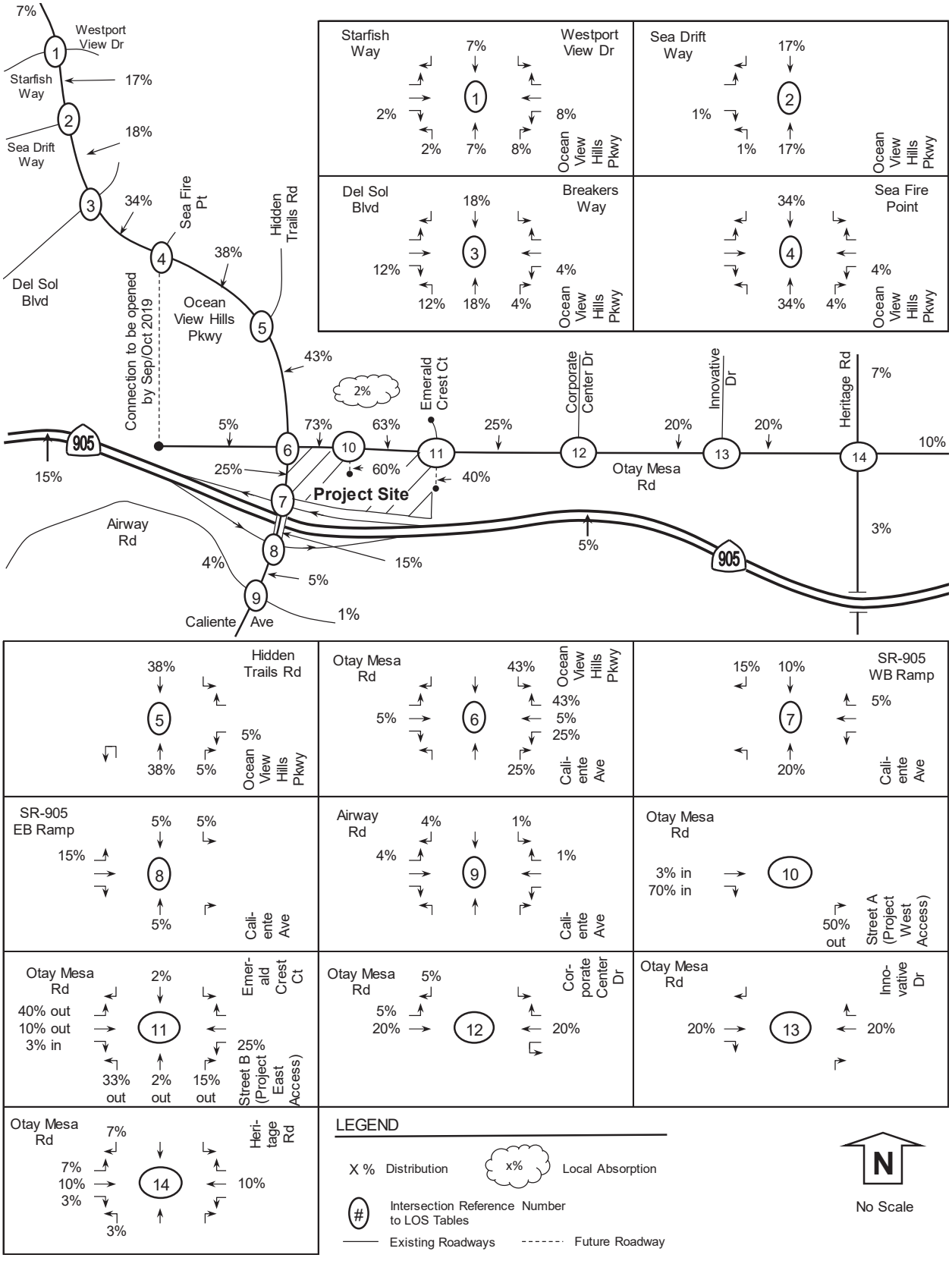


TABLE 5
REPHASED PROJECT TRIP GENERATION ESTIMATES USING DRIVEWAY TRIP RATES
METROPOLITAN AIRPARK, CITY OF SAN DIEGO

Land Use	Size	Unit	Daily Trips		AM Peak Hour Trips					PM Peak Hour Trips				
			Driveway Rate	ADT	Peak Hour %	In/Out Split	Inbound	Outbound	Total	Peak Hour %	In/Out Split	Inbound	Outbound	Total
Phase 1A (2012 thru 2016)														
Airport (General Aviation)[1,8]	163	Flights	2	327	6%	60/40	12	8	20	7%	50/50	11	12	23
Total Phase 1A Project Trips				**327**			**12**	**8**	**20**			**11**	**12**	**23**
Phase 1B (2016/2017)														
Commercial Office[2,8] (Jet FBO)	51.175	Ksf	(See Footnote 2)	1,017	13%	90/10	119	13	132	14%	20/80	28	114	142
Total (Phases 1A + 1B) Project Trips				**1,344**			**131**	**21**	**152**			**39**	**126**	**165**
Phase 2 (2017 thru 2021)														
Airport (General Aviation)[1]	9	Flights	2	18	6%	60/40	1	1	2	7%	50/50	1	1	2
Industrial[3] (south)	905	Ksf	8	7,240	11%	90/10	718	79	797	12%	20/80	75	694	769
Total Phase 2 Project Trips				***7,258***			***719***	***80***	***799***			***76***	***695***	***771***
Total (Phases 1 + 2) Project Trips				**8,602**			**850**	**101**	**951**			**115**	**821**	**936**
Phase 3A (2022 thru 2026)														
Industrial[3] (north)	450	Ksf	8	3,600	11%	90/10	356	40	396	12%	20/80	86	346	432
Total (Phases 1 + 2 + 3A) Project Trips				**12,202**			**1,206**	**141**	**1,347**			**201**	**1,167**	**1,368**
Phase 3B (2022 thru 2026)														
Airport Related Commercial[5]	152.2	Ksf	70	10,654	3%	60/40	192	128	320	10%	50/50	533	533	1,065
Total (Phase 1 +2 +3A + 3B) Project Trips				**22,856**			**1,398**	**269**	**1,667**			**734**	**1,700**	**2,434**
Phase 3C (2022 thru 2026)														
High Turnover Restaurant[4]	5	Ksf	130	650	8%	50/50	26	26	52	8%	60/40	31	21	52
Airport Related Commercial[5]	50.725	Ksf	70	3,551	3%	60/40	64	43	107	10%	50/50	178	178	355
Hotel[6]	150	rooms	10	1,500	6%	60/40	54	36	90	8%	60/40	72	48	120
Total Phase 3C Project Trips				***5,701***			***144***	***105***	***249***			***281***	***247***	***527***
Total (Phase 1 +2 +3A + 3B + 3C) Project Trips				**28,557**			**1,542**	**374**	**1,916**			**1,015**	**1,946**	**2,961**
Phase 4 (2027 thru 2031)														
Airport (General Aviation)[1,9]	146	Flights	2	292	6%	60/40	11	8	19	7%	50/50	11	11	22
Hotel[6]	120	rooms	10	1,200	6%	60/40	43	29	72	8%	60/40	58	38	96
Solar Field[7]	66.5	acre	-	2	-	-	1	0	1	-	-	0	1	1
Total Phase 4 Project Trips				***1,494***			***55***	***37***	***92***			***69***	***50***	***119***
Total (Phase 1 +2 + 3 + 4) Project Trips				**30,051**			**1,597**	**411**	**2,008**			**1,084**	**1,996**	**3,080**

Note:

Trip rates are trips per flight or trips per 1,000 square feet (Ksf) or trips per room; ADT=Average Daily Traffic

[1]Airport: Trip generation rates for "General Aviation" were used per City of San Diego Trip Generation Manual. The number of flights for each phase was determined based on the difference between the project and no project scenarios for the "Average Day of Peak Month" Aircraft and Operational Forecasts. Source: "Brown Field Airport Master Plan Update", "Working Paper No. 2, Summary of Aviation Activity Forecasts" prepared by Mead and Hunt; Peak hour percentages and in/out splits for "Commercial Airport" land use were used to derive the peak hour trips for the proposed Aviation facility

[2]Commercial Office: Trip generation rates for "Commercial Office" were based on the natural logarithmic equation per City of San Diego Trip Generation Manual

[3]Industrial: Trip generation rates for "Large Industrial Park" were used per City of San Diego Trip Generation Manual

[4]High Turnover Restaurant: Trip generation rates for "High Turnover (sit down)" land use were used per City of San Diego Trip Generation Manual

[5]Airport Related Commercial: Trip generation rates for "Community Shopping Center" were used per City of San Diego Trip Generation Manual; This will include uses such as grocery and/or drug store, beauty shops, stationery, recreational facilities, custom shops, etc.

[6]Hotel: Trip generation rates for "Hotel" were used per City of San Diego Trip Generation Manual; The proposed hotel will have conventional facilities or restaurants

[7]Solar Field: Two daily trips were assumed for maintenance/operation

[8]The Phase 1 FBO includes 102,350 sq. ft. of total office space. 51,175 sq. ft. services direct aviation functions; therefore, the ADT calculations (by flight) are included in the FBO calculations. The remaining 51,175 sq. ft. calculates ADT's by using City's Commercial Office trip generation rate.

[9]Phase 4 large jet FBOs and rotorcraft FBO contain approximately 37,507 sq. ft. of offices. These offices are directly related to aviation flight operations; therefore, the ADT calculations (by flight) are included in their respective FBO calculations.

TABLE 6
REPHASED PROJECT TRIP GENERATION ESTIMATES USING CUMULATIVE TRIP RATES
METROPOLITAN AIRPARK, CITY OF SAN DIEGO

Land Use	Size	Unit	Daily Trips		AM Peak Hour Trips					PM Peak Hour Trips				
			Cumulative Rate	ADT	Peak Hour %	In/Out Split	Inbound	Outbound	Total	Peak Hour %	In/Out Split	Inbound	Outbound	Total
Phase 1A (2012 thru 2016)														
Airport (General Aviation)[1,8]	163	Flights	2	327	6%	60/40	12	8	20	7%	50/50	11	12	23
Total Phase 1A Project Trips				**327**			**12**	**8**	**20**			**11**	**12**	**23**
Phase 1B (2016/2017)														
Commercial Office[2,8] (Jet FBO)	51.175	Ksf	(See Footnote 2)	1,017	13%	90/10	119	13	132	14%	20/80	28	114	142
Total (Phases 1A + 1B) Project Trips				**1,344**			**131**	**21**	**152**			**39**	**126**	**165**
Phase 2 (2017 thru 2021)														
Airport (General Aviation)[1]	9	Flights	2	18	6%	60/40	1	1	2	7%	50/50	1	1	2
Industrial[3] (south)	905	Ksf	8	7,240	11%	90/10	718	79	797	12%	20/80	75	694	769
Total Phase 2 Project Trips				***7,258***			***719***	***80***	***799***			***76***	***695***	***771***
Total (Phases 1 + 2) Project Trips				**8,602**			**850**	**101**	**951**			**115**	**821**	**936**
Phase 3A (2022 thru 2026)														
Industrial[3] (north)	450	Ksf	8	3,600	11%	90/10	356	40	396	12%	20/80	86	346	432
Total (Phases 1 + 2 + 3A) Project Trips				**12,202**			**1,206**	**141**	**1,347**			**201**	**1,167**	**1,368**
Phase 3B (2022 thru 2026)														
Airport Related Commercial[5]	152.2	Ksf	49	7,458	3%	60/40	134	90	224	10%	50/50	373	373	746
Total (Phase 1 +2 +3A + 3B) Project Trips				**19,660**			**1,340**	**231**	**1,571**			**574**	**1,540**	**2,114**
Phase 3C (2022 thru 2026)														
High Turnover Restaurant[4]	5	Ksf	104	520	8%	50/50	21	21	42	8%	60/40	25	17	42
Airport Related Commercial[5]	50.725	Ksf	49	2,486	3%	60/40	45	30	75	10%	50/50	125	125	249
Hotel[6]	150	rooms	10	1,500	6%	60/40	54	36	90	8%	60/40	72	48	120
Total Phase 3 Project Trips				***4,506***			***120***	***87***	***207***			***222***	***190***	***411***
Total (Phase 1 +2 +3A + 3B + 3C) Project Trips				**24,165**			**1,460**	**318**	**1,778**			**795**	**1,730**	**2,525**
Phase 4 (2027 thru 2031)														
Airport (General Aviation)[1,9]	146	Flights	2	292	6%	60/40	11	8	19	7%	50/50	11	11	22
Hotel[6]	120	rooms	10	1,200	6%	60/40	43	29	72	8%	60/40	58	38	96
Solar Field[7]	66.5	acre	-	2	-	-	1	0	1	-	-	0	1	1
Total Phase 4 Project Trips				***1,494***			***55***	***37***	***92***			***69***	***50***	***119***
Total (Phase 1 +2 + 3 + 4) Project Trips				**25,659**			**1,515**	**355**	**1,870**			**864**	**1,780**	**2,644**

Note:

Trip rates are trips per flight or trips per 1,000 square feet (Ksf) or trips per room; ADT=Average Daily Traffic

[1]Airport: Trip generation rates for "General Aviation" were used per City of San Diego Trip Generation Manual. The number of flights for each phase was determined based on the difference between the project and no project scenarios for the "Average Day of Peak Month" Aircraft and Operational Forecasts. Source: "Brown Field Airport Master Plan Update", "Working Paper No. 2, Summary of Aviation Activity Forecasts" prepared by Mead and Hunt; Peak hour percentages and in/out splits for "Commercial Airport" land use were used to derive the peak hour trips for the proposed Aviation facility

[2]Commercial Office: Trip generation rates for "Commercial Office" were based on the natural logarithmic equation per City of San Diego Trip Generation Manual

[3]Industrial: Trip generation rates for "Large Industrial Park" were used per City of San Diego Trip Generation Manual

[4]High Turnover Restaurant: Trip generation rates for "High Turnover (sit down)" land use were used per City of San Diego Trip Generation Manual

[5]Airport Related Commercial: Trip generation rates for "Community Shopping Center" were used per City of San Diego Trip Generation Manual; This will include uses such as grocery and/or drug store, beauty shops, stationery, recreational facilities, custom shops, etc.

[6]Hotel: Trip generation rates for "Hotel" were used per City of San Diego Trip Generation Manual; The proposed hotel will have conventional facilities or restaurants

[7]Solar Field: Two daily trips were assumed for maintenance/operation

[8]The Phase 1 FBO includes 102,350 sq. ft. of total office space. 51,175 sq. ft. services direct aviation functions; therefore, the ADT calculations (by flight) are included in the FBO calculations. The remaining 51,175 sq. ft. calculates ADT's by using City's Commercial Office trip generation rate.

[9]Phase 4 large jet FBOs and rotorcraft FBO contain approximately 37,507 sq. ft. of offices. These offices are directly related to aviation flight operations; therefore, the ADT calculations (by flight) are included in their respective FBO calculations.

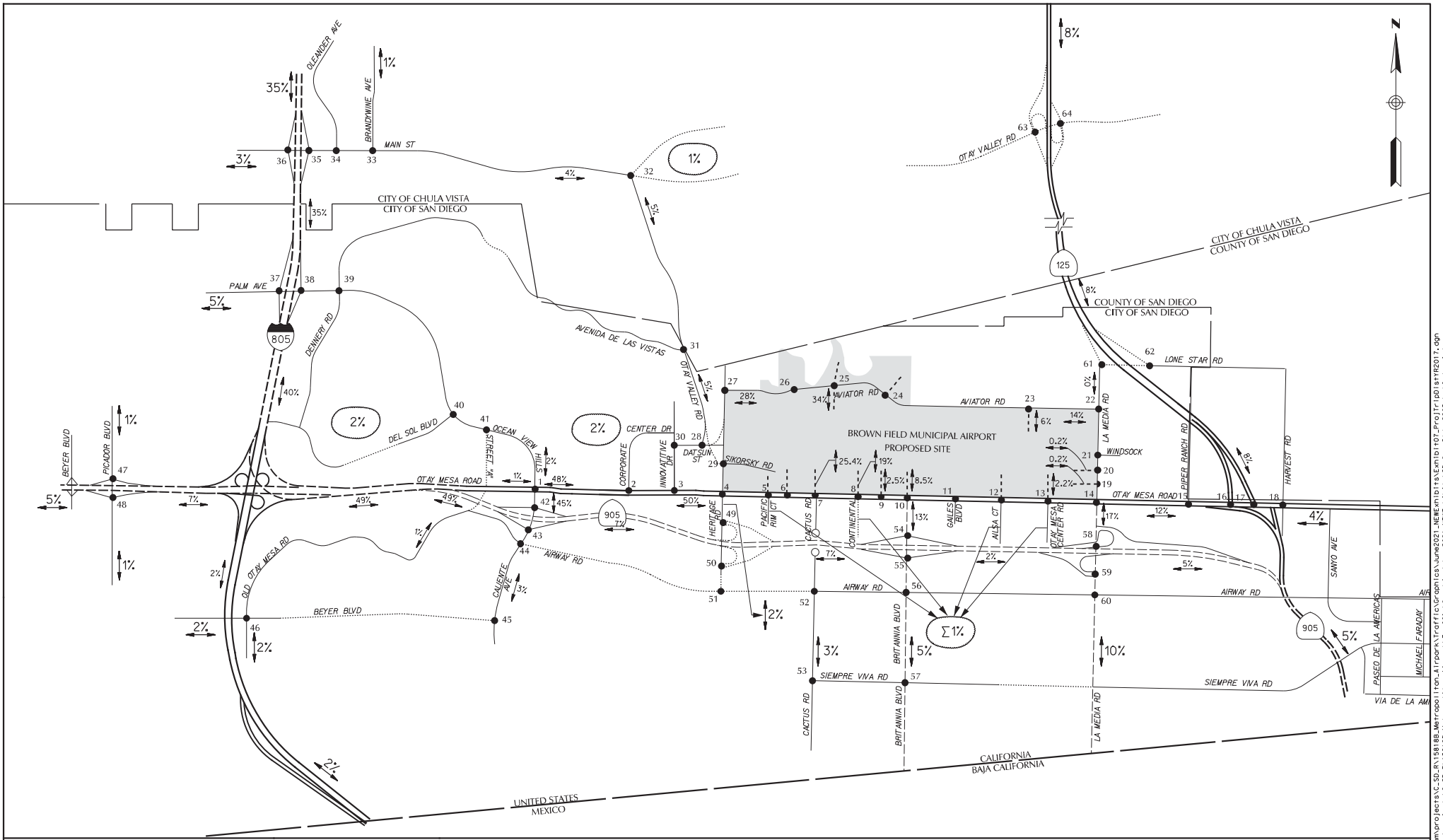


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EXHIBIT 7

PHASE 1+2 TRIP DISTRIBUTION FOR YEAR 2017 (PHASE 2 OPENING YEAR) SCENARIO

METROPOLITAN AIRPARK TRAFFIC IMPACT ANALYSIS

LEGEND

● = STUDY INTERSECTION
- - - - = PROJECT ACCESS
..... = FUTURE ROAD
— — = TRUCK ROUTE
XX% = MACRO TRIP DISTRIBUTION ASSIGNMENT
XX% = MICRO TRIP DISTRIBUTION ASSIGNMENT

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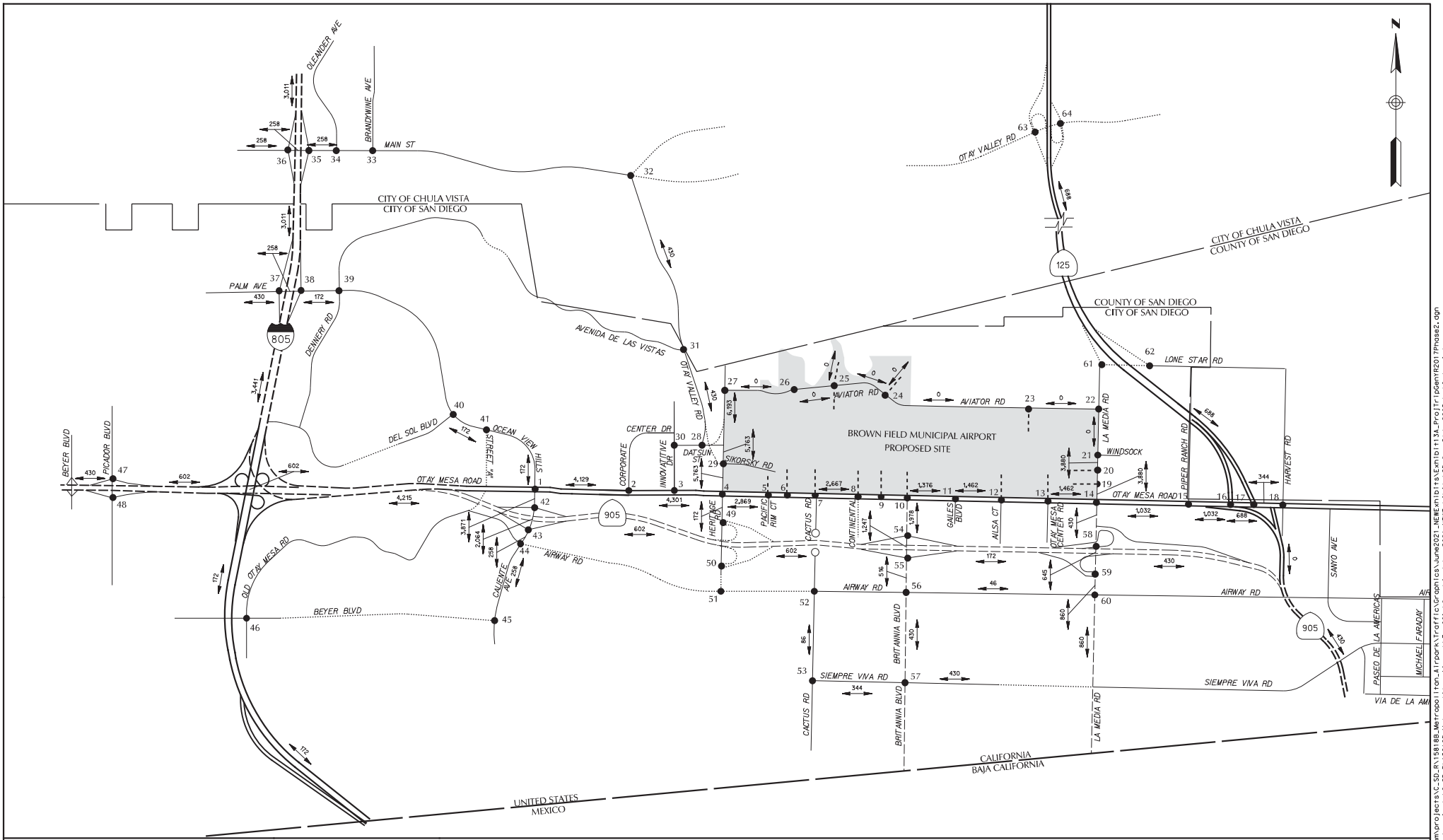

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EXHIBIT 13A

PHASE 1 + 2 TRIP ASSIGNMENT FOR YEAR 2017 (PHASE 2 OPENING YEAR) SCENARIO

METROPOLITAN AIRPARK TRAFFIC IMPACT ANALYSIS

LEGEND

● = STUDY INTERSECTION
- - - - = PROJECT ACCESS
..... = FUTURE ROAD
——= TRUCK ROUTE
XX,XXX = ADT

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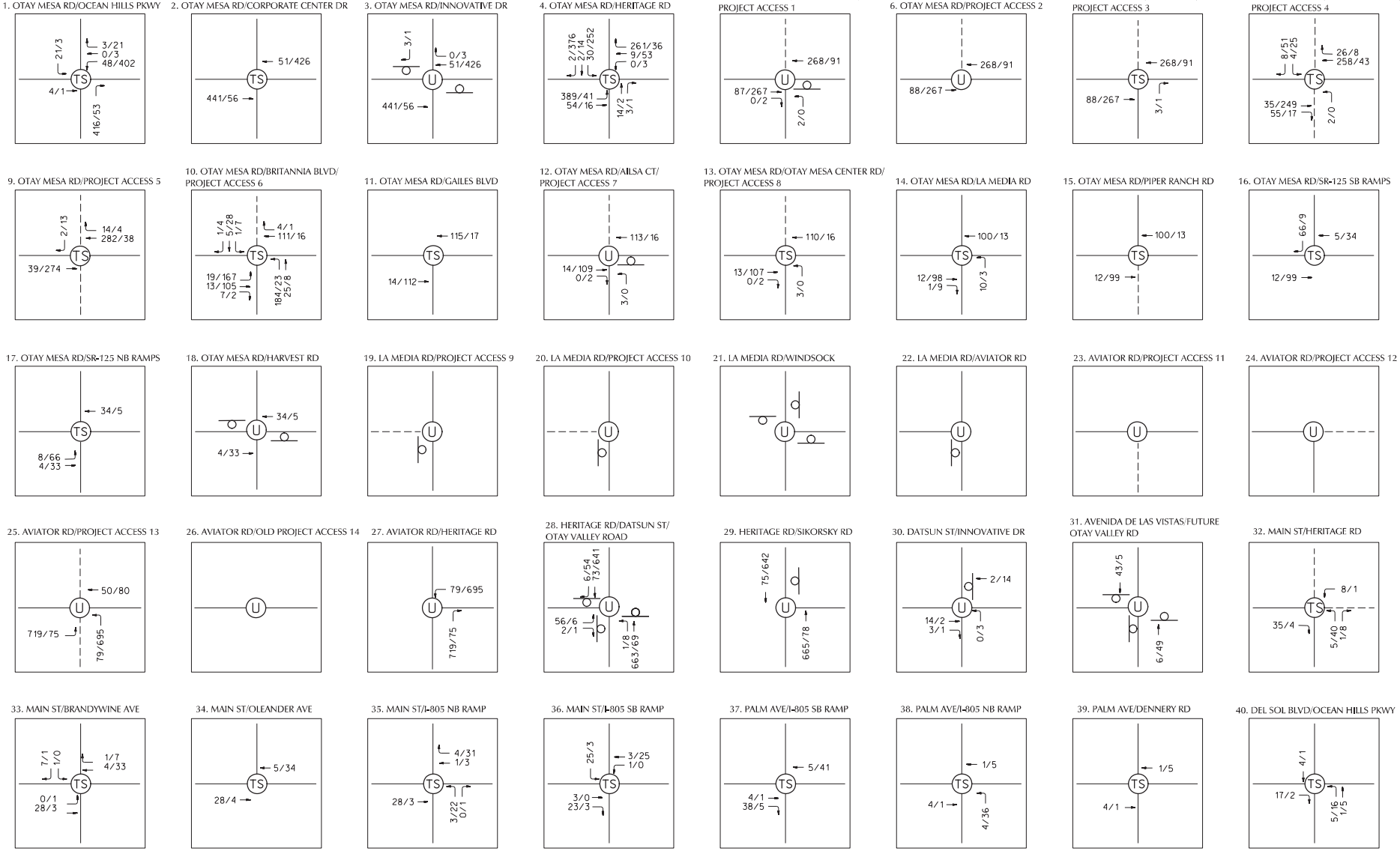

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EXHIBIT 13B

PHASE 1 + 2 TRIP ASSIGNMENT FOR YEAR 2017 (PHASE 2 OPENING YEAR) SCENARIO

METROPOLITAN AIRPARK TRAFFIC IMPACT ANALYSIS

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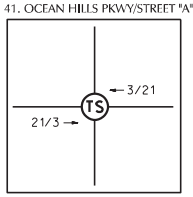

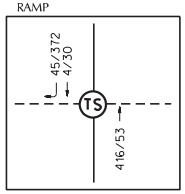

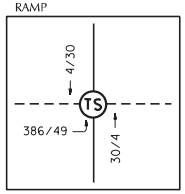

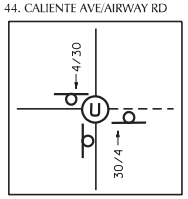

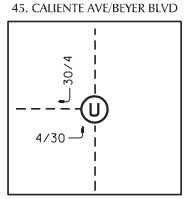

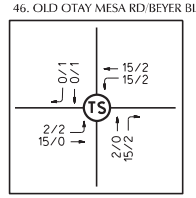

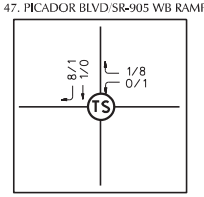

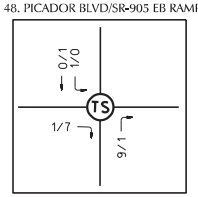

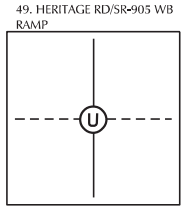

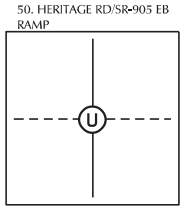

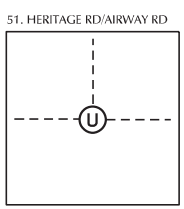

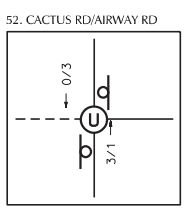

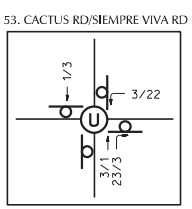

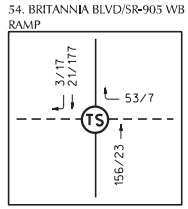

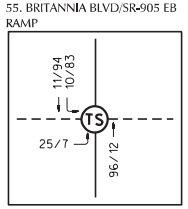

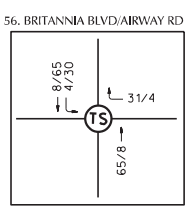

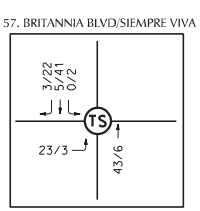

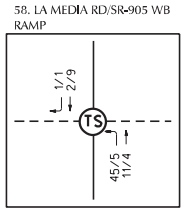

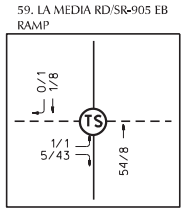

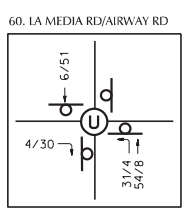

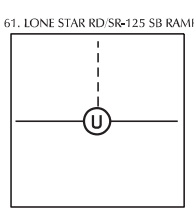

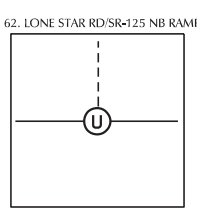

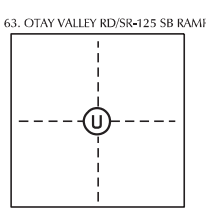

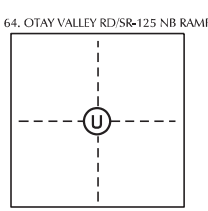



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EXHIBIT 13C

PHASE 1 + 2 TRIP ASSIGNMENT FOR YEAR 2017 (PHASE 2 OPENING YEAR) SCENARIO

METROPOLITAN AIRPARK TRAFFIC IMPACT ANALYSIS

LEGEND

= STOP-CONTROLLED

TS = TRAFFIC SIGNAL

U = UNSIGNALIZED INTERSECTION

XXX/XXX = AM/PM PEAK HOUR VOLUMES

– – – = FUTURE STREET/ PROJECT ACCESS

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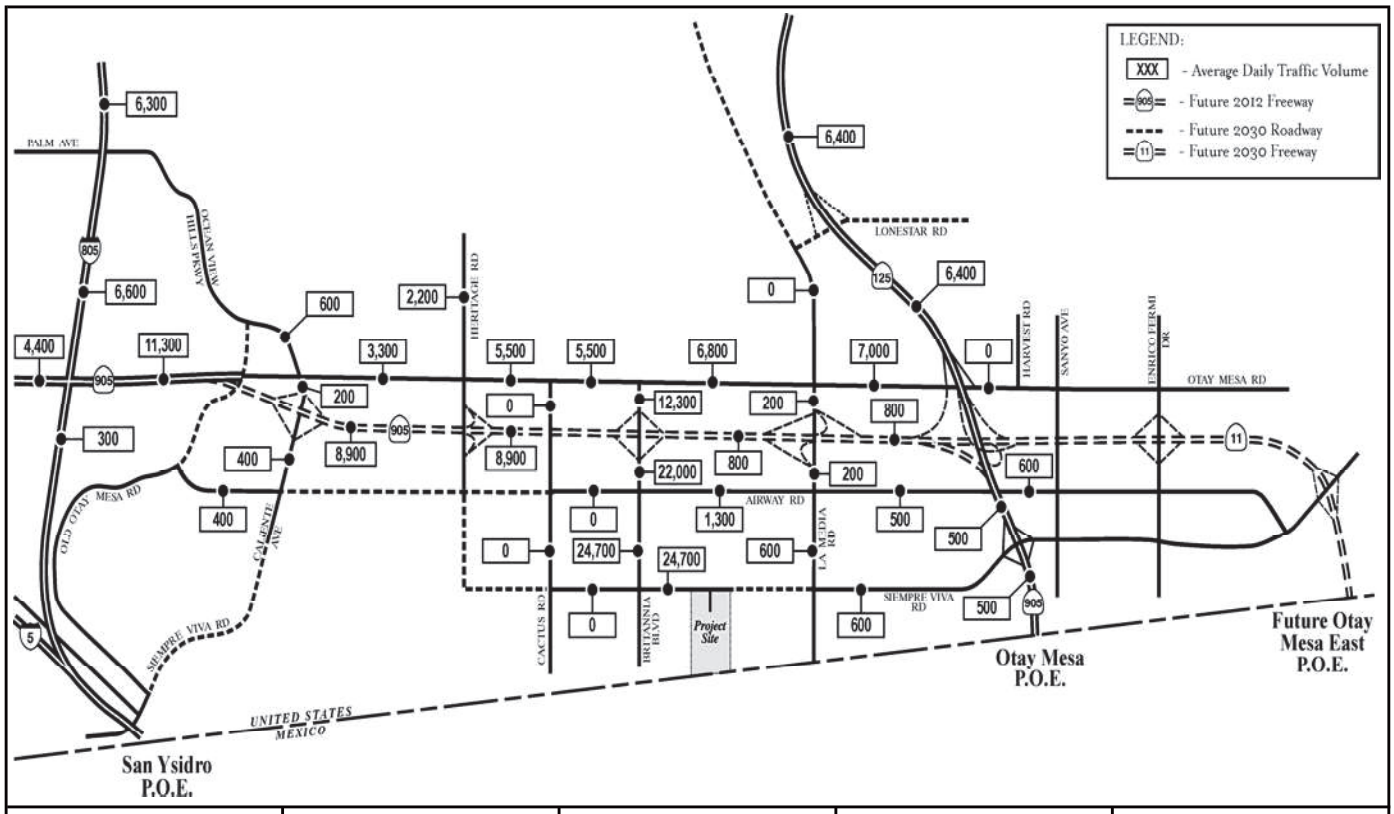


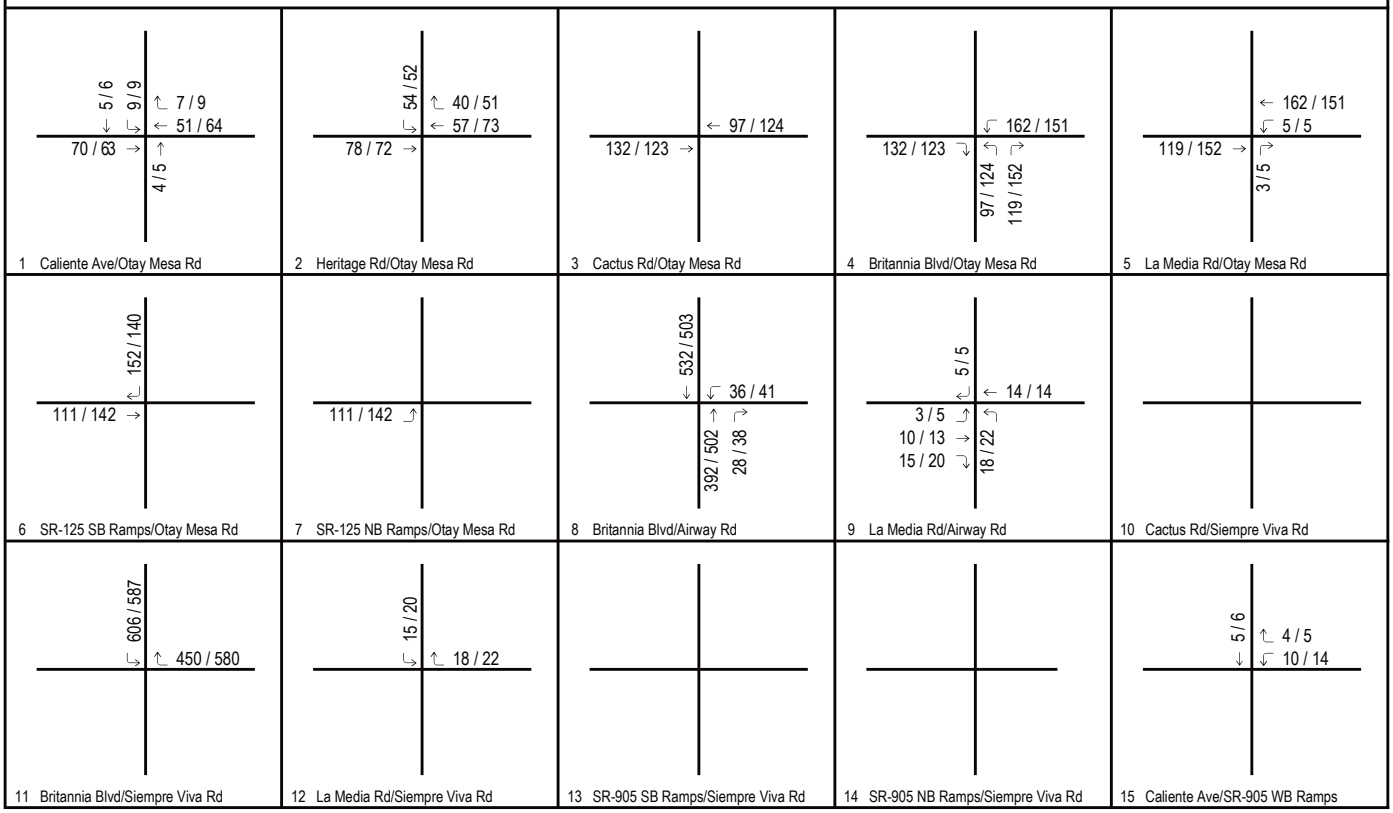


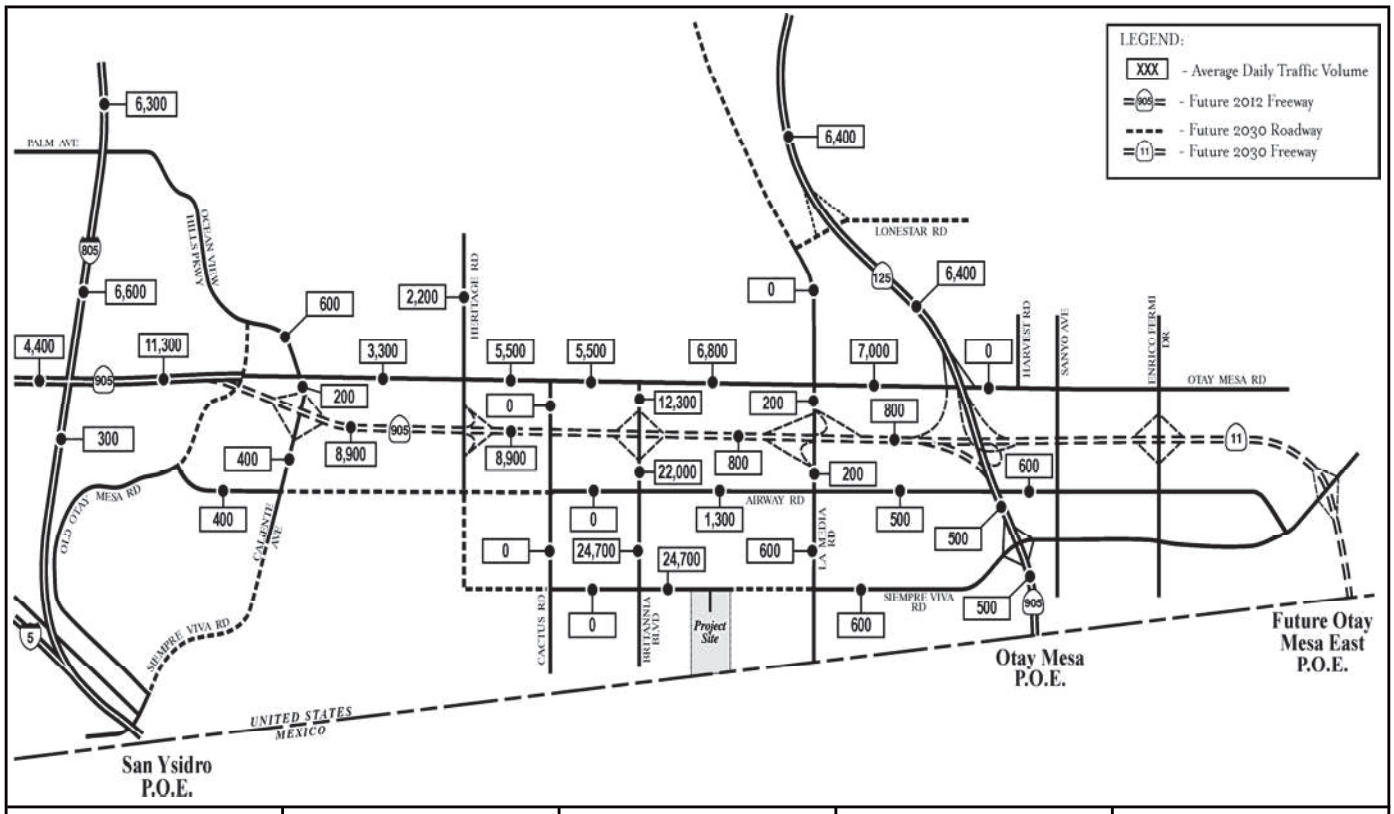
FIGURE 6A

Legend

123 / 456 AM / PM Volume

Otay Cross Border Facility

Project Trip Assignment (Phase 2)



10 / 14, 5 / 6, 13 / 15 16 Caliente Ave/SR-905 EB Ramps	Future Intersection 17 Heritage Rd/SR-905 WB Ramps	Future Intersection 18 Heritage Rd/SR-905 EB Ramps	295 / 274, 20 / 20, 161 / 207, 216 / 276 19 Britannia Blvd/SR-905 WB Ramps	314 / 294, 218 / 209, 377 / 483, 15 / 19 20 Britannia Blvd/SR-905 EB Ramps
5 / 5, 3 / 5 21 La Media Rd/SR-905 WB Ramps	5 / 5, 3 / 5 22 La Media Rd/SR-905 EB Ramps	Future Intersection 23 Heritage Rd/Airway Rd	 24 Cactus Rd/Airway Rd	10 / 14, 13 / 15 25 Caliente Ave/Airway Rd
Future Intersection 26 La Media Rd/Lone Star Rd	Future Intersection 27 SR-125 SB off-ramp/Lone Star Rd	Future Intersection 28 SR-125 NB on-ramp/Lone Star Rd		

FIGURE 6B

Legend

123 / 456 AM / PM Volume

Otay Cross Border Facility

Project Trip Assignment (Phase 2)

supply lines near the project site. Existing overhead powerlines traverse Otay Mesa Road which proposes to be undergrounded.

Industrial Alternative

As an Industrial Alternative, this project proposes to construct two industrial buildings totaling approximately 256,789 sf, on a 17.6-acre project site. The project site currently consists of one 17.6-acre parcel that would be subdivided into two parcels (Parcel 1: 8.89 acres; Parcel 2: 8.14 acres; Street Dedication: 0.59 acre). Building 1 would total 143,046 sf and would be located on the eastern portion of the project site (Parcel 1). Building 2 would total 113,743 sf and would be located on the western portion of the project site (Parcel 2).

To implement the Industrial Alternative, the following permits and actions are included: a VTM to subdivide the single parcel into two parcels and a SDP to allow large industrial (over 100,000 square feet) and to comply with ESL regulations detailed in SDMC Section 143.0141 due to potential impacts to non-native grassland on the project site.

Figure 5 shows the proposed Industrial Alternative site plan and Figure 6 shows the Industrial Alternative proposed lot layout. Building 1 would total 143,046 sf and would be located on the eastern portion of the project site (Parcel 1). Building 2 would total 113,743 sf and would be located on the western portion of the project site (Parcel 2). As required by the SDMC Chapter 14, Article 2, Division 5: Parking Regulations, the Industrial Alternative would require a total of 258 parking spaces with the proposed development. The Industrial Alternative would meet this requirement by providing 290 paved parking spaces. Of the 290 parking spaces that would be provided, 18 spaces would consist of electrical vehicle parking spaces. Of these 18 electrical vehicle parking spaces, 9 spaces would be provided with charging equipment installed ready for use. The Industrial Alternative would provide 11 accessible parking spaces, 7 motorcycle parking spaces, and 15 long-term bicycle parking spaces. The Industrial Alternative would also provide one shower stall in each building, each of which would include two two-tiered lockers (Atlantis Group 2020).

The Industrial Alternative includes development of frontage improvements located on the western, northern, and eastern property boundaries for frontage and roadway improvements. The acreage and location of these off-site improvements would be the same as for the Retail Alternative, except the Industrial Alternative would not include a project driveway on La Media Road. A signalized intersection is proposed on Otay Mesa Road along the eastern boundary of the project site. This intersection would lead to a shared private driveway with the Sunroad Otay 50 project site to the east. As required for the Retail Alternative, the Industrial Alternative would also construct the ultimate half-width improvements on La Media Road and Otay Mesa Road along the project site frontage, including raised median on La Media Road frontage. These frontage improvements also include intersection improvements on the northbound approach of the La Media Road and Otay Mesa Road intersection, and an eastbound right-turn lane on Otay Mesa Road at the intersection with the proposed 4-lane private driveway (see Figure 5-Industrial Site Plan). Additionally, the Industrial Alternative proposes an uncontrolled emergency access only right-in-only driveway on Otay Mesa Road along the northern boundary of the site.

The proposed industrial buildings would have a maximum height of 40 feet. No maximum height is defined in the base zone, rather it defers to the CPIOZ A and requires consistency with development criteria and standards of the OMCP. No maximum height is defined in the OMCP. Per Footnote 11 of Table 131-06B, the maximum FAR within the OMCPU area is 0.50 unless a final map has been recorded prior to May 18, 2014. Buildings proposed under the Industrial Alternative would not exceed the maximum FAR.

Implementation of the Industrial Alternative would require approximately 900 cy of cut and 184,340 cy of fill, resulting in a net import of 183,440 cy of soil. The maximum depth of cut slopes would be 1.5 feet, and the maximum height of fill slopes would be 9 feet.

All landscaping materials and irrigation within the project site would conform to the requirements of the City's LDC Landscape Standards and the applicable sections of the SDMC Chapter 14, Article 2, Division 4: Landscape Regulations. The landscape plan would provide for a landscaping theme that consists of a natural, drought-tolerant character that compliments the architecture of the Industrial Alternative. The plant palette includes, but is not limited to, Raywood ash, Chinese flame tree, purple tower crape myrtle, Italian stone pine, and Engelmann oak.

The Industrial Alternative would connect to the same existing infrastructure surrounding the project site. Building 1 would be served by a gravity sewer that would connect to the existing sewer VCP that traverses Otay Mesa Road; Building 2 would connect to the proposed private sewer main that would be constructed within the proposed 4-lane private driveway along the eastern boundary (shown as Landmark Road on Figure 5-Industrial Alternative Site Plan) where it would combine flows with the adjacent property to the east. Flows would then travel north and connect into the existing main within Otay Mesa Road. As described for the Retail Alternative above, an existing storm drain is located at the southwest corner of the project site that connects to existing Caltrans box culverts along the westerly property boundary. The majority of on-site and tributary off-site runoff would continue to enter the Caltrans culverts through the existing storm drain near the southwest corner of the site as well as at two new connection points to be constructed midway along the site. The Industrial Alternative would also introduce a public storm drain system along Otay Mesa Road that would collect the remainder of the runoff for transfer to the existing Caltrans stormwater facility within Otay Mesa Road. Additionally, the Caltrans stormwater easement located in the northwest corner of the project site would remain. On-site runoff would be collected and conveyed to one biofiltration basin along the southern boundary of the project site, a second biofiltration basin in the southeastern corner of the project site, and vegetated swales with trees along the western and northern project site boundaries before entering the Caltrans culverts. The Industrial Alternative would also implement underground connections to existing water supply lines near the project site. Existing overhead powerlines traverse Otay Mesa Road which would be undergrounded.

II. ENVIRONMENTAL SETTING

The undeveloped and vacant 17.6-acre site is located within the IL-3-1 (Light Industrial) Zone of the OMCP. Properties immediately to the west, south and east are also zoned IL-3-1, the property to the north is zoned IH-1-1, and the property immediately to the northeast is zoned IL-2-1. The property to the northwest associated with Brown Field Municipal Airport (BMA) is unzoned. The project site is located south of Otay Mesa Road, east of La Media Road, north of SR-905, and north of Airway Road, in the City of San Diego.

Industrial Alternative

Impacts associated with the Industrial Alternative would be less than those identified for the Retail Alternative. Trip generation for the Industrial Alternative was calculated based on the City's Trip Generation Manual, May 2003. Table 13 shows that the Industrial Alternative would generate approximately 2,054 trips per day, with approximately 226 trips during the AM peak hour (203 In, 23 out) and approximately 247 trips during the PM peak hour (49 In, 198 out). Table 14 provides a comparison which shows that the Industrial Alternative would generate 6,606 fewer daily trips, 84 fewer AM peak hour trips, and 565 fewer PM peak hour trips than the Retail Alternative.

Table 13
Industrial Alternative Trip Generation Summary

Land Use	Amount	ADT	AM PEAK HOUR			PM PEAK HOUR		
			In	Out	Total	In	Out	Total
Large Industrial Park	256,789 sf	2,054	203	23	226	49	198	247
Total Project Trips		2,054	203	23	226	49	198	247

ADT = average daily traffic; sf = square feet
Notes: The trip rates for the proposed uses are based on *the City of San Diego's Trip Generation Manual, May 2003.*

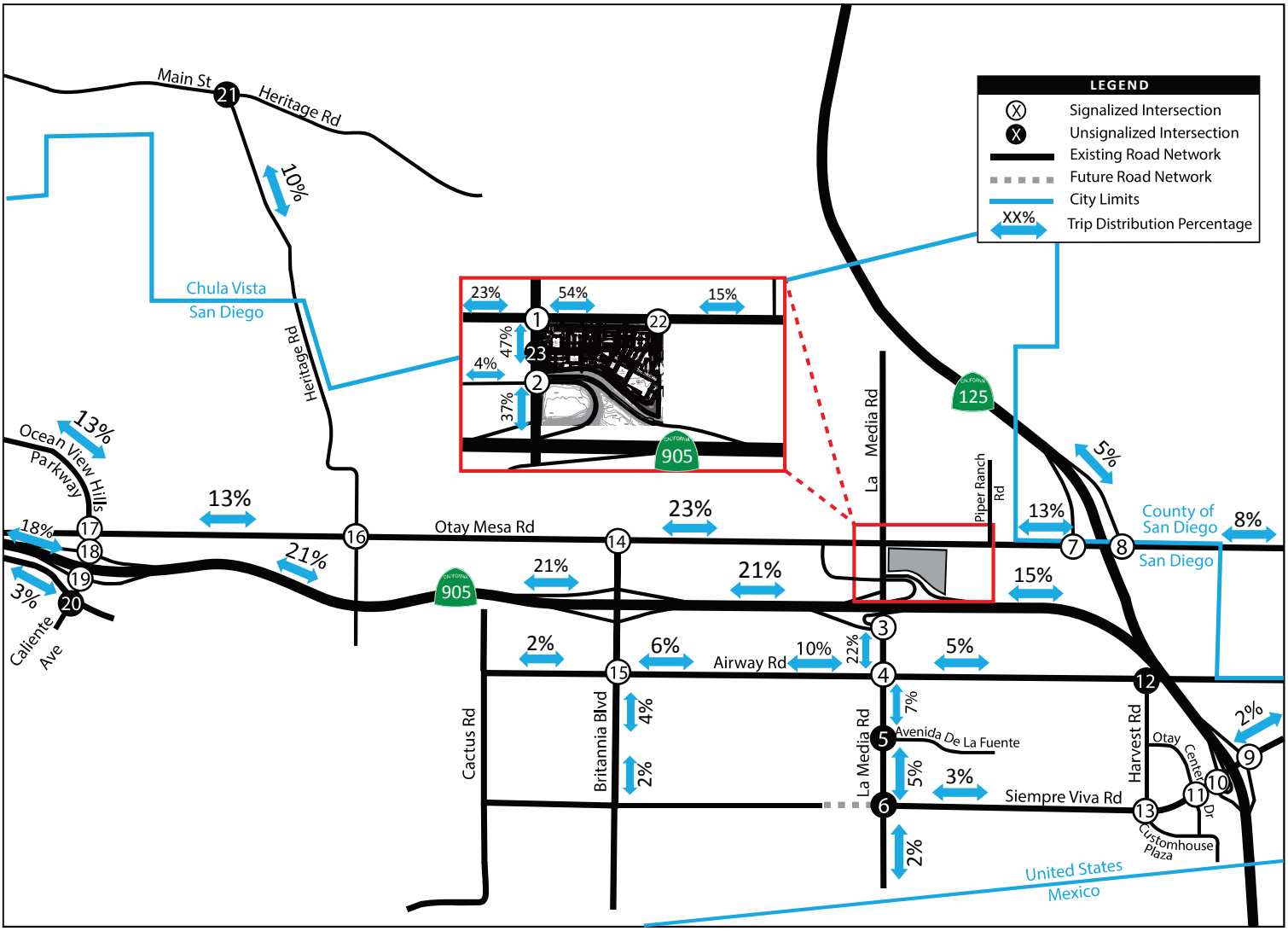
Table 14
Trip Generation Comparison

Land Use	ADT	AM PEAK HOUR			PM PEAK HOUR		
		In	Out	Total	In	Out	Total
Industrial Alternative							
Commercial Retail	14,744	339	251	590	687	685	1,372
Pass-By Trip Reduction (based on City's cumulative trip rate)	-6,084	-156	-124	-280	-280	-280	-560
Net Project Trips	*8,660*	*183*	*127*	*310*	*407*	*405*	*812*
Industrial Alternative							
Large Industrial Park	2,054	203	23	226	49	198	247
Net Difference in Project Trips	-6,606	+20	-104	-84	-358	-207	-565

ADT = average daily traffic
Notes: The trip rates for the proposed uses are based on *the City of San Diego's Trip Generation Manual, May 2003.*

The Industrial Alternative includes development of frontage improvements located on the western, northern, and eastern property boundaries for frontage and roadway improvements. The acreage and location of these frontage improvements would be the same as for the Retail Alternative (see Figure 5-Industrial Site Plan), except the Industrial Alternative would not include a driveway on La Media Road. A signalized intersection is proposed at the intersection of Otay Mesa Road and the 4-lane private driveway proposed along the eastern boundary of the project site. This intersection would lead to a shared private driveway with the Sunroad Otay 50 project site to the east. As required for the Retail Alternative, the Industrial Alternative would also construct the ultimate half-width improvements on La Media Road and Otay Mesa Road along the project site frontage, including raised median on La Media Road frontage. These frontage improvements also include intersection improvements on the northbound approach of the La Media Road and Otay Mesa Road intersection and an eastbound right-turn lane on Otay Mesa Road at the intersection with the proposed 4-lane private driveway (see Figure 5-Industrial Site Plan). Additionally, the Industrial Alternative proposes an uncontrolled emergency access only right-in-only driveway on Otay Mesa Road along the northern boundary of the site.

Plaza La Media 14. Plaza La Media

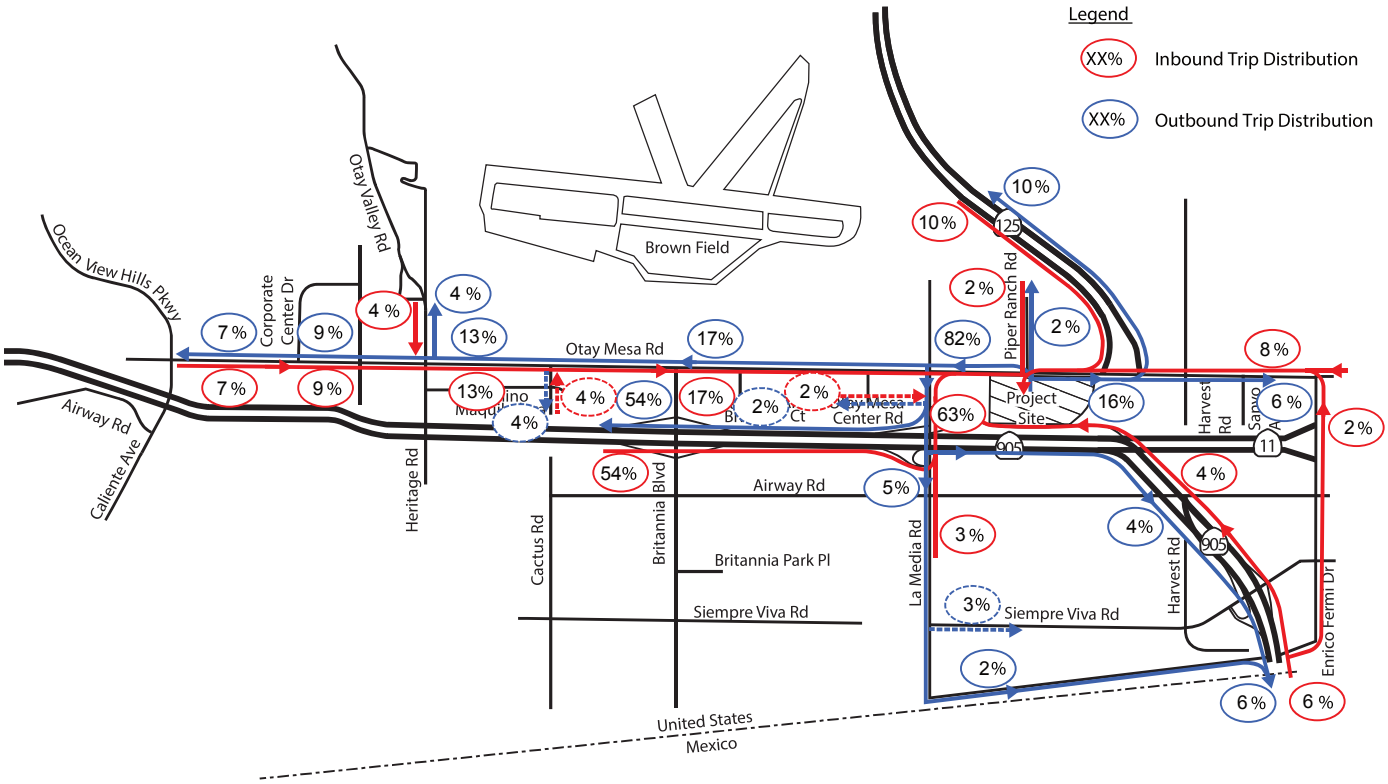


T:\Projects\Western Alliance Bank\0388_Plaza La Media - Otay Valley TIA\Graphics\0388 Project Figures.ai

Figure 4-1
Opening Year 2018 Project Trip Distribution

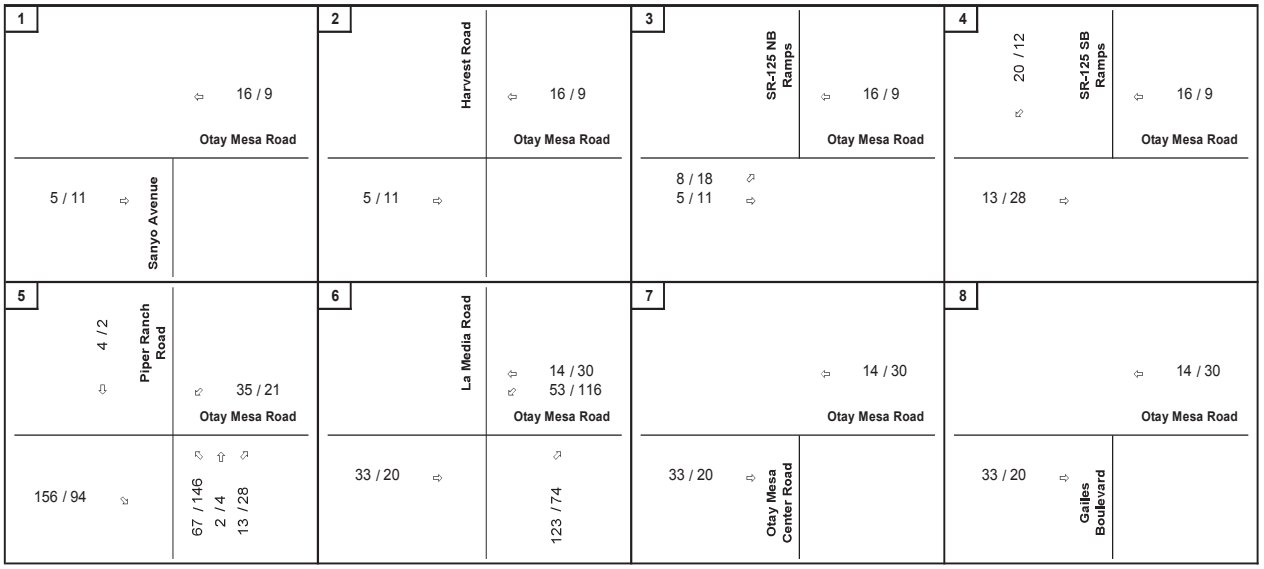
15. Sunroad Otay Mesa

FIGURE 4-1



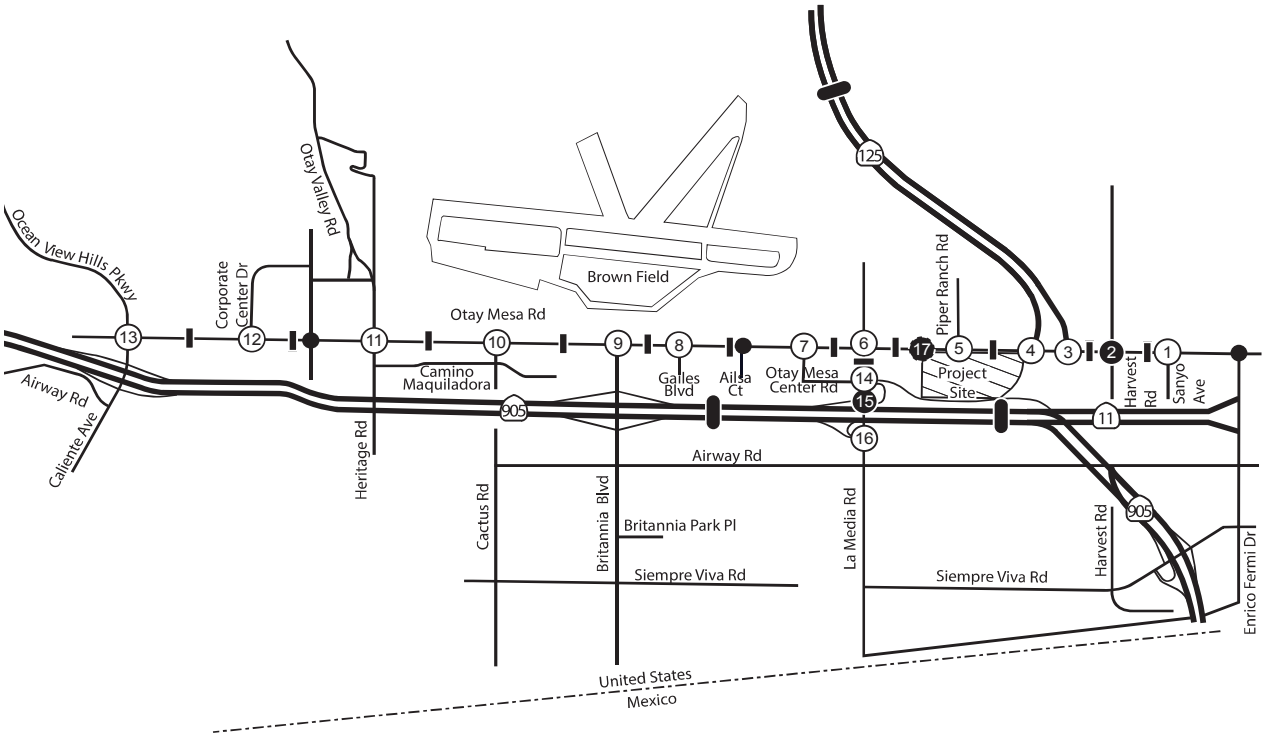
General Trip Distribution
Existing & Near Term Conditions

FIGURE 4-11



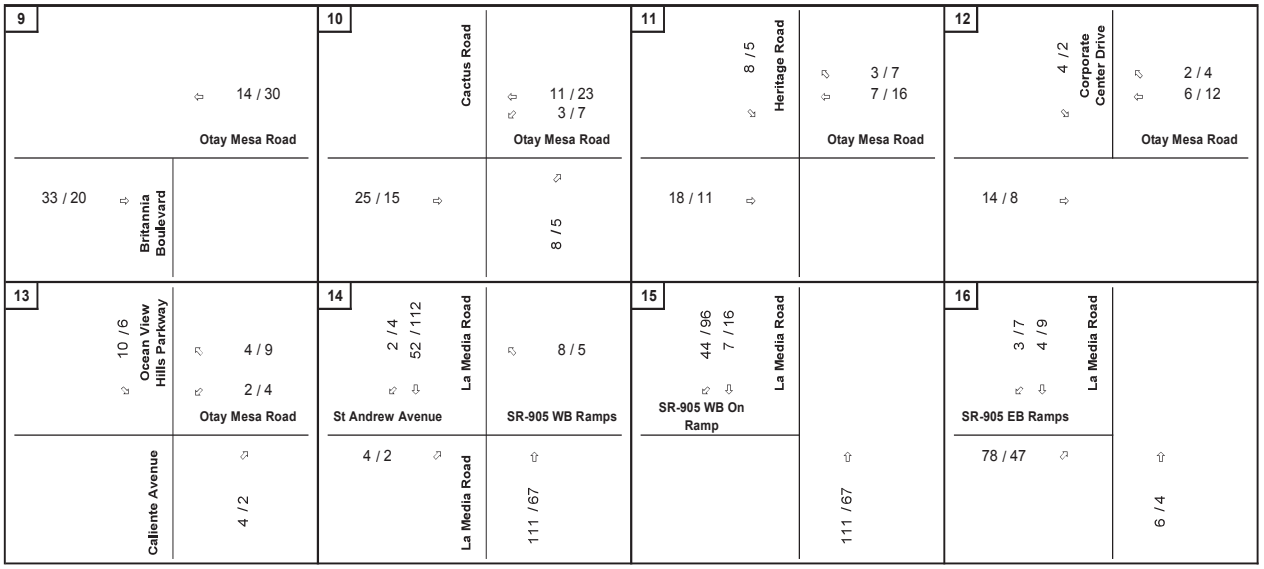
LEGEND

X/Y	AM/PM Peak Hour Traffic Volumes



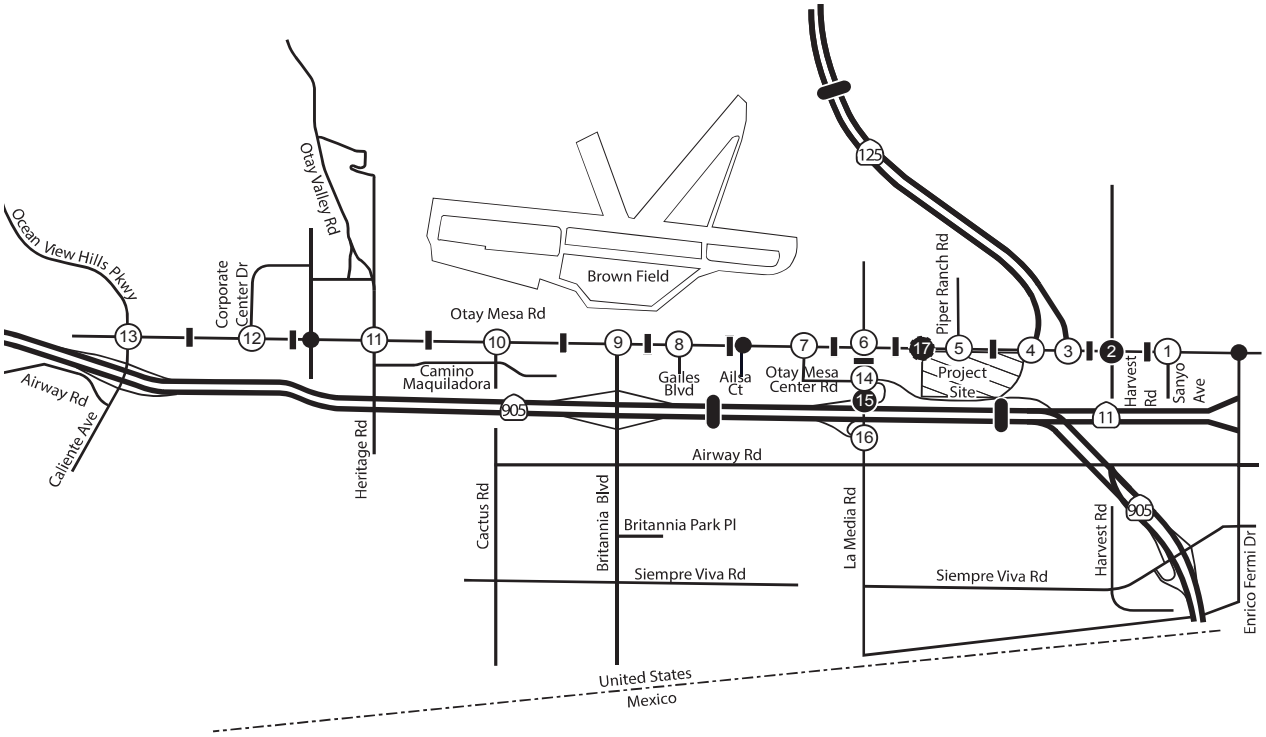
Trip Assignment For Phase 1
Existing & Near Term Conditions

FIGURE 4-12



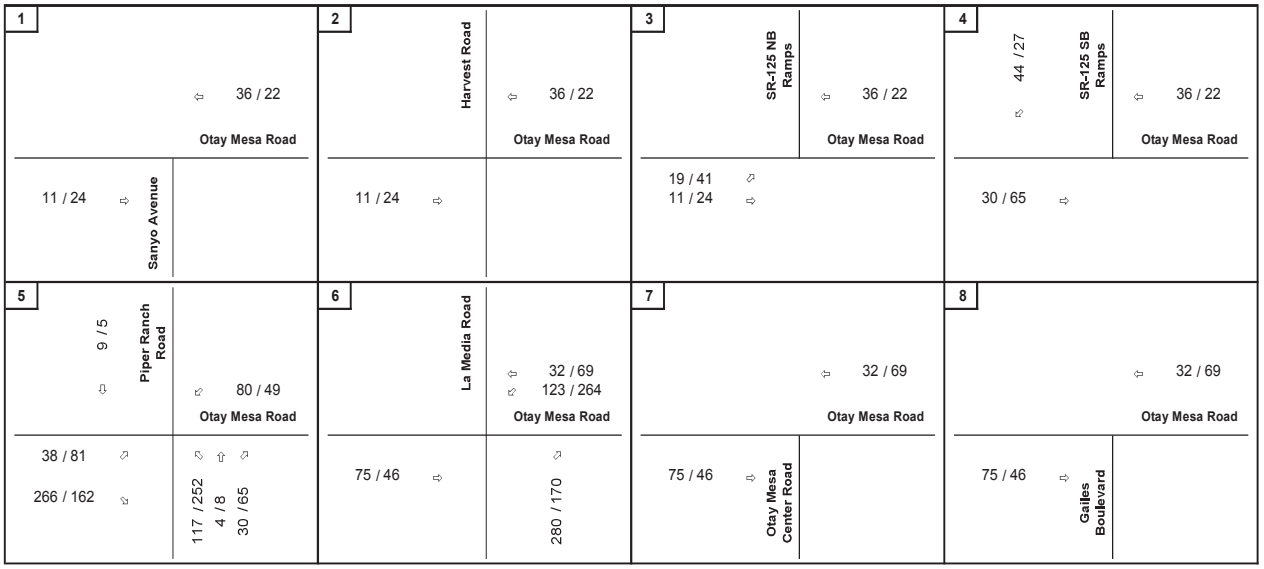
LEGEND

X/Y	AM/PM Peak Hour Traffic Volumes



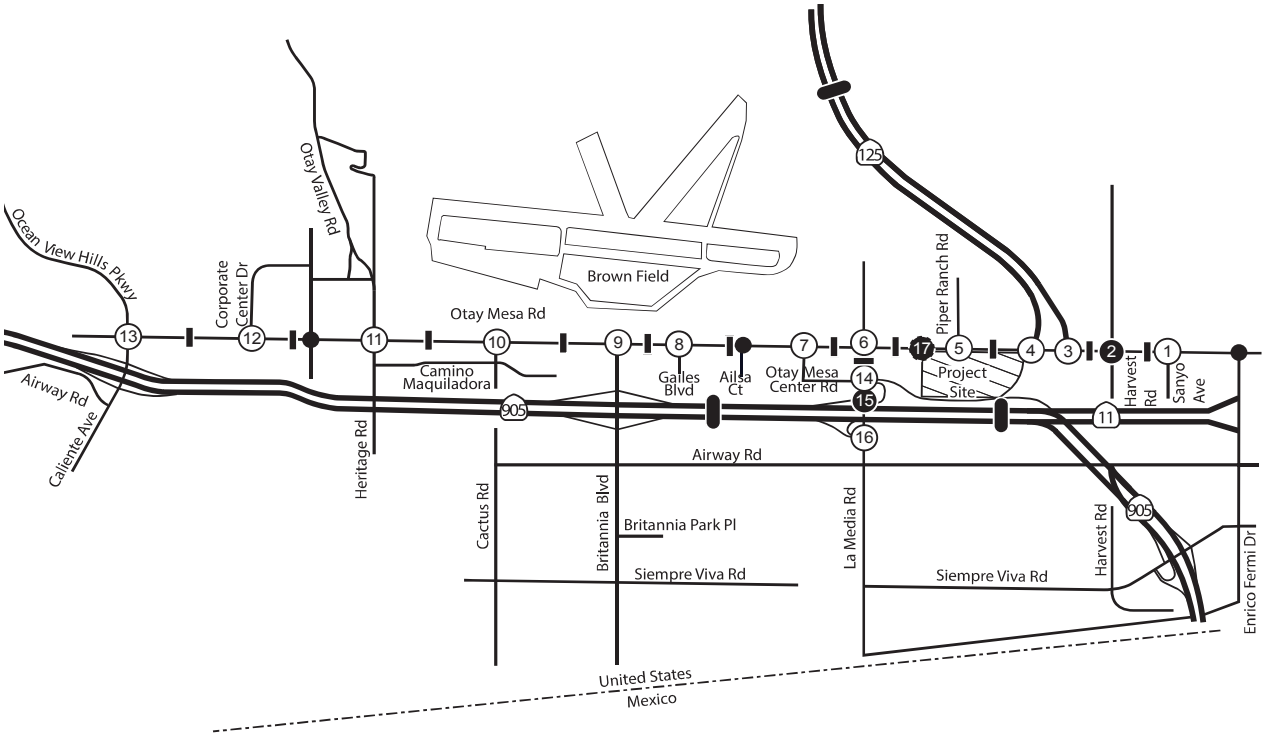
Trip Assignment For Phase 1
Existing & Near Term Conditions (cont.)

FIGURE 4-13



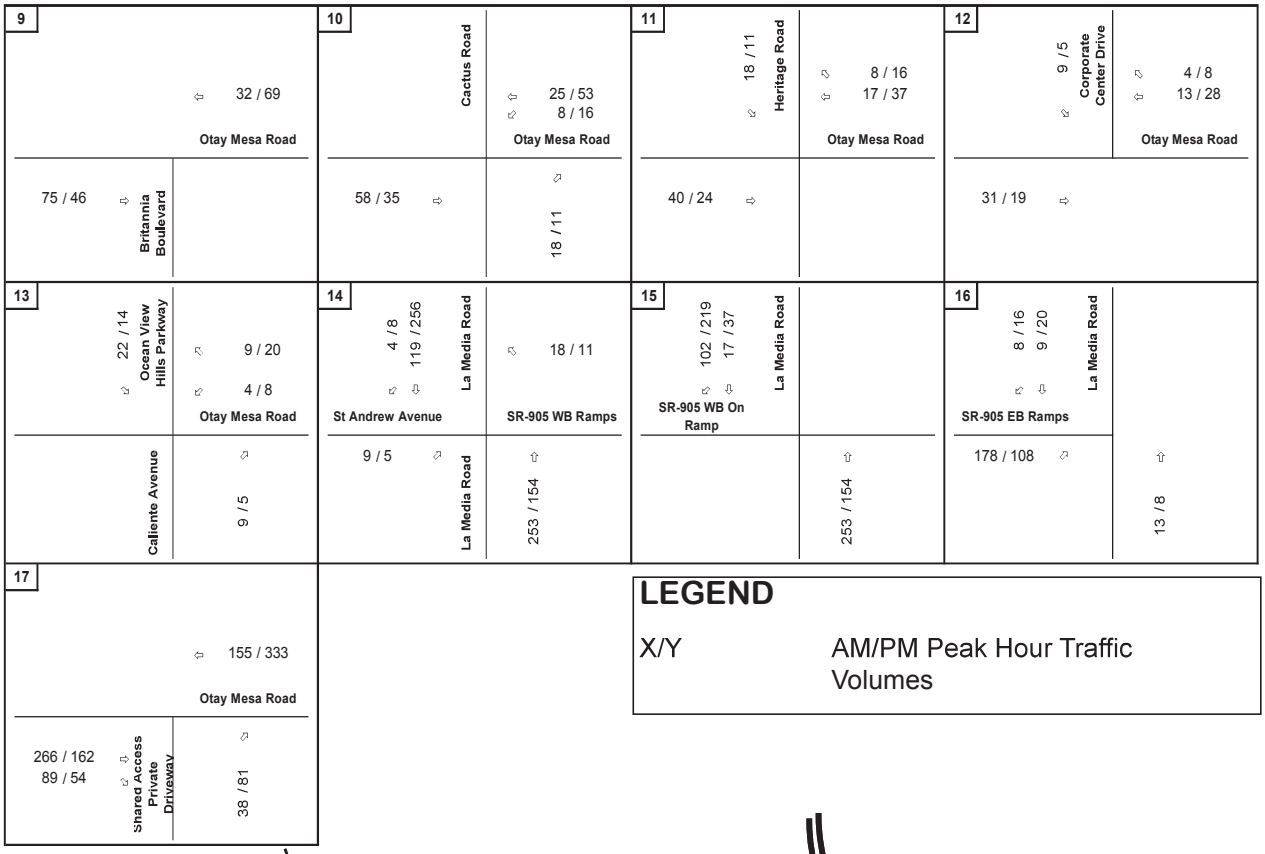
LEGEND

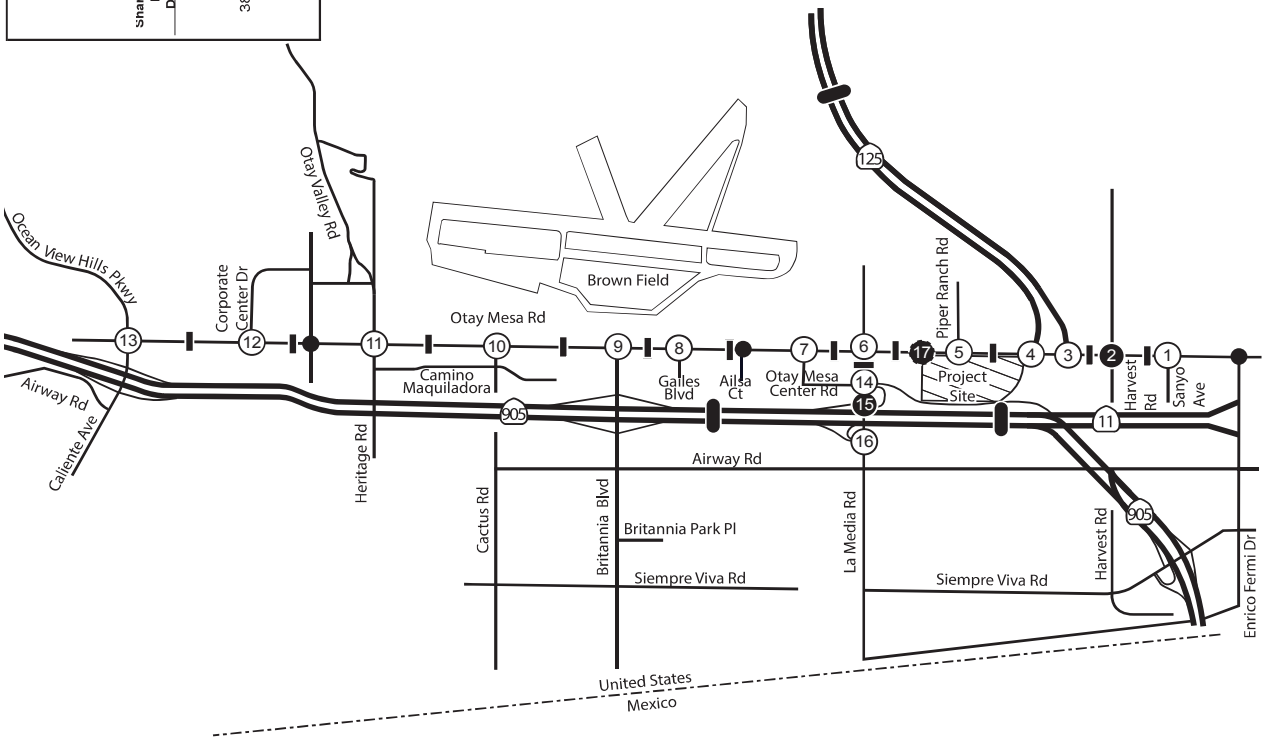
X/Y	AM/PM Peak Hour Traffic Volumes



Trip Assignment For Phase 1 & 2
Existing Condition

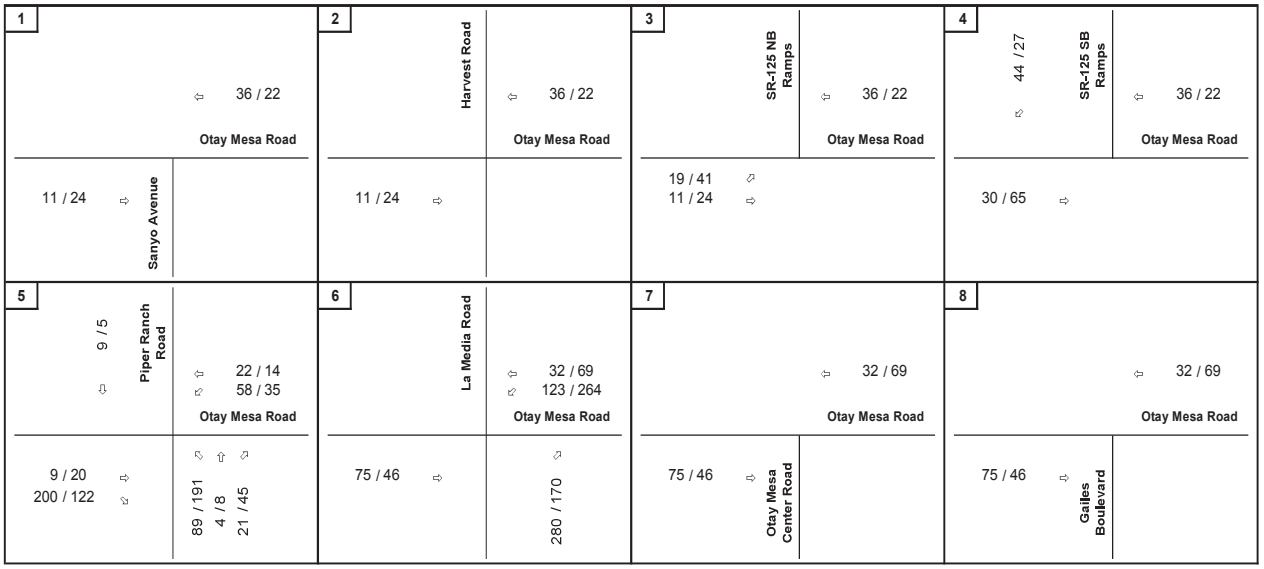
FIGURE 4-14





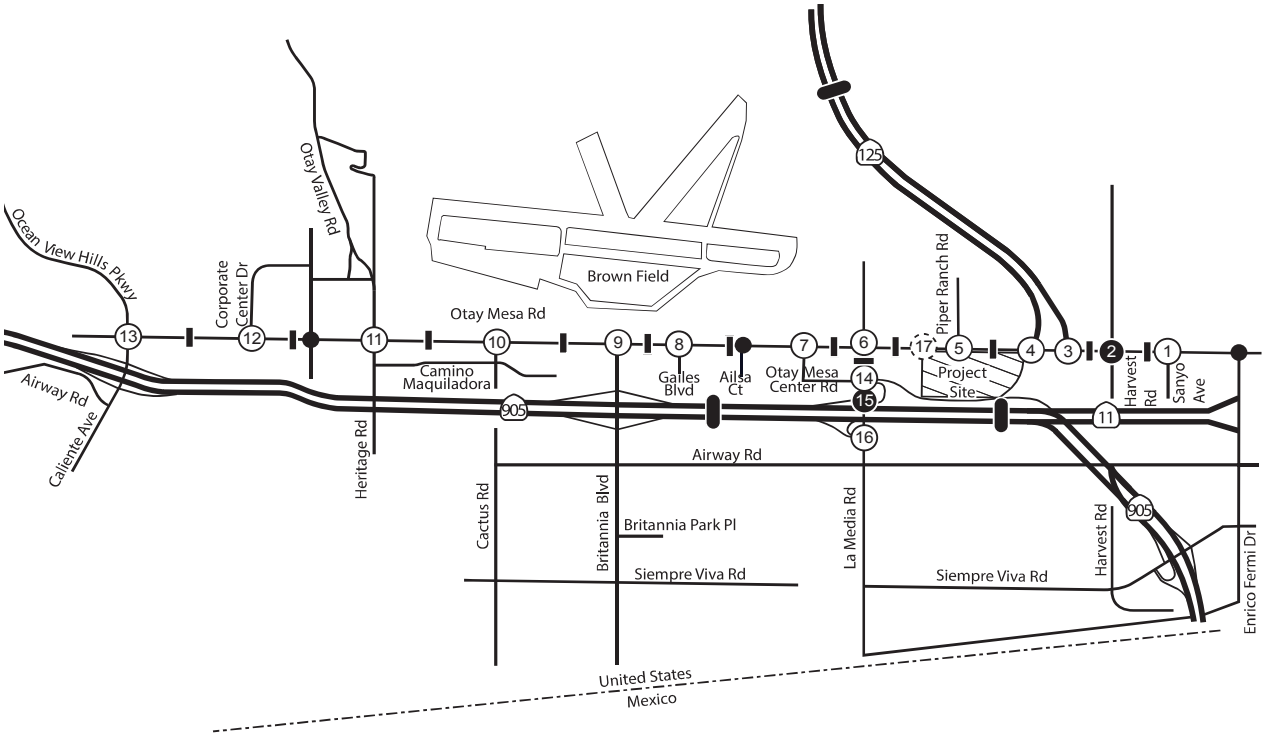
Trip Assignment For Phase 1 & 2 Existing Condition (cont.)

FIGURE 4-15



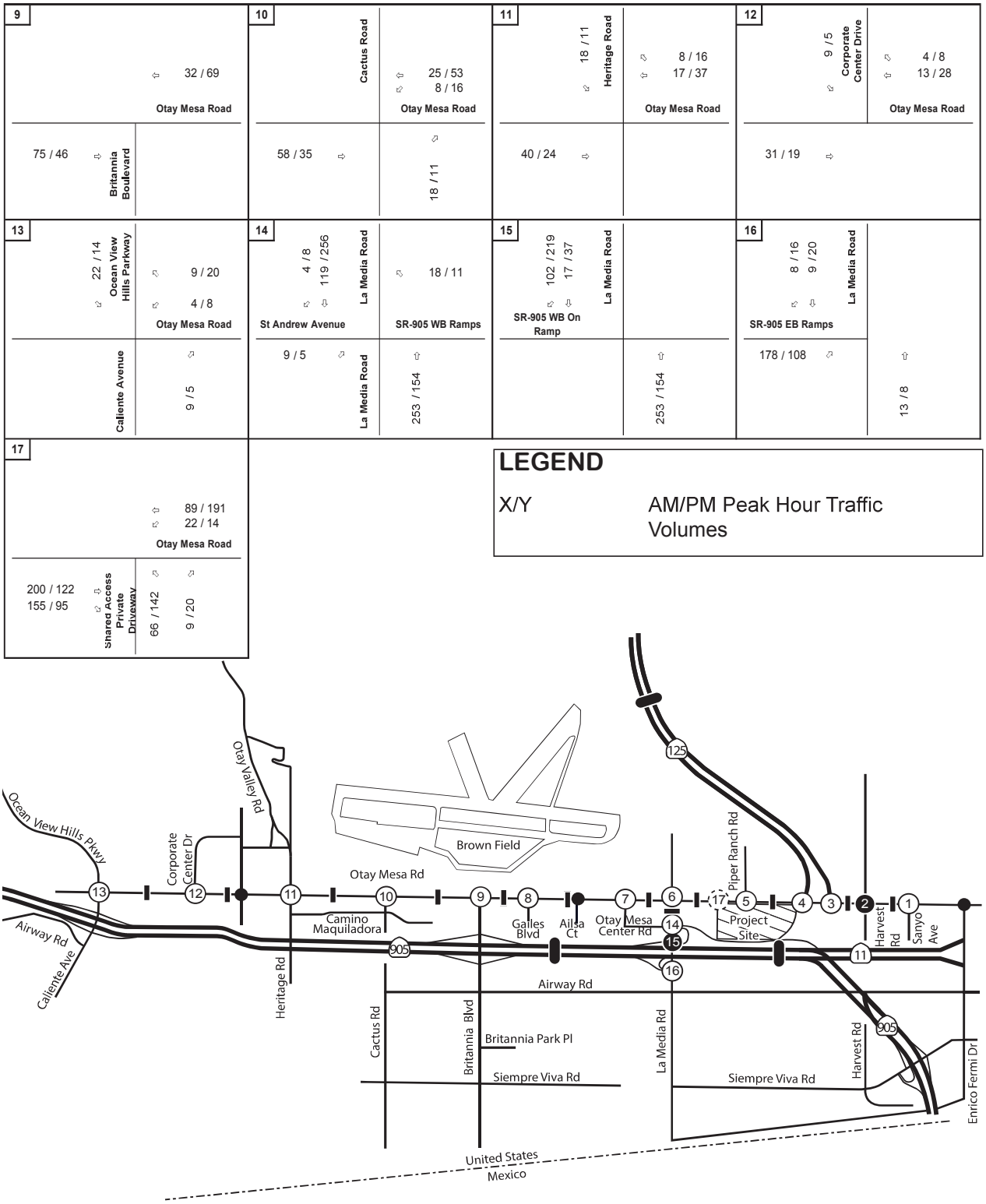
LEGEND

X/Y	AM/PM Peak Hour Traffic Volumes



Trip Assignment For Phase 1 & 2
Near Term (2020) Condition

FIGURE 4-16



Trip Assignment For Phase 1 & 2
Near Term (2020) Condition (cont.)

Table 4-1 Trip Generation Summary

Land Use	d Use as listed in SanD	Units[1]	Trip Rate[2]	Daily Trips	AM Peak-Hour % of ADT[2]	AM Peak-Hour In:Out Ratio[2]	AM Peak-Hour In	AM Peak-Hour Out	AM Peak-Hour Total	PM Peak-Hour % of ADT[2]	PM Peak-Hour In:Out Ratio[2]	PM Peak-Hour In	PM Peak-Hour Out	PM Peak-Hour Total
Cumulative Trips [3]														
Proposed														
Phase 1														
Building 3	Warehousing	216.3 ksf	5 / ksf	1,082	15%	7.00 : 3.00	114	48	162	16%	4.00 : 6.00	69	104	173
Building 4	Warehousing	153.5 ksf	5 / ksf	768	15%	7.00 : 3.00	81	34	115	16%	4.00 : 6.00	49	74	123
Phase Total				**1,849**			**195**	**82**	**277**			**118**	**178**	**296**
Phase 2														
Building 1	Warehousing	234.7 ksf	5 / ksf	1,173	15%	7.00 : 3.00	123	53	176	16%	4.00 : 6.00	75	113	188
Building 2	Warehousing	240.6 ksf	5 / ksf	1,203	15%	7.00 : 3.00	126	54	180	16%	4.00 : 6.00	77	115	192
Phase Total				**2,376**			**249**	**107**	**356**			**152**	**228**	**380**
Proposed Total				**4,225**			**444**	**189**	**633**			**270**	**406**	**676**
GENERATION =				**4,225**			**444**	**189**	**633**			**270**	**406**	**676**

Note:

1. ksf = Thousand Square Feet
2. Daily and peak-hour trip generation rates referenced from the City of San Diego Land Development Code - Trip Generation Manual, May 2003.
3. Cumulative trips are the total trips generated by the site exclusive of pass-by trips already on the roadway.

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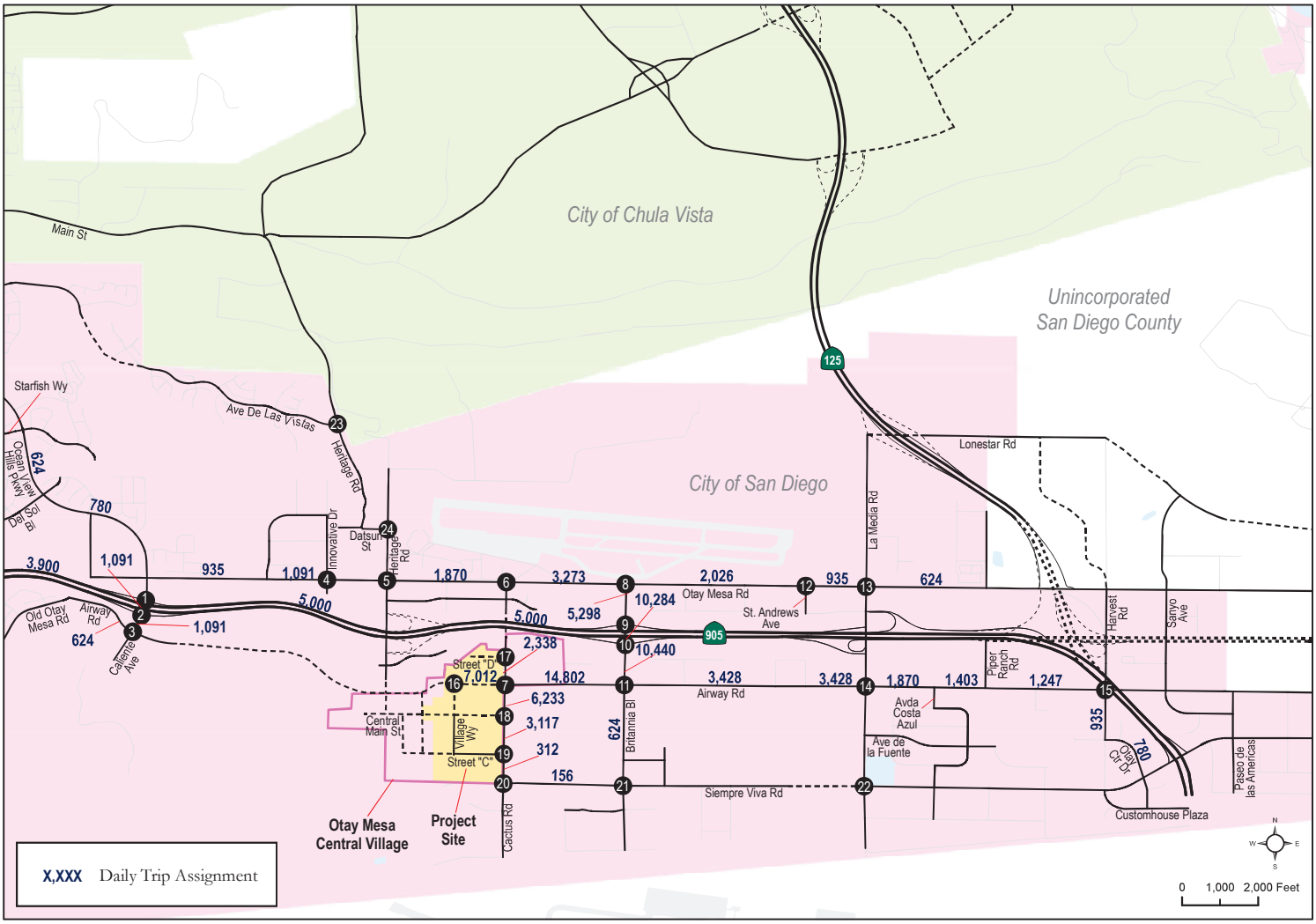

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Figure 3-8
Project Trip Assignment (Full Development) - Existing and Near-Term 2027 Roadway Network

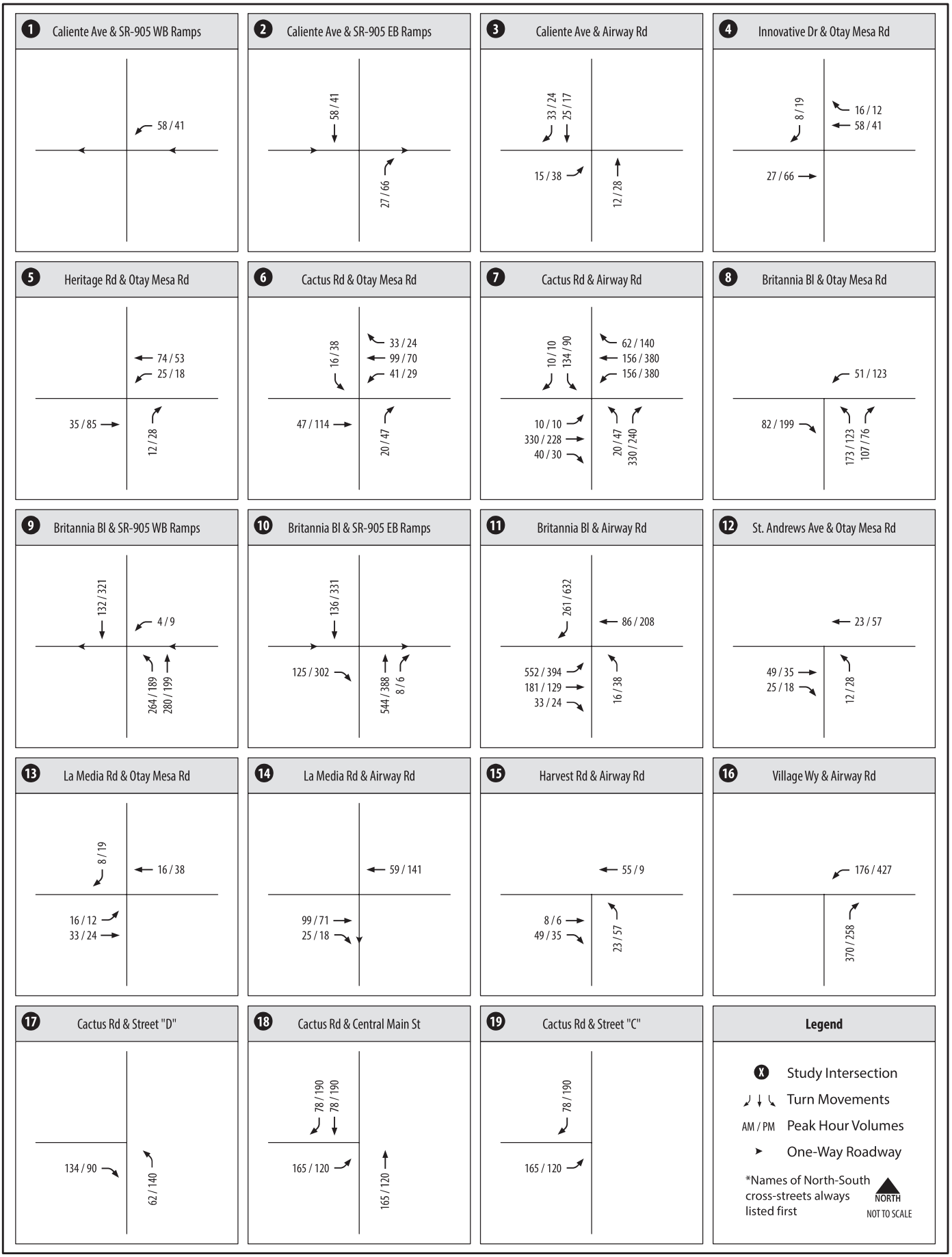

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Figure 3-9
Project Trip Assignment (Full Development) - Existing and Near-Term 2027 (Intersections 1-19)

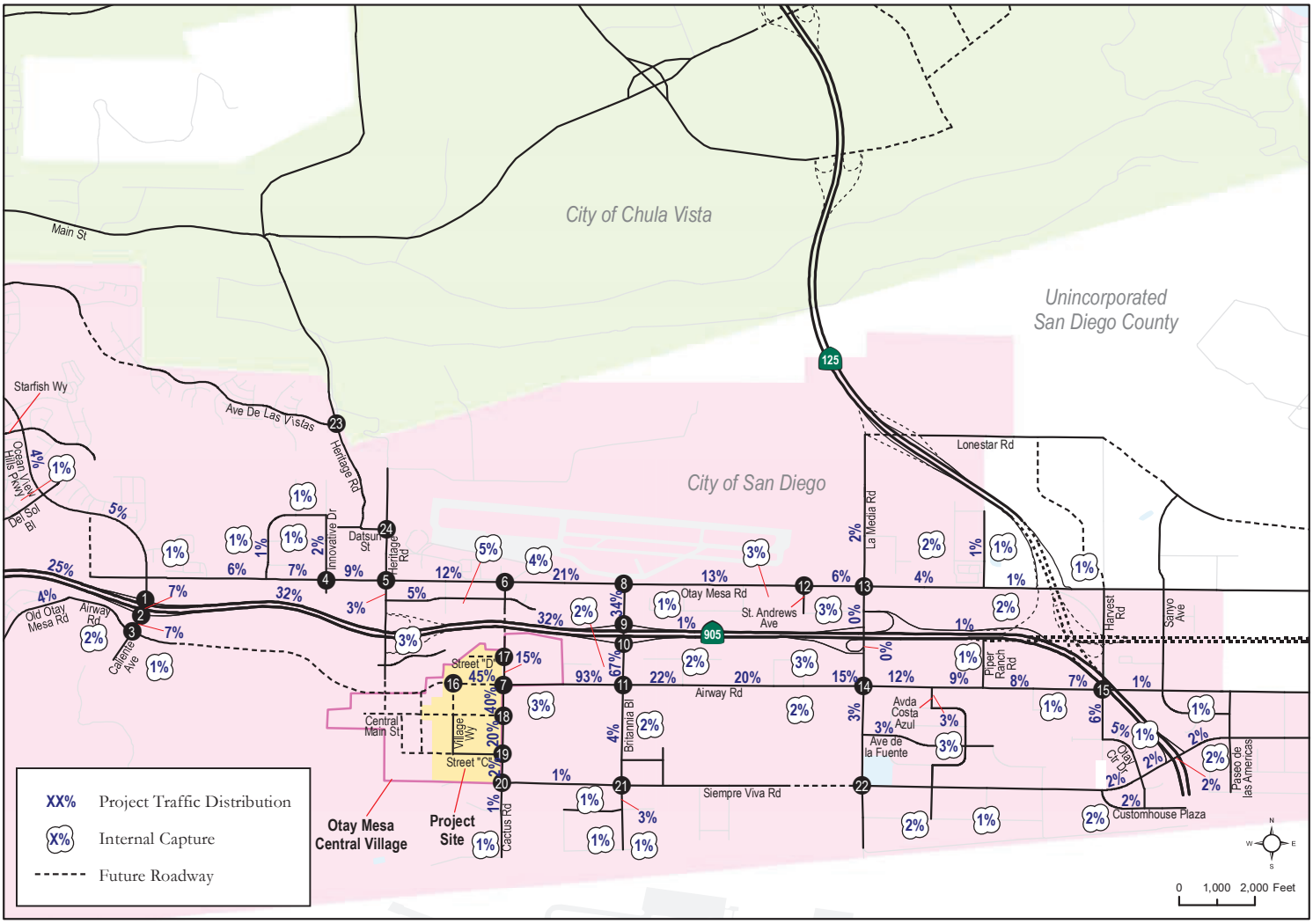

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Figure 3-4
Project Trip Distribution - Existing and Near-Term (2023 and 2027)

Project Trip Generation

Project trip generation estimates were derived utilizing the trip generation rates outlined in *Table 1* of the *City of San Diego Land Development Code – Trip Generation Manual, May 2003*. **Table 1** displays the proposed project's trip generation.

Table 1 Otay Mesa Lumina III – Trip Generation

		Trip		AM Peak Hour					PM Peak Hour				
Land Use	Units	Rate	ADT	%	Trips	Split	In	Out	%	Trips	Split	In	Out
Multi-Family	25	8 / DU	200	8%	16	2:8	3	13	10%	20	7:3	14	6

Source: City of San Diego Land Development Code – Trip Generation Manual, May 2003.

As shown in Table 1, the proposed project would generate a total of 200 daily trips, including 16 (3-in / 13-out) AM peak hour trips and 20 (14-in / 6-out) PM peak hour trips.

Project Distribution

Since the project is anticipated to be open in year 2027, the same project trip distribution (Year 2027) utilized in the *Otay Mesa Lumina Transportation Impact Study* (February 2019), was employed for the analysis of Otay Mesa Lumina III. **Figure 3** displays the project trip distribution patterns associated with the proposed project.

Project Assignment

Based upon the project trip distribution patterns, the daily and AM/PM peak hour project trips were assigned to the study area roadway network. **Figure 4** displays the assignment of project trips to the roadway network and intersection.

Project Study Area

This section documents the project study area roadway and intersection configurations, traffic volumes and traffic operations.

Roadway Segments

- Cactus Road, between Airway Road and Siempre Viva Road
- Secano Street, between Cactus Road and Village Way

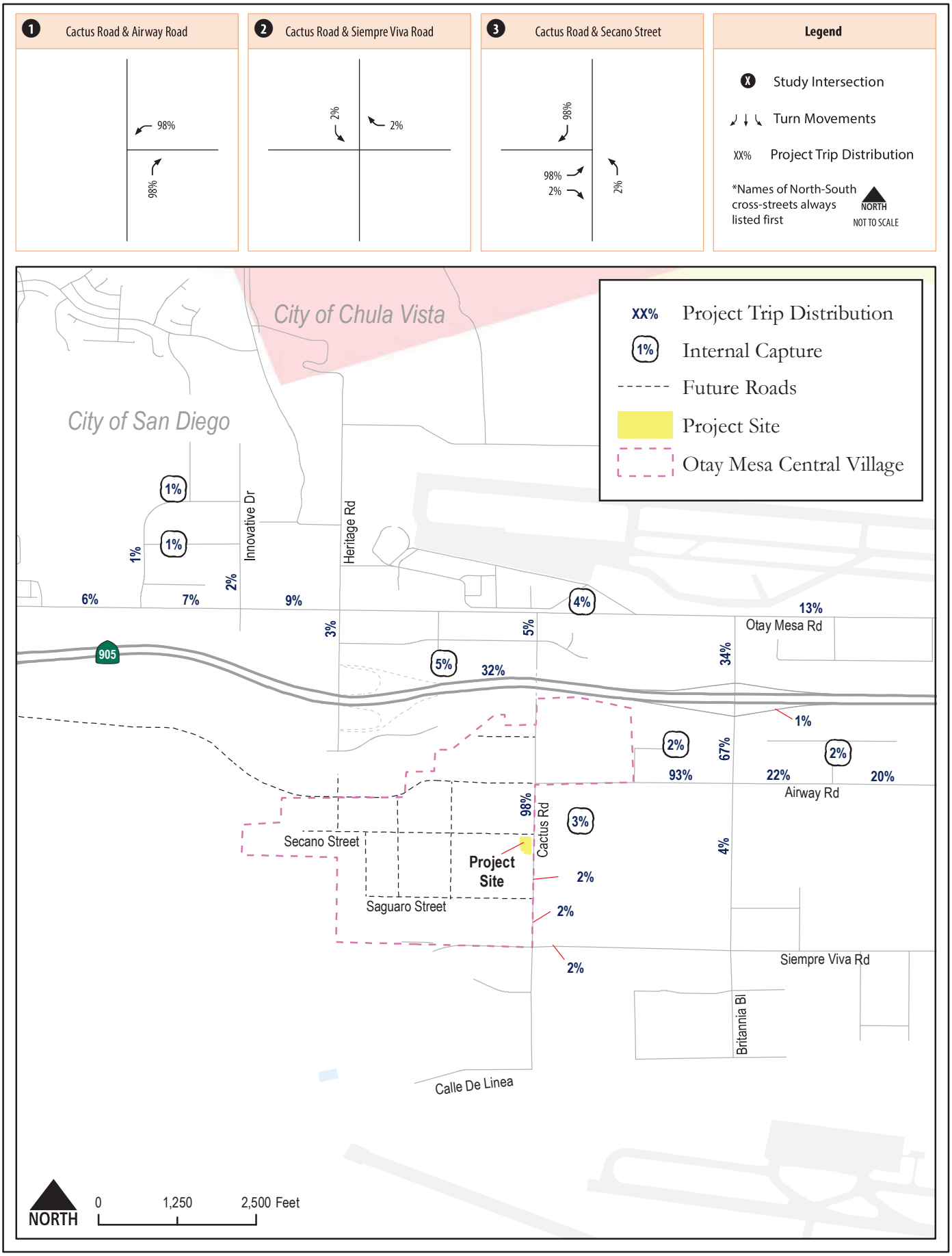

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Figure 3
Project Trip Distribution

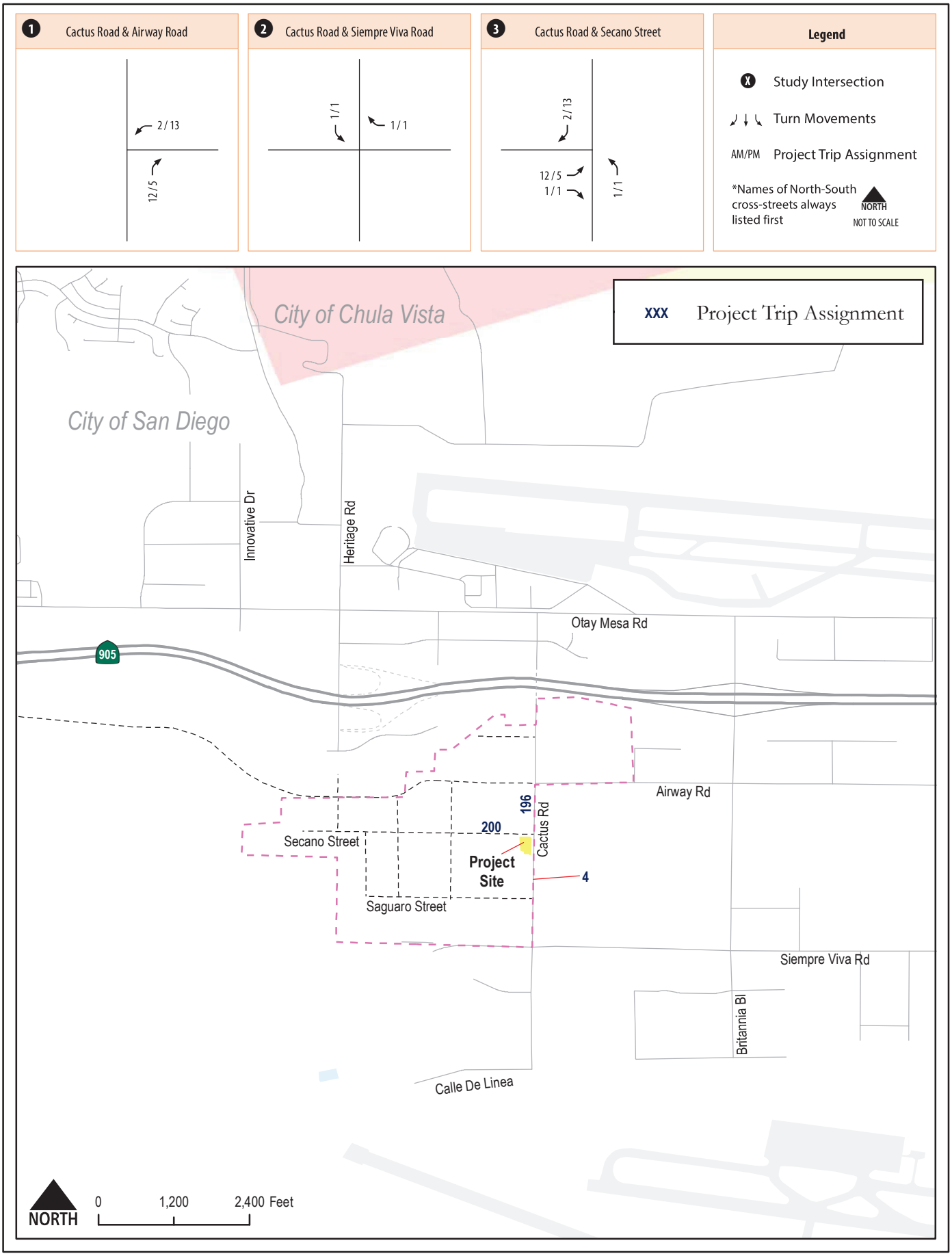

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Figure 4
Project Trip Assignment

4 PROJECT TRAFFIC

The following section describes the trip generation, distribution and assignment related to the Project, which includes the addition of 408,607 square feet of warehousing on an undeveloped vacant lot within the Otay Mesa area of San Diego.

4.1 TRIP GENERATION

The City of San Diego *Trip Generation Manual* (May 2003) was referenced to calculate the estimated trip generation for the Project. The "Warehousing" land use was used to forecast daily and peak-hour trips for the Project. Due to the land use type and the location of the site, no pass-by trips, internal capture, nor transit, bicycle, or pedestrian credits were applied.

The proposed Project would construct three (3) industrial warehouse buildings consisting of a total of 408,607 square feet. Using the trip generation rate for warehousing, the Project is expected to generate a total of 2,043 daily trips with 306 morning peak-hour trips (215 in, 91 out) and 327 afternoon peak-hour trips (131 in, 196 out). **Table 4-1** summarizes the trip generation for the site.

Table 4–1 Project Trip Generation

Land Use	Units[1]	Trip Rate	Daily Trips	AM Peak Hour					PM Peak Hour				
				% ADT[2]	In:Out Ratio[2]	In	Out	Total	% ADT[2]	In:Out Ratio[2]	In	Out	Total
Warehousing	408.61 KSF	5 / KSF	2,043	15%	7 : 3	215	91	306	16%	4 : 6	131	196	327
Proposed Total			**2,043**			**215**	**91**	**306**			**131**	**196**	**327**

Notes:
1. KSF = 1,000 square feet
2. Trip rates referenced from the City of San Diego Land Development Code – Trip Generation Manual, May 2003.

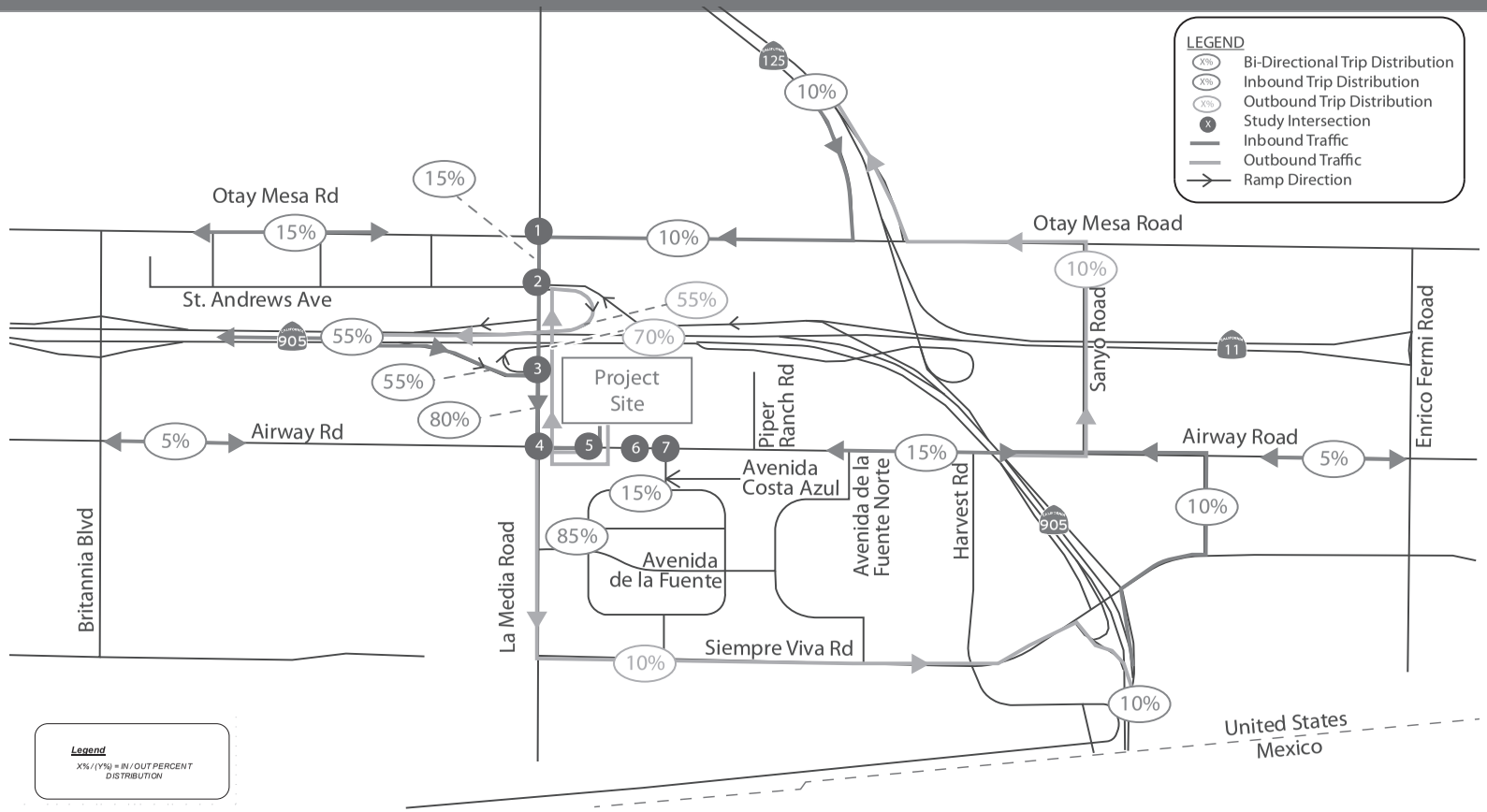
4.2 TRIP DISTRIBUTION AND ASSIGNMENT

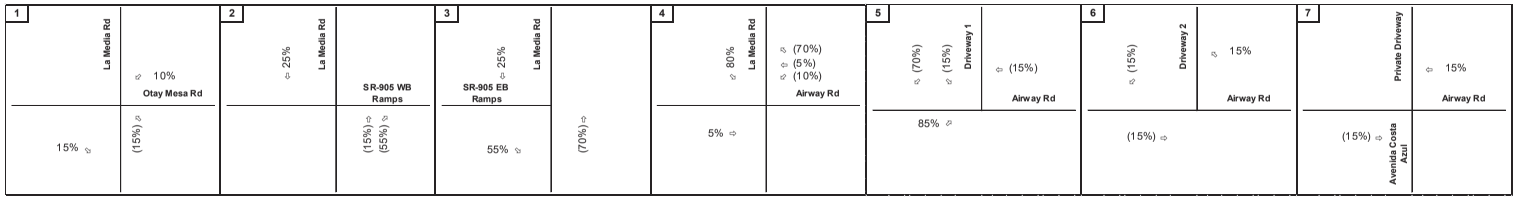
The Project traffic distribution was based on current network configuration, knowledge of the area, and a review of recent traffic studies in the area. The trip distribution is presented in **Figure 4-1.**

- 10% to/from SR 125 north of Otay Mesa Road On/Off Ramps
- 15% to/from Otay Mesa Road west of La Media Road
- 55% to/from SR 905 west of La Media Road
- 5% to/from Airway Road west of La Media Road
- 5% to/from Airway Road west of Enrico Fermi Drive
- 10% to/from SR 905 south of Siempre Viva Road

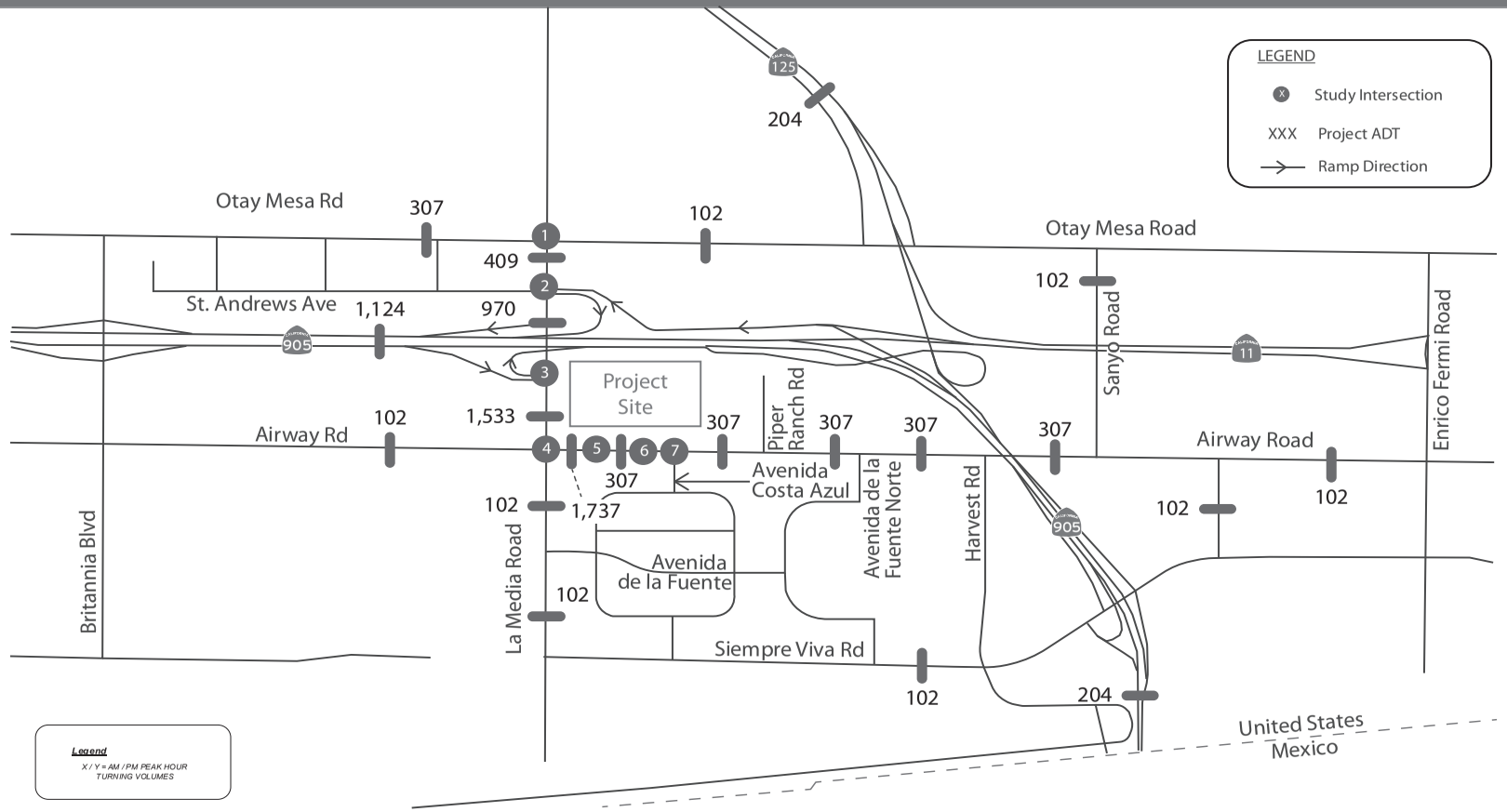
Based on the Project trip generation and trip distribution, project trips were assigned to the local roadway network and through the study intersections.

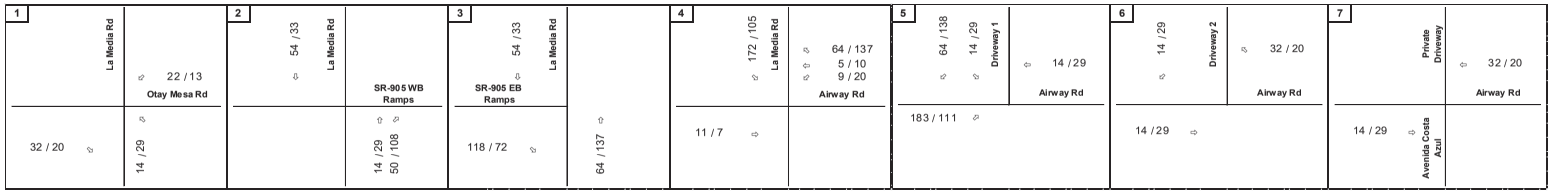
Figure 4-2 shows the trip assignment for the Project at the study intersections and roadway segments within the study area.





Project Trip Distribution





Project Trip Assignment

Project Trip Generation

Project trip generation estimates were derived utilizing the trip generation rates outlined in *Table 1* of the *City of San Diego Land Development Code – Trip Generation Manual, May 2003*. **Table 1** displays the proposed project's trip generation.

Table 1 Otay Mesa Lumina II – Trip Generation

		Trip		AM Peak Hour					PM Peak Hour				
Land Use	Units	Rate	ADT	%	Trips	Split	In	Out	%	Trips	Split	In	Out
Multi-Family	132	6 / DU	792	8%	64	2:8	13	51	9%	72	7:3	50	22

Source: City of San Diego Land Development Code – Trip Generation Manual, May 2003.

As shown in Table 1, the proposed project would generate a total of 792 daily trips, including 64 (13-in / 51-out) AM peak hour trips and 72 (50-in / 22-out) PM peak hour trips.

Project Distribution

Since the project is anticipated to have an opening year by 2027, the same project trip distribution (Year 2027) utilized in the *Otay Mesa Lumina Transportation Impact Study*, February 2019, was employed for the analysis of Otay Mesa Lumina II. **Figure 3** displays the project trip distribution patterns associated with the proposed project.

Project Assignment

Based upon the project trip distribution patterns, the daily and AM/PM peak hour project trips were assigned to the study area roadway network. **Figure 4** displays the assignment of project trips to the roadway network and intersections.

Project Study Area

This section documents the project study area roadway and intersection configurations, traffic volumes and traffic operations.

Roadway Segments

- Cactus Road, between Airway Road and Siempre Viva Road
- Street C, between Cactus Road and Village Way

After implementation of the proposed project, the roadway segment of Cactus Road, between Airway Road and Siempre Viva Road will be divided into three (3) study segments as follows:

- Cactus Road, between Airway Road and Street "C";
- Cactus Road, between Street "C" and southern property boundary; and
- Cactus Road, between southern property boundary and Siempre Viva Road.

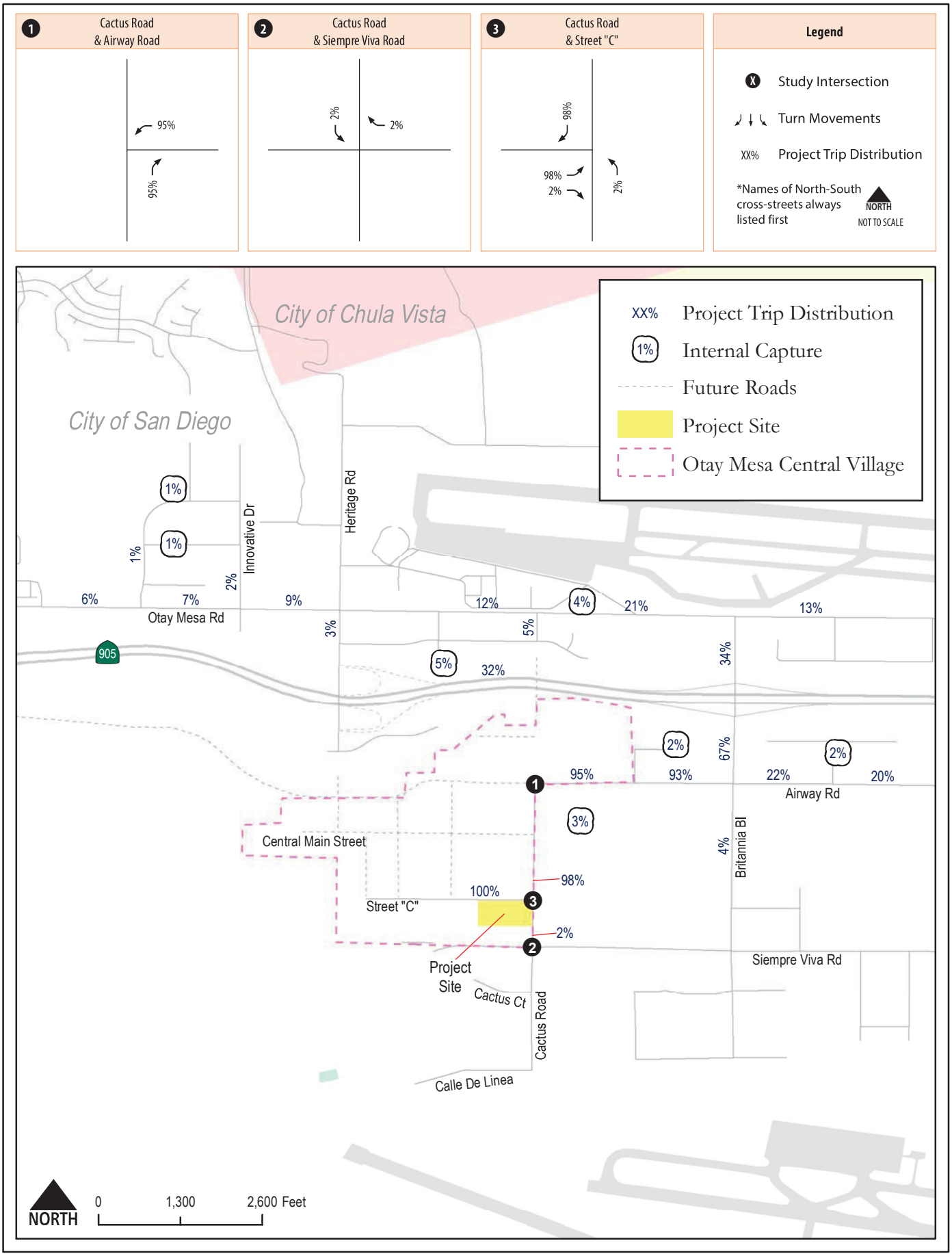


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Figure 3
Project Trip Distribution

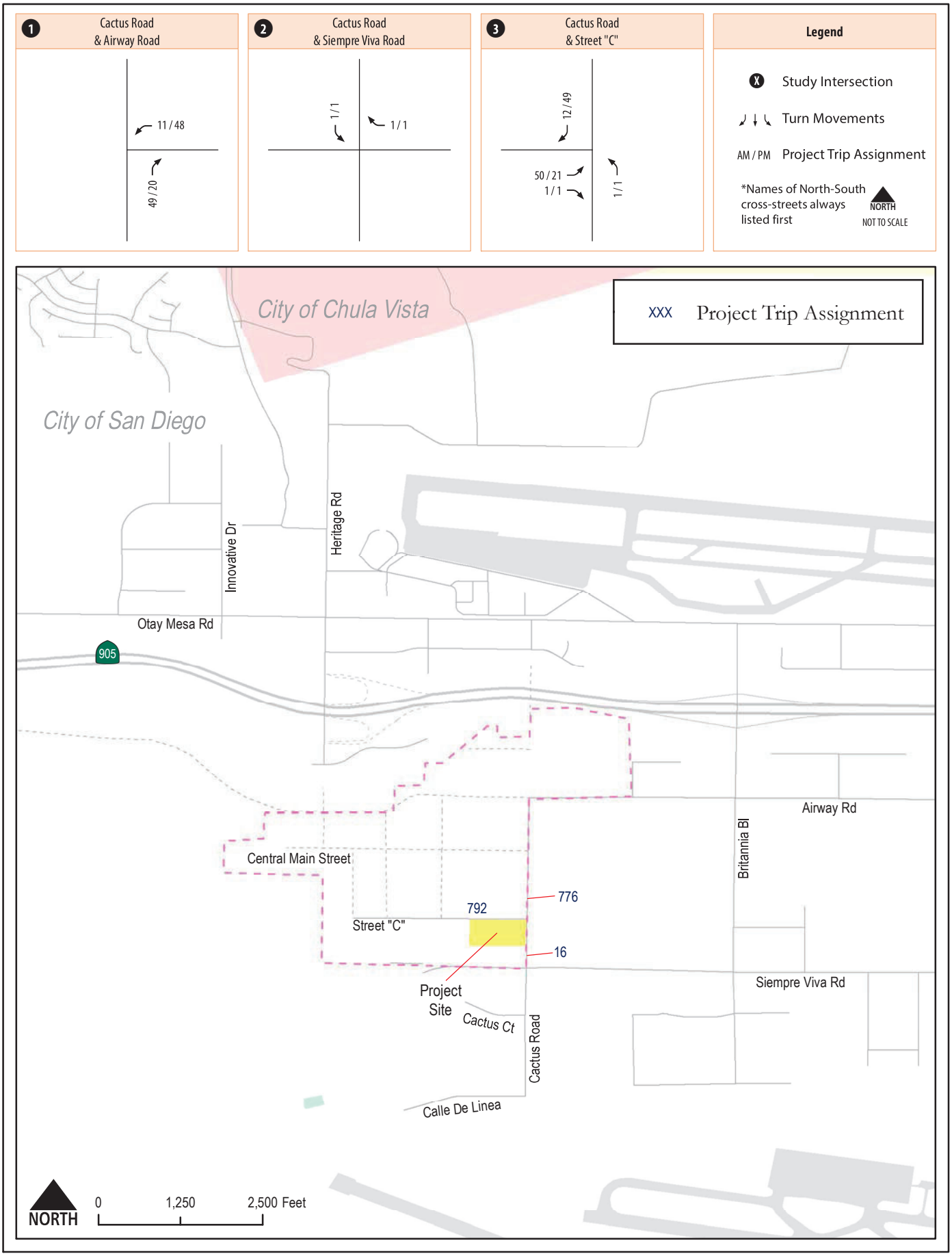

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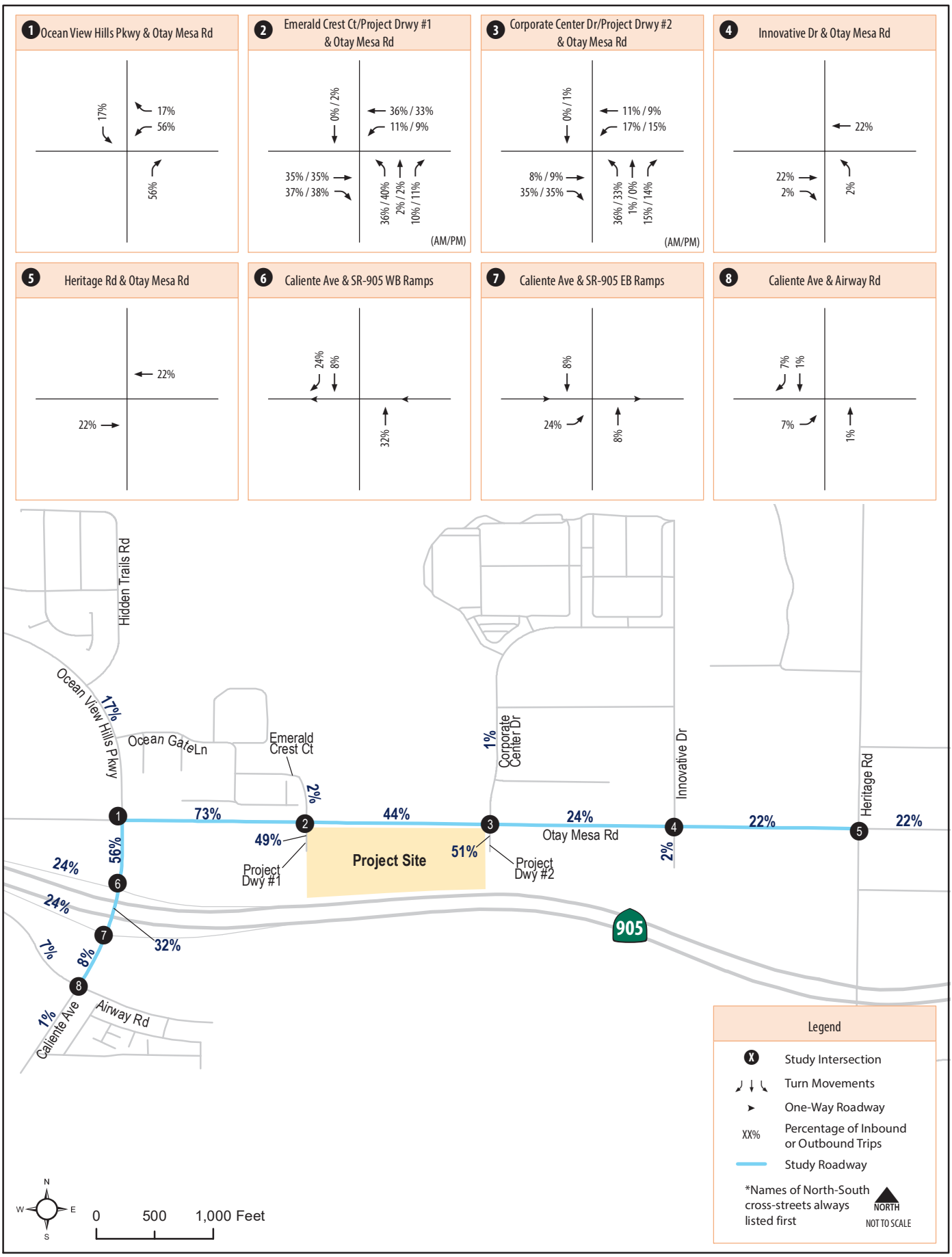
Figure 4
Project Trip Assignment



BDM Mixed Use
Traffic Analysis Memorandum

Figure 3
Proposed Project Trip Distribution

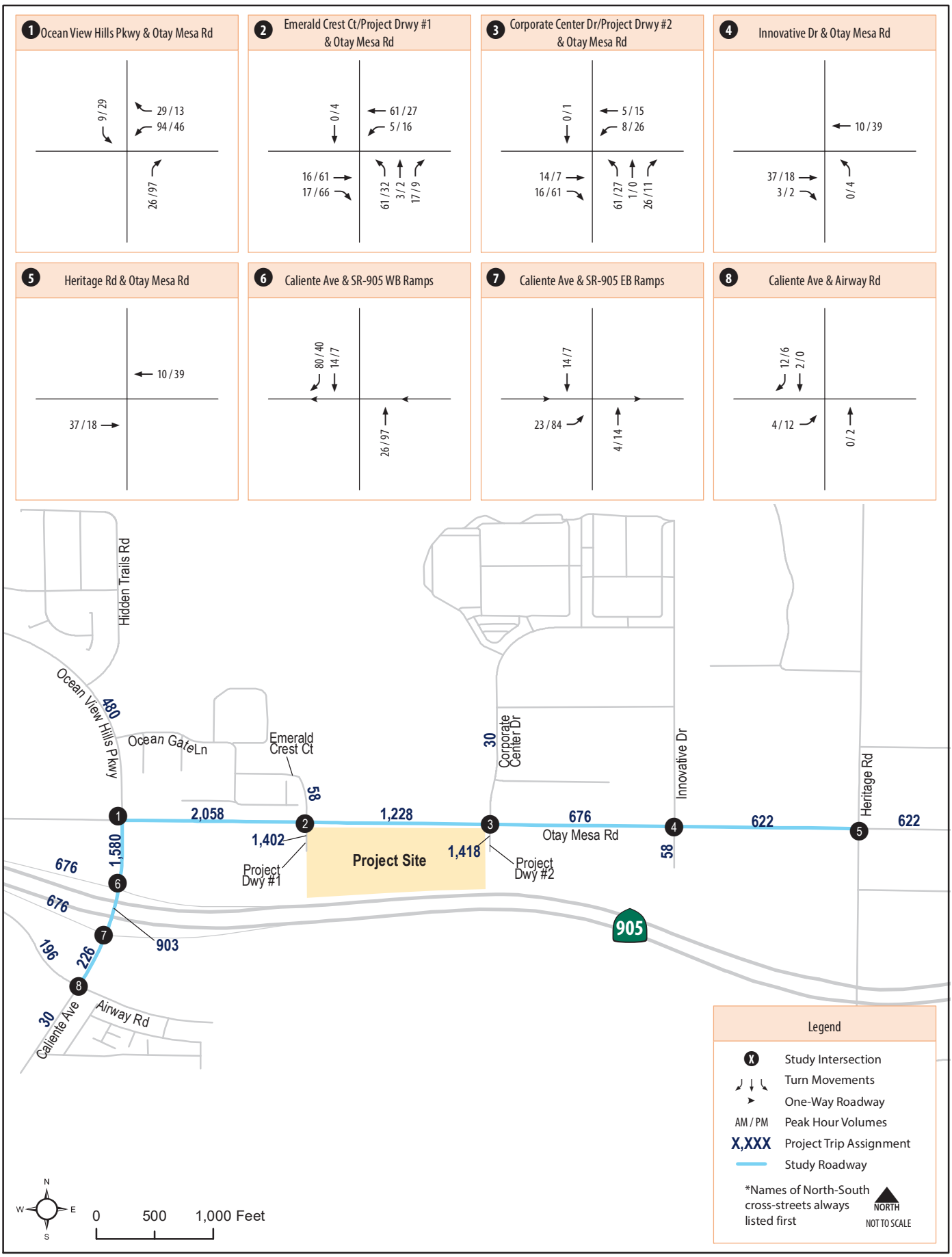


Figure 4
Proposed Project Trip Assignment

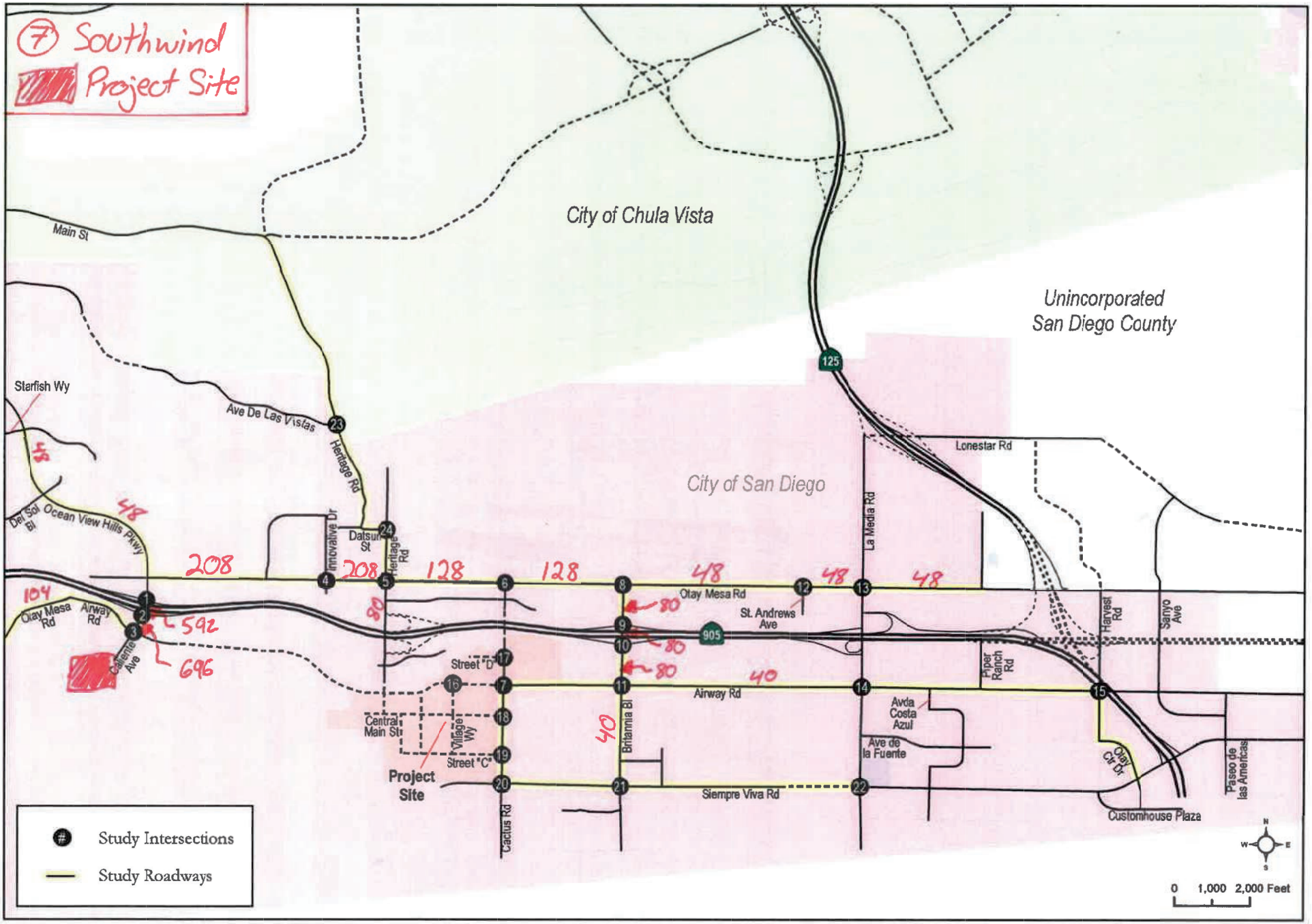


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Figure 1-2
Project Study Area

INTERSECTION	DIRECTION	TOTAL CUMULATIVE PROJECTS						OTAY TRUCK PARK						AIRWAY GARDENS (Residential Project)						AIRWAY INDUSTRIAL (#3219)						CROSS BORDER EXPRESS (from Lumina Appendix)						OTAY MESA LUMINA CUMULATIVE PROJECTS TRAFFIC VOLUMES (YEAR 2023)					
		Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm
1. Otay Mesa Rd / Britannia Blvd	Sb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0													0	0	0	0	0	0
	Wb	0	0	148	340	13	35	0	0	0	0	0	0	0	0	0	0	6	24					6	4					162	151	0	0	148	340	163	158
	Nb	33	16	0	0	79	87	0	0	0	0	0	0	24	10	0	0	40	17	1	4			2	4	119	152			97	124	127	154	0	0	134	190
	Eb	64	99	253	313	0	0	0	0	0	0	0	0	10	40	0	0	0	0	4	2					132	123					182	180	253	313	0	0
		0	0	0	0	0	0																														
2. Britannia Blvd / SR-905 WB Ramps	Sb	2	13	74	129	0	0	0	0	0	0	0	0	0	0	16	64	0	0	0	0	8	4	0	0			295	274			2	13	345	335	0	0
	Wb	3	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0					20	20	3	1	0	0	20	20
	Nb	0	0	117	105	114	118	0	0	0	0	26	28	0	0	64	27	64	27	0	0	3	8	24	63			216	276	161	207	0	0	266	346	161	207
	Eb	0	0	0	0	22	21	0	0	0	0	22	21	0	0	0	0	0	0	0	0	0	0	0	0							0	0	0	0	0	0
		0	0	0	0	0	0																														
3. Britannia Blvd / SR-905 EB Ramps	Sb	0	0	97	149	0	2	0	0	22	21	0	0	0	0	17	65	0	0	0	0	8	4	0	0			314	294			0	0	364	353	0	2
	Wb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							0	0	0	0	0	0
	Nb	28	29	218	218	0	0	26	28	26	28	0	0	2	1	129	55	0	0	0	0	27	71	0	0	15	19	377	483			15	19	413	547	0	0
	Eb	108	121	0	0	15	6	22	21	0	0	0	0	16	64	0	0	0	0	70	36	0	0	0	0	218	209					218	209	0	0	15	6
		0	0	0	0	0	0																														
4. Britannia Blvd / Airway Rd	Sb	33	129	54	49	119	92	0	0	45	42	0	0	33	129	0	0	0	0	0	0	0	0	78	40			532	503			0	0	541	510	41	52
	Wb	57	126	16	57	10	28	0	0	0	0	0	0	0	0	11	43	0	0	27	71	0	0	0	0					36	41	30	55	5	14	46	69
	Nb	15	27	55	67	0	0	0	0	52	57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28	38	392	502			43	65	395	512	0	0
	Eb	0	0	51	33	131	56	0	0	0	0	0	0	0	0	44	19	131	56	0	0	0	0	0	0							0	0	7	14	0	0
		0	0	0	0	0	0																														
5. Airway Rd / Continental St (Proj Dwy #4)	Sb	0	0	0	0	174	74	0	0	0	0	0	0	0	0	0	0	174	74																		
	Wb	44	172	5	14	0	0	0	0	0	0	0	0	44	172	0	0	0	0									0	0					5	14		
	Nb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		
	Eb	0	0	7	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0									0	0					7	14		
		0	0	0	0	0	0																														
6. Airway Rd / Cactus Rd	Sb	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0															0	1		
	Wb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		
	Nb	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0															1	1		
	Eb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		
		0	0	0	0	0	0																														
7. Cactus Rd / Proj Dwy #1	Sb	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0									0	0					0	1		
	Wb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		
	Nb	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0									0	0					1	1		
	Eb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		
		0	0	0	0	0	0																														
8. Airway Rd / Proj Dwy #2	Sb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		
	Wb	0	0	5	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0									0	0					5	14		
	Nb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		
	Eb	0	0	7	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0									0	0					7	14		
		0	0	0	0	0	0																														
9. Airway Rd / Proj Dwy #3	Sb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		
	Wb	0	0	5	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0									0	0					5	14		
	Nb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		
	Eb	0	0	7	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0									0	0					7	14		
		0	0	0	0	0	0																														
10. Airway Rd / Proj Dwy #5	Sb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		
	Wb	0	0	49	186	0	0	0	0	0	0	0	0	0	0	44	172	0	0									0	0					5	14		
	Nb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		
	Eb	0	0	181	88	0	0	0	0	0	0	0	0	0	0	174	74	0	0									0	0					7	14		
		0	0	0	0	0	0																														
11. Airway Rd / Proj Dwy #6	Sb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		
	Wb	0	0	49	186	0	0	0	0	0	0	0	0	0	0	44	172	0	0									0	0					5	14		
	Nb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		
	Eb	0	0	181	88	0	0	0	0	0	0	0	0	0	0	174	74	0	0									0	0					7	14		
		0	0	0	0	0	0																														
12. Britannia Blvd / Proj Dwy #7	Sb	0	0	64	77	0	0	0	0	45	42	0	0	0	0	0	0	0	0									568	544					587	579		
	Wb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		
	Nb	0	0	70	94	0	0	0	0	52	57	0	0	0	0	0	0	0	0									420	540					438	577		
	Eb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		

Segment	Total Cumulative Projects Traffic	Otay Truck Parking	Airway Gardens Residential Project Volumes	Airway Project Volumes (#3219)	CROSS BORDER EXPRESS	OTAY MESA LUMINA CUMULATIVE PROJECTS TRAFFIC VOLUMES (YEAR 2023)
Cactus Road						
Airway Road to Project Driveway #1	30	0	0	0	0	30
Britannia Boulevard						
Otay Mesa Road to SR-905 WB Ramps	2,895	0	1,008	76	12,300	14,111
SR-905 WB Ramps to SR-905 EB Ramps	8,531	536	1,525	400	16,740	22,810
SR-905 EB Ramps to Airway Road	5,808	1,060	2,043	720	22,000	23,985
Airway Road to Project Driveway #7	2,168	1,060	0	0	24,700	25,808
Airway Road						
Cactus Road to Continental Street	173	0	0	0	0	173
Continental Street to Britannia Boulevard	2,897	0	2,724	0	0	173

7.0 TRIP GENERATION/DISTRIBUTION/ASSIGNMENT

7.1 Trip Generation

The Project proposes the construction of 232,969 square feet (sf) of warehousing and distribution use for up to eight (8) tenants, and 10,000 sf of multi-tenant office use. Based on the proposed land use types, the rates for "warehousing" and "commercial office" found in the City of San Diego's *Trip Generation Manual, May 2003* were used for the proposed Project.

Table 7–1 tabulates the total Project traffic generation. The total Project is calculated to generate approximately 1,462 ADT with 214 trips (158 inbound / 56 outbound) during the AM peak hour and 229 trips (83 inbound / 146 outbound) during the PM peak hour.

TABLE 7–1
PROJECT TRIP GENERATION

Land Use	Size	Daily Trip Ends (ADTs)		AM Peak Hour					PM Peak Hour				
		Rate[a]	Volume	% of ADT	In:Out Split	Volume In	Volume Out	Volume Total	% of ADT	In:Out Split	Volume In	Volume Out	Volume Total
Warehousing	232.969 KSF	5 /KSF	1,165	15%	70:30	123	52	175	16%	40:60	75	112	187
Commercial Office	10.00 KSF	Log formula [b]	297	13%	90:10	35	4	39	14%	20:80	8	34	42
Total		—	**1,462**	—	—	**158**	**56**	**214**	—	—	**83**	**146**	**229**

Footnotes:

a. Rate is based on City of San Diego's Trip Generation Manual.

b. Ln (ADT) = 0.756 Ln (KSF) +3.95

7.2 Trip Distribution/Assignment

Access to the Project site is proposed via two (2) driveways on Airway Road and one (1) driveway on Sanyo Avenue. The westerly driveway on Airway Road will be used by light-vehicles only and will be restricted by a raised median to allow right-in and right-out movements only. The easterly driveway on Airway Road will be used by trucks accessing the site and would allow right-in, right-out and left-in movements while prohibiting left-turn outbound movements. The driveway on Sanyo Avenue will allow full movements and be used by light vehicles only. Project traffic was distributed and assigned to the street system based on the number of loading docks (45), existing traffic patterns in the area, review of trip distribution of similar land uses from recently approved development projects in the vicinity, anticipated traffic patterns to and from the site, and the Project's proximity to state highways and arterials. ***Figure 7–1*** shows the Project traffic distribution. ***Figure 7–2*** shows the total Project traffic volumes.

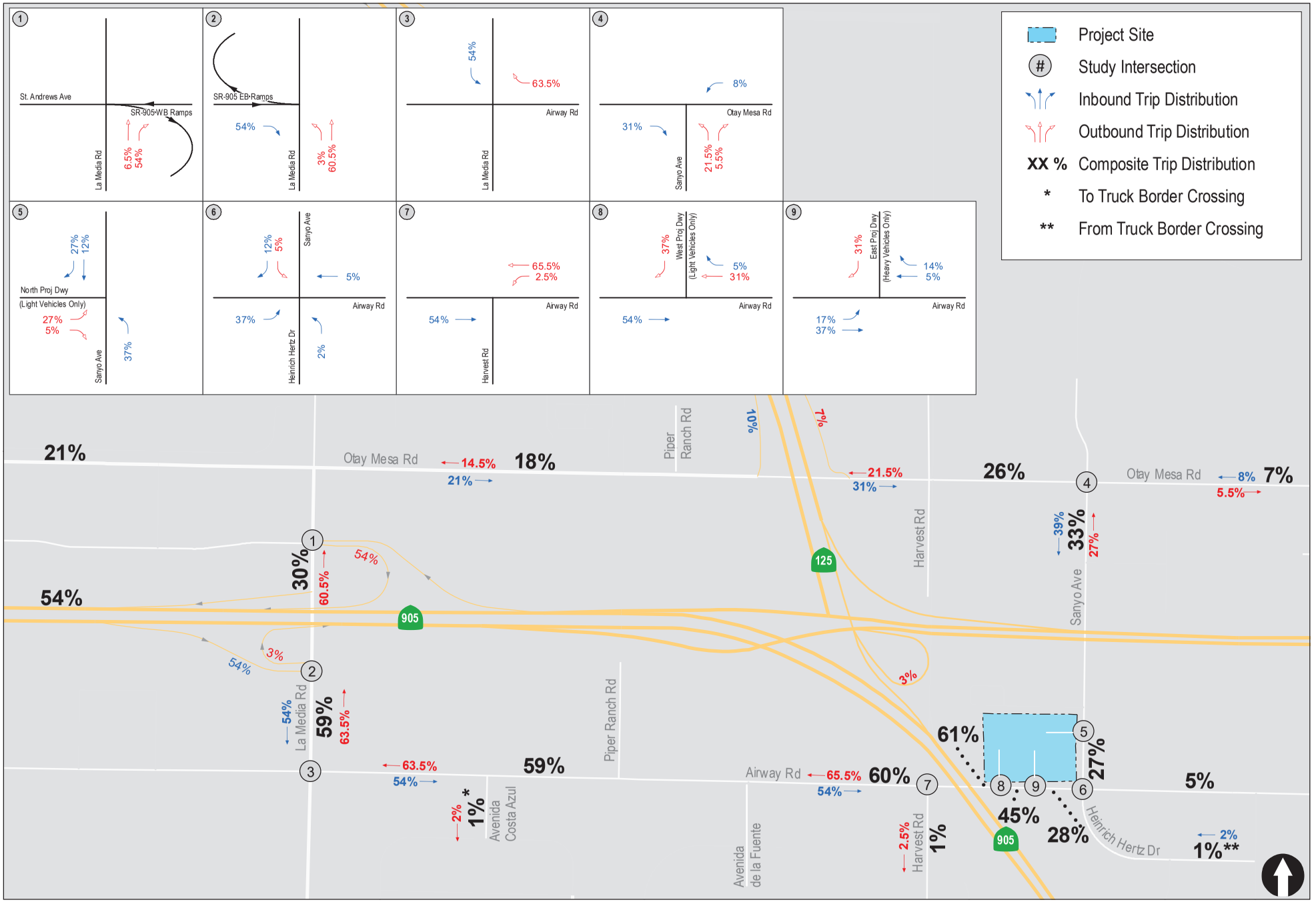

Figure 7-1

Project Distribution

Sanyo Logistics Center

LINSCOTT LAW & GREENSPAN engineers

N:\3245\Figures
Date: 4/14/2021
Time: 7:53 AM



N:\3245\Figures
Date: 4/14/2021
Time: 7:54 AM

Figure 7-2

Project Traffic Volumes

Sanyo Logistics Center

INTERSECTION	DIRECTION	TOTAL CUMULATIVE PROJECTS						OTAY TRUCK PARK						AIRWAY GARDENS (Residential Project)						AIRWAY INDUSTRIAL (#3219)						CROSS BORDER EXPRESS (from Lumina Appendix)						OTAY MESA LUMINA CUMULATIVE PROJECTS TRAFFIC VOLUMES (YEAR 2023)					
		Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm
1. Otay Mesa Rd / Britannia Blvd	Sb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0													0	0	0	0	0	0
	Wb	0	0	148	340	13	35	0	0	0	0	0	0	0	0	0	0	6	24					6	4					162	151	0	0	148	340	163	158
	Nb	33	16	0	0	79	87	0	0	0	0	0	0	24	10	0	0	40	17	1	4			2	4	119	152			97	124	127	154	0	0	134	190
	Eb	64	99	253	313	0	0	0	0	0	0	0	0	10	40	0	0	0	0	4	2					132	123					182	180	253	313	0	0
		0	0	0	0	0	0																														
2. Britannia Blvd / SR-905 WB Ramps	Sb	2	13	74	129	0	0	0	0	0	0	0	0	0	0	16	64	0	0	0	0	8	4	0	0			295	274			2	13	345	335	0	0
	Wb	3	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0					20	20	3	1	0	0	20	20
	Nb	0	0	117	105	114	118	0	0	0	0	26	28	0	0	64	27	64	27	0	0	3	8	24	63			216	276	161	207	0	0	266	346	161	207
	Eb	0	0	0	0	22	21	0	0	0	0	22	21	0	0	0	0	0	0	0	0	0	0	0	0							0	0	0	0	0	0
		0	0	0	0	0	0																														
3. Britannia Blvd / SR-905 EB Ramps	Sb	0	0	97	149	0	2	0	0	22	21	0	0	0	0	17	65	0	0	0	0	8	4	0	0			314	294			0	0	364	353	0	2
	Wb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							0	0	0	0	0	0
	Nb	28	29	218	218	0	0	26	28	26	28	0	0	2	1	129	55	0	0	0	0	27	71	0	0	15	19	377	483			15	19	413	547	0	0
	Eb	108	121	0	0	15	6	22	21	0	0	0	0	16	64	0	0	0	0	70	36	0	0	0	0	218	209					218	209	0	0	15	6
		0	0	0	0	0	0																														
4. Britannia Blvd / Airway Rd	Sb	33	129	54	49	119	92	0	0	45	42	0	0	33	129	0	0	0	0	0	0	0	0	78	40			532	503			0	0	541	510	41	52
	Wb	57	126	16	57	10	28	0	0	0	0	0	0	0	0	11	43	0	0	27	71	0	0	0	0					36	41	30	55	5	14	46	69
	Nb	15	27	55	67	0	0	0	0	52	57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28	38	392	502			43	65	395	512	0	0
	Eb	0	0	51	33	131	56	0	0	0	0	0	0	0	0	44	19	131	56	0	0	0	0	0	0							0	0	7	14	0	0
		0	0	0	0	0	0																														
5. Airway Rd / Continental St (Proj Dwy #4)	Sb	0	0	0	0	174	74	0	0	0	0	0	0	0	0	0	0	174	74																		
	Wb	44	172	5	14	0	0	0	0	0	0	0	0	44	172	0	0	0	0									0	0					5	14		
	Nb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		
	Eb	0	0	7	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0									0	0					7	14		
		0	0	0	0	0	0																														
6. Airway Rd / Cactus Rd	Sb	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0															0	1		
	Wb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		
	Nb	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0															1	1		
	Eb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		
		0	0	0	0	0	0																														
7. Cactus Rd / Proj Dwy #1	Sb	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0									0	0					0	1		
	Wb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		
	Nb	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0									0	0					1	1		
	Eb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		
		0	0	0	0	0	0																														
8. Airway Rd / Proj Dwy #2	Sb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		
	Wb	0	0	5	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0									0	0					5	14		
	Nb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		
	Eb	0	0	7	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0									0	0					7	14		
		0	0	0	0	0	0																														
9. Airway Rd / Proj Dwy #3	Sb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		
	Wb	0	0	5	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0									0	0					5	14		
	Nb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		
	Eb	0	0	7	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0									0	0					7	14		
		0	0	0	0	0	0																														
10. Airway Rd / Proj Dwy #5	Sb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		
	Wb	0	0	49	186	0	0	0	0	0	0	0	0	0	0	44	172	0	0									0	0					5	14		
	Nb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		
	Eb	0	0	181	88	0	0	0	0	0	0	0	0	0	0	174	74	0	0									0	0					7	14		
		0	0	0	0	0	0																														
11. Airway Rd / Proj Dwy #6	Sb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		
	Wb	0	0	49	186	0	0	0	0	0	0	0	0	0	0	44	172	0	0									0	0					5	14		
	Nb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		
	Eb	0	0	181	88	0	0	0	0	0	0	0	0	0	0	174	74	0	0									0	0					7	14		
		0	0	0	0	0	0																														
12. Britannia Blvd / Proj Dwy #7	Sb	0	0	64	77	0	0	0	0	45	42	0	0	0	0	0	0	0	0									568	544					587	579		
	Wb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		
	Nb	0	0	70	94	0	0	0	0	52	57	0	0	0	0	0	0	0	0									420	540					438	577		
	Eb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		

Segment	Total Cumulative Projects Traffic	Otay Truck Parking	Airway Gardens Residential Project Volumes	Airway Project Volumes (#3219)	CROSS BORDER EXPRESS	OTAY MESA LUMINA CUMULATIVE PROJECTS TRAFFIC VOLUMES (YEAR 2023)
Cactus Road						
Airway Road to Project Driveway #1	30	0	0	0	0	30
Britannia Boulevard						
Otay Mesa Road to SR-905 WB Ramps	2,895	0	1,008	76	12,300	14,111
SR-905 WB Ramps to SR-905 EB Ramps	8,531	536	1,525	400	16,740	22,810
SR-905 EB Ramps to Airway Road	5,808	1,060	2,043	720	22,000	23,985
Airway Road to Project Driveway #7	2,168	1,060	0	0	24,700	25,808
Airway Road						
Cactus Road to Continental Street	173	0	0	0	0	173
Continental Street to Britannia Boulevard	2,897	0	2,724	0	0	173

7.0 TRIP GENERATION/DISTRIBUTION/ASSIGNMENT

7.1 Trip Generation

The Project proposes the construction of fenced truck/trailer parking for up to nine (9) tenants/users on approximately 32.47 net acres. Each tenant/user will have a modular trailer office of 720 square feet (sf) with 3 vehicle parking spaces. A total of 871 truck/trailer parking spaces are proposed. Based on the proposed land use types, the rates for "truck parking facility" and "single-tenant office" found in the City of San Diego's *Trip Generation Manual, May 2003* were used for the proposed Project.

Table 7–1 tabulates the total Project traffic generation. The total Project is calculated to generate approximately 1,040 ADT with 157 trips (112 inbound / 45 outbound) during the AM peak hour and 166 trips (63 inbound / 103 outbound) during the PM peak hour.

TABLE 7–1
PROJECT TRIP GENERATION

Land Use	Size	Daily Trip Ends (ADTs)		AM Peak Hour					PM Peak Hour				
		Rate[a]	Volume	% of ADT	In:Out Split	Volume In	Volume Out	Volume Total	% of ADT	In:Out Split	Volume In	Volume Out	Volume Total
Truck Parking Facility[a]	32.47 acres	30 /acre	975	15%	70:30	103	44	147	16%	40:60	62	94	156
Single-Tenant Office[b]	6.480 KSF	10 /KSF	65	15%	90:10	9	1	10	15%	10:90	1	9	10
Total		—	**1,040**	—	—	**112**	**45**	**157**	—	—	**63**	**103**	**166**

Footnotes:

a. Rate is based on City of San Diego's Trip Generation Manual for "Truck Parking Facility." Since peak hour splits are not provided for this land use, the "warehousing" splits were used.

b. The Project proposes to construct a 720-sf modular trailer offer for each of the nine (9) tenants/users, for a total of 6,480 sf of single-tenant office space.

7.2 Trip Distribution/Assignment

Access to the site is proposed via seven (7) driveways: one (1) right-in/right-out only driveway on Cactus Road approximately 520 feet south of Airway Road, five (5) driveways including three (3) full access driveways, one (1) right-in/right-out driveway, and one (1) right-out only driveway along Airway Road between Cactus Road and Britannia Boulevard, and one (1) right-in /right-out only driveway on Britannia Boulevard approximately 450 feet south of Airway Road. Project traffic was distributed and assigned to the street system based on the driveway locations/configurations and the percentage of truck/trailer parking provided for each tenant, existing traffic patterns in the area, anticipated traffic patterns to and from the site, and the Project's proximity to state highways and arterials. ***Figure 7–1*** shows the Project traffic distribution. ***Figure 7–2*** shows the total Project traffic volumes.



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Figure 7-1

Project Traffic Distribution

Britannia Airway Logistics Center



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Figure 7-2

Project Traffic Volumes

Britannia Airway Logistics Center

7.0 TRIP GENERATION/DISTRIBUTION/ASSIGNMENT

7.1 Trip Generation

The Project proposes the construction of 235,480 square feet (sf) of warehousing and distribution use for up to eight (8) tenants, and 12,000 sf of multi-tenant office use. Based on the proposed land use types, the rates for "warehousing" and "commercial office" found in the City of San Diego's *Trip Generation Manual, May 2003* were used for the proposed Project.

Table 7–1 tabulates the total Project traffic generation. The total Project is calculated to generate approximately 1,518 ADT with 222 trips (165 inbound / 57 outbound) during the AM peak hour and 237 trips (86 inbound / 151 outbound) during the PM peak hour.

TABLE 7–1
PROJECT TRIP GENERATION

Land Use	Size	Daily Trip Ends (ADTs)		AM Peak Hour					PM Peak Hour				
		Rate[a]	Volume	% of ADT	In:Out Split	Volume In	Volume Out	Volume Total	% of ADT	In:Out Split	Volume In	Volume Out	Volume Total
Warehousing	235.48 KSF	5 /KSF	1,178	15%	70:30	124	53	177	16%	40:60	76	113	189
Commercial Office	12.00 KSF	Log formula [b]	340	13%	90:10	41	4	45	14%	20:80	10	38	48
Total		—	**1,518**	—	—	**165**	**57**	**222**	—	—	**86**	**151**	**237**

Footnotes:

a. Rate is based on City of San Diego's Trip Generation Manual.

b. Ln (ADT) = 0.756 Ln (KSF) +3.95

7.2 Trip Distribution/Assignment

Access to the Project site is proposed via two (2) driveways on Airway Road. The eastern driveway will be used by trucks accessing the site while the western driveway will be used by light vehicles. Project traffic was distributed and assigned to the street system based on the number of loading docks (66), existing traffic patterns in the area, review of trip distribution of similar land uses from recently approved development projects in the vicinity, anticipated traffic patterns to and from the site, and the Project's proximity to state highways and arterials. ***Figure 7–1*** shows the Project traffic distribution. ***Figure 7–2*** shows the total Project traffic volumes.

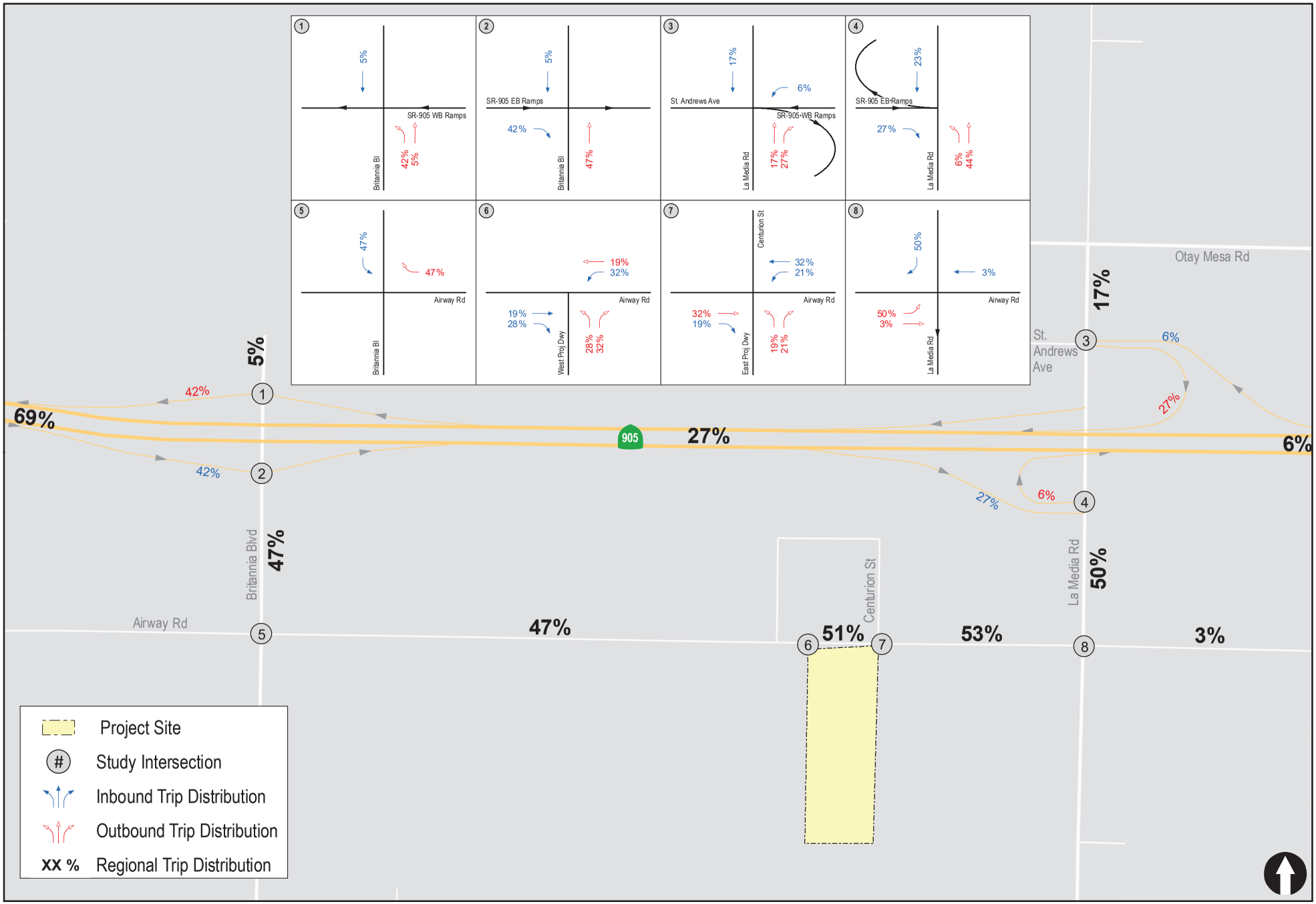

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Figure 7-1

Project Trip Distribuition

AIRWAY LOGISTICS CENTER

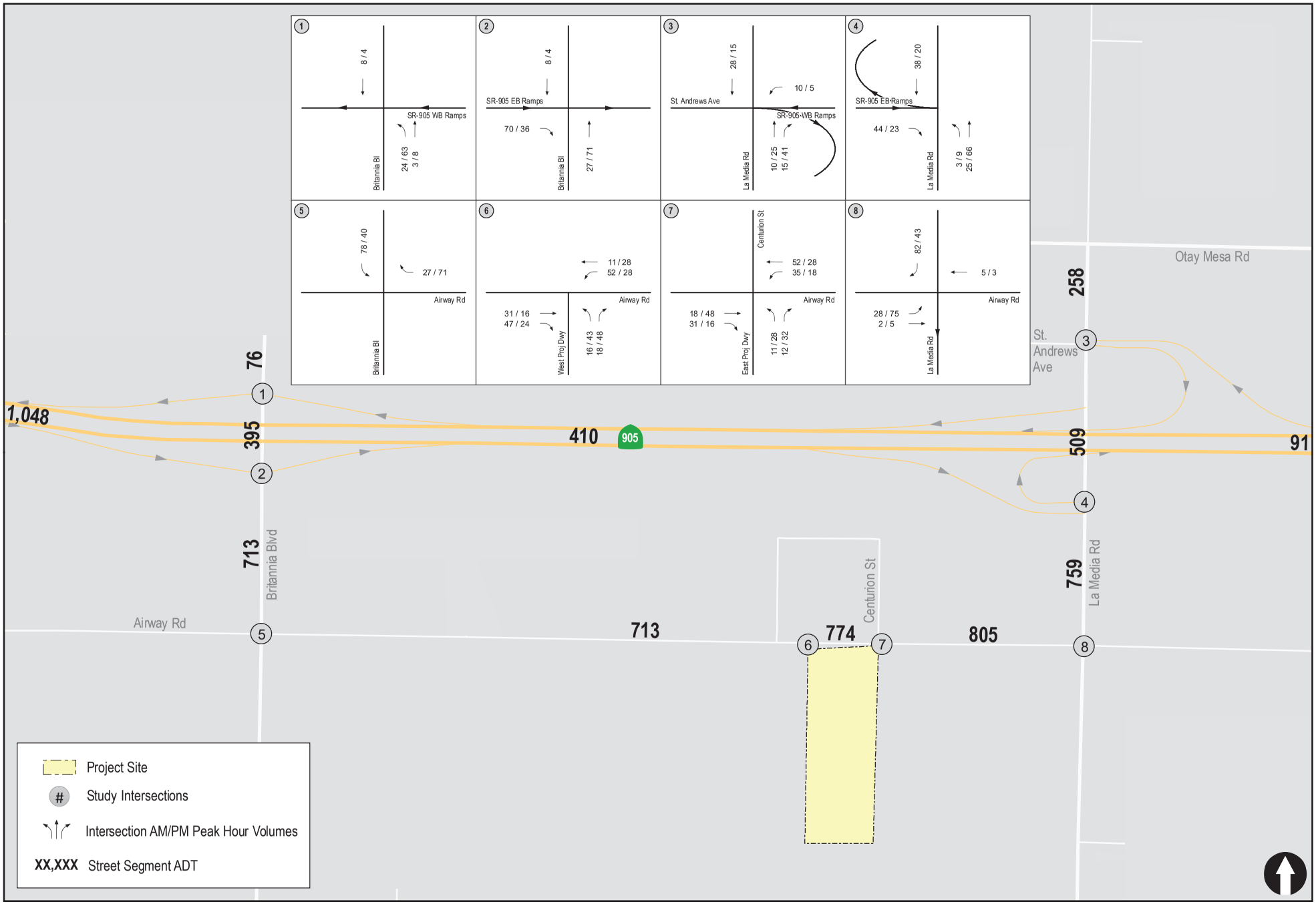

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Figure 7-2

Project Traffic Volumes

AIRWAY LOGISTICS CENTER

		Cumulative Project Trip Generation																																					
		Candlelight		CA Terraces PA81		Metro Airpark		CRK Facility		Plaza La Media North		Sunroad		Otay Mesa Lumina		Otay Mesa Lumina III		Southwest Village		Plaza La Media South		Otay Mesa Lumina II		BDM Mixed Use		Southwind		Airway Gardens		Sanyo Logistics		Otay Truck Park		Marijuana Production		Britannia Airway		Airway Logistics		Crown		2350 La Media Rd	
		ADT	1,100	ADT	183	ADT	8,683	ADT	28,790	ADT	7,858	ADT	2,225	ADT	15,181	ADT	705	ADT	7,988	ADT	1,841	ADT	718	ADT	2,830	ADT	835	ADT	2,723	ADT	1,465	ADT	1,142	ADT	365	ADT	1,960	ADT	1,818	ADT	1,140	ADT	814	
Roadway Segment	Segment	New-Term ADT Adjustment	Project Distribution (%)	Project ADT	Project Distribution (%)	Project ADT	Project Distribution (%)	Project ADT	Project Distribution (%)	Project ADT	Project Distribution (%)	Project ADT	Project Distribution (%)	Project ADT	Project Distribution (%)	Project ADT	Project Distribution (%)	Project ADT	Project Distribution (%)	Project ADT	Project Distribution (%)	Project ADT	Project Distribution (%)	Project ADT	Project Distribution (%)	Project ADT	Project Distribution (%)	Project ADT	Project Distribution (%)	Project ADT	Project Distribution (%)	Project ADT	Project Distribution (%)	Project ADT	Project Distribution (%)	Project ADT	Project Distribution (%)	Project ADT	Project Distribution (%)	Project ADT
Otay Mesa Road	West of Cactus Road	0	26%	916	1.0%	6.3		2,667		5,500	2.3%	472	13%	549	12%	1,822	12%	24	26%	1,842	15%	306	12%	95	22%	620		128		706	2.1%	307		0		35	1.0%	104	5%	76	5%	57	15%	70	
Otay Mesa Road	Cactus Road to Continental Street	0	26%	916	1.0%	6.3		2,667		5,500	2.3%	472	17%	718	21%	3,188	21%	42	26%	1,842	15%	306	21%	166	2.2%	620		128		706	2.1%	307		0		35	1.0%	104	5%	76	5%	57	15%	70	
Otay Mesa Road	Continental Street to Britannia Boulevard	0	26%	916	1.0%	6.3		2,667		5,500	2.3%	472	17%	718	21%	3,188	21%	42	26%	1,842	15%	306	21%	166	2.2%	620		128		706	2.1%	307		0		35	1.0%	104	5%	76	5%	57	15%	70	
Otay Mesa Road	East of Britannia Boulevard	0	26%	916	1.0%	6.3		1,376		6,800	2.3%	472	17%	718	13%	1,974	13%	26	26%	1,842	15%	306	13%	103	2.2%	620		48		302	2.1%	307		0		35	1.2%	125		0		0	15%	70	
Britannia Boulevard	Otay Mesa Road to SR-905 WB Ramps	0		0		0		1,978		12,300	0%	0		0	34%	5,162	34%	68		0		0	34%	269		0		80		1,008		0		0	2.2%	229	5%	76	5%	57		0	
Britannia Boulevard	SR-905 WB Ramps to SR-905 EB Ramps	0		0		0		1,247		17,200	0%	0		0	97%	7,391	92%	100		0		0	97%	390		0		80		1,525		0		516	6.0%	624	2.6%	395	5.3%	604	1.8%	46	
Britannia Boulevard	SR-905 EB Ramps to Airway Road	0		0		0		516		22,000	0%	0		0	67%	10,171	67%	134		0		0	67%	531		0		80		2,043		0		1,060	9.7%	1,009	4.7%	71.3	1.00%	1,140	20%	93	
Britannia Boulevard	South of Airway Road	0		0		0		410		24,700	4%	82		0	4%	607	4%	8		0	3%	61	4%	32		0		40		341		0		1,060	0.0%	208		0		0		0	
Airway Road	Cactus Road to Park Way	0		0		0		40		0	1%	41		0	95%	14,422	95%	190		0	2%	41	93%	752		0		0		0		0		0	1.1%	322		0		0		0	
Airway Road	Park Way to Continental Street	0		0		0		40		0	2%	41		0	93%	14,422	93%	190		0	1%	41	93%	752		0		0		0		0		0	1.1%	322		0		0		0	
Airway Road	Continental Street to Britannia Boulevard	0		0		0		40		0	2%	41		0	93%	14,138	93%	186		0	1%	41	91%	737		0		0		2,724		0		0	0.0%	312		0		0		0	
Airway Road	Britannia Boulevard to 1,600 feet west of La Media Road	0		0		0		46		1,300	1.0%	205		0	22%	3,340	22%	44		0	0%	102	22%	174		0		40		341		0		0	1%	31	4.7%	71.3	1.00%	1,140	20%	93	
Cactus Road	Street D to Airway Road	0		0		0		0		0	0%	0		0	15%	2,277		0		0		0		0		0		0		0		0		0		0		0		0		0	
Cactus Road	South of Airway Road	0		0		0		86		0	2%	41		0	48%	6,072	98%	196		0	2%	41	98%	776		0		0		0		0		0	1.3%	135		0		0		0	
Continental Street	Street D/Colchester Court to Airway Road	0		0		0		0		0	0%	0		0	0%	0	2%	4		0		0	2%	16		0		0		2,724		0		0		0		0		0		0	

Candlelight AM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1								60			15	
2								60			15	
3								60			15	
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

CA Terraces PA61 AM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1								4			1	
2								4			1	
3								4			1	
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

Metro Airpark AM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	38	14	12	38	12	92	113	173	9	4	139	46
2								102			233	
3	153		17					52	50	3	80	
4		185			35	8						17
5		129		3	32		55					
6	13	86	21	7	25				6	5		43
7								6			13	
8		45		6	11							13
9					33	5	21		7			
10												
11												
12												
13												
14												
15												

CBX Facility AM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1								132			97	
2								132			97	
3	97		119						132	162		
4	161	216			295					20		
5		377	15		314				218			
6		392	28		532					36		
7												
8												
9	18					5	3	10	15			
10												
11												
12												
13												
14												
15												

Plaza La Media North AM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1								47			5	
2								47			5	
3								47			5	
4												
5												
6			8					4		1		
7								4				
8			4									
9		14		1	2	2	20					10
10												
11												
12												
13												
14												
15												

Sunroad Otay Mesa AM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1			18					58		8	25	
2								75			32	
3								75			32	
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

Otay Mesa Lumina AM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1			20	16				47		41	99	33
2								82			173	
3	173		107						82	51		
4	264	280			132					4		
5		544	8		136				125			
6	16					261	552	181	33		86	
7								766			363	
8	20		330	134		10	10	330	40	156	156	62
9								99	25		59	
10												
11	62								134			
12												
13												
14												
15												

Otay Mesa Lumina III AM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1												
2												
3												
4												
5												
6								12			2	
7								12			2	
8			12							2		
9												
10												
11												
12												
13												
14												
15												

Southwest Village AM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1								118			30	
2								118			30	
3								118			30	
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

Plaza La Media South - Majestic Airway AM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1								32			14	
2								32			14	
3								32			14	
4												
5												
6								11			5	
7								11			5	
8			11							5		
9				172				11			5	73
10												
11												
12												
13												
14												
15												

Otay Mesa Lumina II AM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1												
2												
3												
4												
5												
6								49			11	
7								49			11	
8			49							11		
9												
10												
11												
12												
13												
14												
15												

BDM Mixed Use AM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1								37			10	
2								37			10	
3								37			10	
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

Southwind AM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1								9			3	
2								9			3	
3	2							3	6		1	
4		2			6							
5		2			6							
6		1		3	3							1
7												
8												
9												
10												
11												
12												
13												
14												
15												

Airway Gardens AM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1								10			40	
2								10			40	
3	40		24						10	6		
4	64	64			16							
5		129	2		17				16			
6						33	131	44			11	
7				174								44
8												
9												
10												
11												
12												
13												
14												
15												

Sanyo Logistics Center AM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1												
2												
3												
4												
5												
6												
7												
8												
9				85								36
10												
11												
12												
13												
14												
15												

Otay Truck Park AM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1												
2												
3												
4	26									22		
5		26	26		22				22			
6		52			45							
7												
8												
9												
10												
11												
12												
13												
14												
15												

Cannabis Production Facility AM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1								1			6	
2								1			6	
3								1			6	
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

Britannia Airway Logistics AM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1								11			5	
2								11			5	
3	5		5						11	13		
4	32	10			24					7		
5		42	3		31				77			
6					44	64	43	1		1	2	
7								19			20	
8			17									
9												
10												
11												
12												
13												
14												
15												

Airway Logistics AM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1												
2												
3			3							8		
4	24	3			8							
5		27			8				70			
6				78								27
7												
8												
9												
10												
11												
12												
13												
14												
15												

Crown AM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1								6			3	
2								6			3	
3	3								6			
4	36	3			6					30		
5		39	13		36				84			
6				120								52
7												
8												
9												
10												
11												
12												
13												
14												
15												

2350 La Media Road AM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1								7			3	
2								7			3	
3								7			3	
4	4											
5		4							10			
6				10								4
7												
8												
9	4	17			39				10			
10												
11												
12												
13												
14												
15												

Candlelight PM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1								28			66	
2								28			66	
3								28			66	
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

CA Terraces PA 61 PM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1								2			4	
2								2			4	
3								2			4	
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

Metro Airpark PM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	9	13	5	43	13	105	104	157	38	12	181	43
2								199			128	
3	65		4					71	128	16	63	
4		65			142	41						7
5		45		12	130		20					
6	7	33	5	42	87				13	20		11
7								13			7	
8		15		13	44							7
9					149	20	5	42	0			
10												
11												
12												
13												
14												
15												

CBX Facility PM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1								123			124	
2								123			124	
3	124		152						123	151		
4	207	276			274					20		
5		483	19		294				209			
6		502	38		503					41		
7												
8												
9	22					5	5	13	20			
10												
11												
12												
13												
14												
15												

Plaza La Media North PM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1								11			46	
2								11			46	
3								11			46	
4												
5												
6			2					1		8	4	
7								1			4	
8			1							4		
9		3		10	14	20	5					2
10												
11												
12												
13												
14												
15												

Sunroad Otay Mesa PM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1			11					35		16	53	
2								46			69	
3								46			69	
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

Otay Mesa Lumina PM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1			47	38				114		29	70	24
2								199			123	
3	123		76						199	123		
4	189	199			321					9		
5		388	6		331				302			
6	38					632	394	129	24		208	
7								547			878	
8	47		240	90		10	10	228	30	380	380	140
9								71	18		141	
10												
11	140								90			
12												
13												
14												
15												

Otay Mesa Lumina III PM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1												
2												
3												
4												
5												
6								5			13	
7								5			13	
8			5							13		
9												
10												
11												
12												
13												
14												
15												

Southwest Village PM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1								54			126	
2								54			126	
3								54			126	
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

Plaza La Media South - Airway Logistics PM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1								20			29	
2								20			29	
3								20			29	
4												
5												
6								7			10	
7								7			10	
8			7							10		
9				105				7			10	157
10												
11												
12												
13												
14												
15												

Otay Mesa Lumina II PM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1												
2												
3												
4												
5												
6								20			48	
7								20			48	
8			20							48		
9												
10												
11												
12												
13												
14												
15												

BDM Mixed Use PM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1								18			39	
2								18			39	
3								18			39	
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

Southwind PM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1								3			9	
2								3			9	
3	9							1	2		3	
4		6			2							
5		6			2							
6		3		1	1							3
7												
8												
9												
10												
11												
12												
13												
14												
15												

Airway Gardens PM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1								40			17	
2								40			17	
3	17		10						40	24		
4	27	27			64					2		
5		55	1		65				64			
6						129	56	19			43	
7				74								172
8												
9												
10												
11												
12												
13												
14												
15												

Sanyo Logistics Center PM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1												
2												
3												
4												
5												
6												
7												
8												
9				45								93
10												
11												
12												
13												
14												
15												

Otay Truck Park PM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1												
2												
3												
4	28									21		
5		28	28		21				21			
6		57			42							
7												
8												
9												
10												
11												
12												
13												
14												
15												

Cannabis Production Facility PM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1								6			1	
2								6			1	
3								6			1	
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

Britannia Airway Logistics PM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1								5			10	
2								5			10	
3	10		12						5	8		
4	71	22			13					4		
5		93	7		17				43			
6					24	36	99	3		1	1	
7								44			11	
8			23									
9												
10												
11												
12												
13												
14												
15												

Airway Logistics PM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1												
2												
3			8							4		
4	63	8			4							
5		71			4				36			
6				40								71
7												
8												
9												
10												
11												
12												
13												
14												
15												

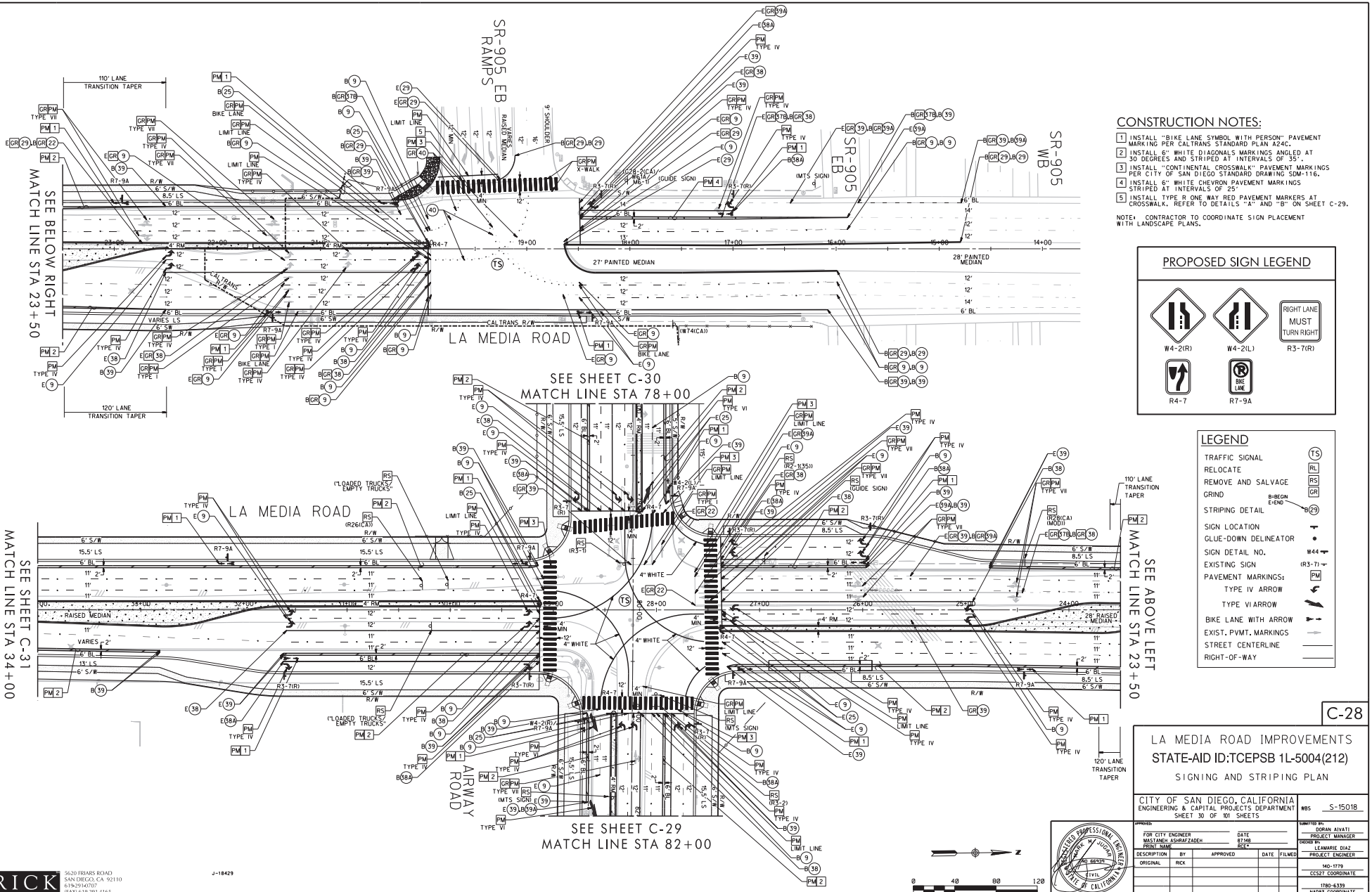
Crown PM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1								4			6	
2								4			6	
3	6								4			
4	77	6			4					18		
5		83	28		22				50			
6				72								111
7												
8												
9												
10												
11												
12												
13												
14												
15												

2350 La Media Road PM Peak

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1								5			7	
2								5			7	
3								5			7	
4	9											
5		9							6			
6				6								6
7												
8												
9	9	35			24				6			
10												
11												
12												
13												
14												
15												

Appendix L - CIP # S-15018 La Media Road Information



CONSTRUCTION NOTES:

1. INSTALL "BIKE LANE SYMBOL WITH PERSON" PAVEMENT MARKING PER CALTRANS STANDARD PLAN A24C.
2. INSTALL 6" WHITE DIAGONALS MARKINGS ANGLED AT 30 DEGREES AND STRIPED AT INTERVALS OF 35'.
3. INSTALL "CONTINENTAL CROSSWALK" PAVEMENT MARKINGS PER CITY OF SAN DIEGO STANDARD DRAWING SDM-116.
4. INSTALL 6" WHITE CHEVRON PAVEMENT MARKINGS STRIPED AT INTERVALS OF 25'.
5. INSTALL TYPE R ONE WAY RED PAVEMENT MARKERS AT CROSSWALK. REFER TO DETAILS "A" AND "B" ON SHEET C-29.

NOTE: CONTRACTOR TO COORDINATE SIGN PLACEMENT WITH LANDSCAPE PLANS.

PROPOSED SIGN LEGEND

LEGEND

TRAFFIC SIGNAL	TS
RELOCATE	RL
REMOVE AND SALVAGE	RS
GRIND	GR
STRIPING DETAIL	B=BEGIN E=END B 29
SIGN LOCATION	
GLUE-DOWN DELINEATOR	
SIGN DETAIL NO.	W44
EXISTING SIGN	(R3-7)
PAVEMENT MARKINGS:	PM
TYPE IV ARROW	
TYPE VI ARROW	
BIKE LANE WITH ARROW	
EXIST. PVMT. MARKINGS	
STREET CENTERLINE	
RIGHT-OF-WAY	

SCALE 1"=40'

C-28

LA MEDIA ROAD IMPROVEMENTS

STATE-AID ID:TCEPSB 1L-5004(212)

SIGNING AND STRIPING PLAN

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING & CAPITAL PROJECTS DEPARTMENT
SHEET 30 OF 101 SHEETS

WBS S-15018

APPROVED:
FOR CITY ENGINEER — DATE
MASTANEH ASHRAFZADEH — 8/7/48
PRINT NAME — RCE #

SUBMITTED BY: DORAN AIVATI, PROJECT MANAGER
CHECKED BY: LEAMARIE DIAZ, PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	RICK			

CONTRACTOR — NTP DATE
INSPECTOR — NOC DATE

140-1779
CC527 COORDINATE
1780-6339
NAD83 COORDINATE
41750- 30 -D

RICK ENGINEERING COMPANY
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619-291-0707
(FAX) 619-291-4165
rickengineering.com
San Diego · Riverside · Orange · Sacramento · San Luis Obispo · Phoenix · Tucson · Denver

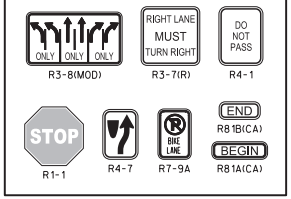
J-18429

LA MEDIA ROAD IMPROVEMENTS

PERMIT NUMBER _____
CO SD RTE 905 PM R9.79
AS-BUILT PLANS FOR ROADWAY GEOMETRIC AND ABOVE GROUND FEATURES

STATE REPRESENTATIVE DATE

PROPOSED SIGN LEGEND

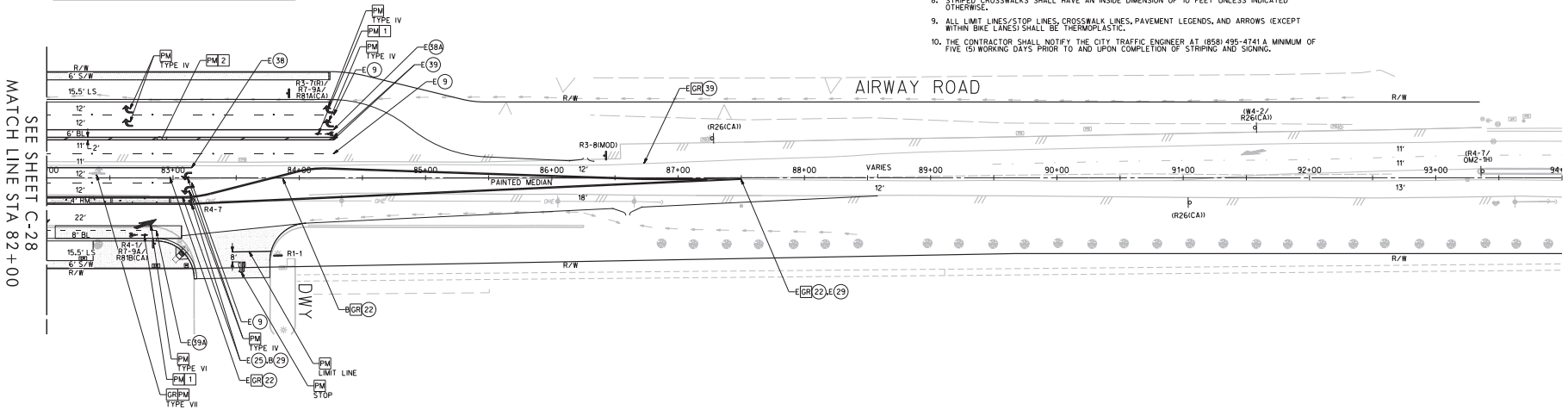


STRIPING AND SIGNING GENERAL NOTES:

1. INSTALLATION OF ALL STRIPING, SIGNS AND PAVEMENT MARKERS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
2. ALL STRIPING AND SIGNING SHALL CONFORM TO THE MOST RECENTLY ADOPTED EDITION OF THE FOLLOWING MANUAL:

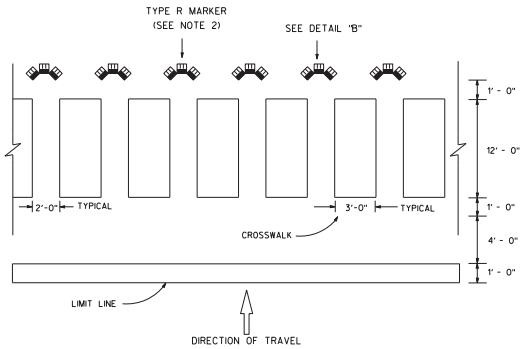
DOCUMENT NO.	FILED	DESCRIPTION
PWPI010119-01	2018	STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (THE "GREEN" BOOK)
PWPI010119-03	2018	CITY OF SAN DIEGO STANDARD DRAWINGS
PWPI060121-10	2014	CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES REVISION 6 (CA MUTCD REV 6)

3. ALL SIGNING AND STRIPING IS SUBJECT TO THE APPROVAL OF THE CITY ENGINEER PRIOR TO INSTALLATION AND/OR REMOVAL.
4. THE CONTRACTOR SHALL REMOVE ALL CONFLICTING STRIPING, PAVEMENT MARKINGS AND LEGENDS BY SANDBLASTING AND/OR GRINDING WITH THE SEAL. ANY DEBRIS SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR.
5. SIGN POSTS SHALL BE INSTALLED WITH SQUARE PERFORATED STEEL TUBING WITH A BREAKAWAY BASE PER CITY OF SAN DIEGO STANDARD DRAWING M-45.
6. ALL RAISED MEDIAN NOSES SHALL BE PAINTED YELLOW.
7. ALL SIGNS SHOWN ON THE STRIPING AND SIGNING PLANS SHALL BE NEW SIGNS PROVIDED AND INSTALLED BY THE CONTRACTOR, EXCEPT FOR EXISTING SIGNS SPECIFICALLY INDICATED TO BE RELOCATED OR TO REMAIN.
8. STRIPED CROSSWALKS SHALL HAVE AN INSIDE DIMENSION OF 10 FEET UNLESS INDICATED OTHERWISE.
9. ALL LIMIT LINES/STOP LINES, CROSSWALK LINES, PAVEMENT LEGENDS, AND ARROWS (EXCEPT WITHIN BIKE LANES) SHALL BE THERMOPLASTIC.
10. THE CONTRACTOR SHALL NOTIFY THE CITY TRAFFIC ENGINEER AT (858) 495-4741 A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO AND UPON COMPLETION OF STRIPING AND SIGNING.



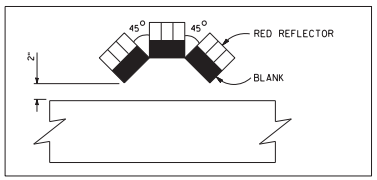
LEGEND

TRAFFIC SIGNAL	TS
RELOCATE	RL
REMOVE AND SALVAGE	RS
GRIND	GR
STRIPING DETAIL (B=BEGIN E=END)	B 29
SIGN LOCATION	
GLUE-DOWN DELINEATOR	
SIGN DETAIL NO.	W44
EXISTING SIGN	(R3-7)
PAVEMENT MARKINGS:	PM
TYPE IV ARROW	
TYPE VI ARROW	
BIKE LANE WITH ARROW	
EXIST. PVMT. MARKINGS	
STREET CENTERLINE	
RIGHT-OF-WAY	



DETAIL A

EXIT RAMP WITH CONTINENTAL CROSSWALK AND LIMIT LINE AT SIGNALIZED INTERSECTION



DETAIL B

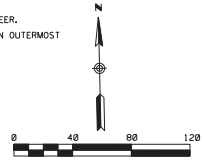
NOTES:

1. MINOR VARIATIONS IN DIMENSIONS SHOULD BE APPROVED BY THE ENGINEER.
2. PLACE TYPE R ONE-WAY RED BACKSIDE RETROREFLECTIVE MARKERS ON OUTERMOST LIMIT LINE OR CROSSWALK LINE WITH RED FACING THE INTERSECTION.

CONSTRUCTION NOTES:

1. INSTALL "BIKE LANE SYMBOL WITH PERSON" PAVEMENT MARKING PER CALTRANS STANDARD PLAN A24C.
2. INSTALL 6" WHITE DIAGONALS MARKINGS ANGLED AT 30 DEGREES AND STRIPED AT INTERVALS OF 35'.

NOTE: CONTRACTOR TO COORDINATE SIGN PLACEMENT WITH LANDSCAPE PLANS.



DCE SIGNATURE DATE

C-29

LA MEDIA ROAD IMPROVEMENTS
STATE-AID ID:TCEPSB 1L-5004(212)
SIGNING AND STRIPING

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING & CAPITAL PROJECTS DEPARTMENT
SHEET 31 OF 92 SHEETS

WBS S-15018

APPROVED:
FOR CITY ENGINEER DATE
PRINT NAME RCE#

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	RICK			

SUBMITTED BY: DORAN AIVATI PROJECT MANAGER
CHECKED BY: LEAMARIE DIAZ PROJECT ENGINEER
140-1779 CCS27 COORDINATE
1780-6339 NAD83 COORDINATE
41750-31-D

CONTRACTOR _____ NTP DATE _____
INSPECTOR _____ NOC DATE _____

RICK ENGINEERING COMPANY
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619-291-0707
(FAX) 619-291-4165
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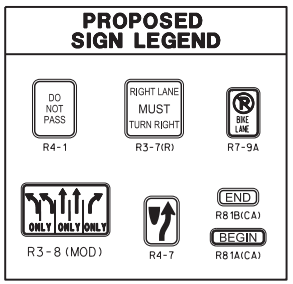
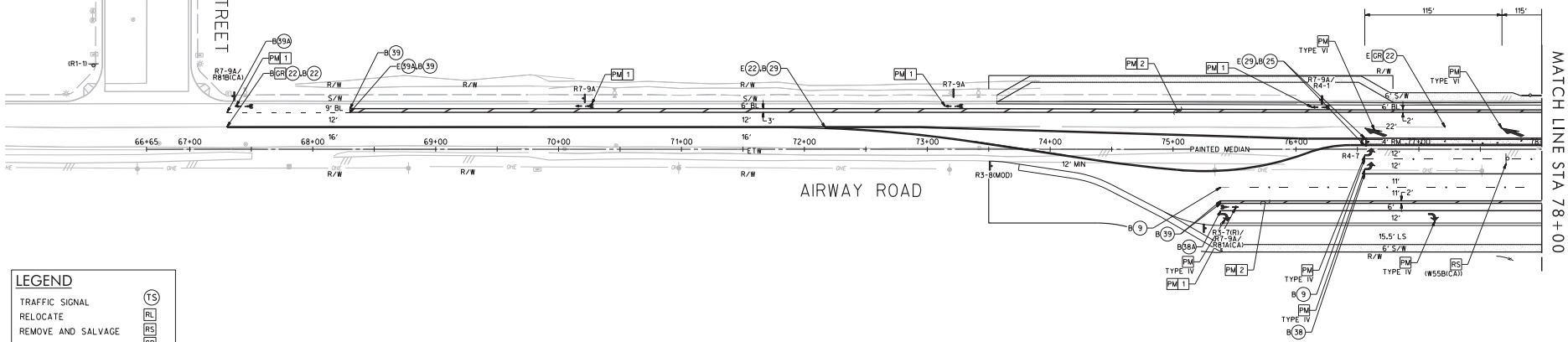
LA MEDIA ROAD IMPROVEMENTS

PROPOSED SIGN LEGEND





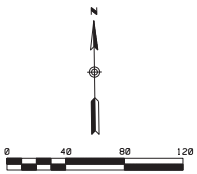
LEGEND

TRAFFIC SIGNAL	TS
RELOCATE	RL
REMOVE AND SALVAGE	RS
GRIND	GR
STRIPING DETAIL (B=BEGIN E=END)	B29
SIGN LOCATION	
GLUE-DOWN DELINEATOR	
SIGN DETAIL NO.	W44
EXISTING SIGN	(R3-7)
PAVEMENT MARKINGS:	PM
TYPE IV ARROW	
TYPE VI ARROW	
BIKE LANE WITH ARROW	
EXIST. PVMT. MARKINGS	
STREET CENTERLINE	
RIGHT-OF-WAY	

CONSTRUCTION NOTES:

1. INSTALL "BIKE LANE SYMBOL WITH PERSON" PAVEMENT MARKING PER CALTRANS STANDARD PLAN A24C.
2. INSTALL 6" WHITE DIAGONALS MARKINGS ANGLED AT 30 DEGREES AND STRIPED AT INTERVALS OF 35'.

NOTE: CONTRACTOR TO COORDINATE SIGN PLACEMENT WITH LANDSCAPE PLANS.



C-30

LA MEDIA ROAD IMPROVEMENTS

STATE-AID ID:TCEPSB 1L-5004(212)

SIGNING AND STRIPING

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING & CAPITAL PROJECTS DEPARTMENT
SHEET 32 OF 92 SHEETS

WBS S-15018

APPROVED: FOR CITY ENGINEER ____ DATE ____
PRINT NAME ____ RCE* ____

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	RICK			

SUBMITTED BY: DORAN AIVATI, PROJECT MANAGER
CHECKED BY: LEAMARIE DIAZ, PROJECT ENGINEER

140-1779 CCS27 COORDINATE
1780-6339 NAD83 COORDINATE
41750-32-D

CONTRACTOR ____ NTP DATE ____
INSPECTOR ____ NOC DATE ____

RICK ENGINEERING COMPANY
5620 FRIARS ROAD
SAN DIEGO, CA 92110
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rickengineering.com
San Diego • Riverside • Orange • Sacramento • San Luis Obispo • Phoenix • Tucson • Denver

J-18429

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LA MEDIA ROAD IMPROVEMENTS

POLE AND EQUIPMENT SCHEDULE

NO.	STANDARD TYPE	HGT.	SIG M.A.	LUM M.A.	LUMINAIRE TYPE/ ITEM#	PLACEMENT A	PLACEMENT B	SIGNAL MOUNTING VEHICLE	PEDESTRIAN MTG.	PEDESTRIAN PPB	PEDESTRIAN QUAD	SPECIAL REQUIREMENTS
Ⓐ	15TS	30'	-	15'	Z14	4.9'	9.5'	- SV-2-TB	SP-1-T	Ø2	W	-
Ⓑ	29-5-100	30'	50'	15'	165W HPS	EXISTING		OMAS SV-2-TB	-	-	-	-REMOVE/SALVAGE -REMOVE/SALVAGE R73-4(CA) SIGN ON M.A. -REMOVE/SALVAGE R3-1 SIGN ON M.A. [4]
Ⓑ'	29-5-100	30'	50'	15'	Z14	5.5'	6.0'	OMAS MAS SV-1-TB	SP-1-T	Ø2	W	-INSTALL STREET NAME SIGN ON M.A. -F = 23' [3]
Ⓒ	15TS	30'	-	15'	Z14	3.0'	5.0'	- SV-2-TB	SP-1-T	Ø4	N	-
Ⓓ	19-4-100	30'	30'	15'	165W HPS	EXISTING		OMAS MAS SV-2-TB	-	-	-	-REMOVE/SALVAGE -REMOVE/SALVAGE R73-8(CAXMOD) SIGN ON M.A. [4]
Ⓓ'	29-5-100	30'	55'	15'	Z14	2.5'	3.8'	OMAS 2-MAS	-	-	-	- INSTALL STREET NAME SIGN ON M.A. - F= 21', F = 12'
Ⓔ	1A	10'	-	-	-	11.0'	3.2'	- TV-1-T	SP-1-T	Ø4	N	-
Ⓕ	15TS	30'	-	15'	Z14	2.4'	5.9'	- SV-2-TB	SP-1-T	Ø1	E	-
Ⓖ	19-3-100	30'	30'	15'	165W HPS	EXISTING		OMAS SV-2-TB	-	-	-	-REMOVE/SALVAGE -REMOVE/SALVAGE R3-18 SIGN ON M.A. [4]
Ⓖ'	26-4-100	30'	45'	15'	Z14	5.0'	6.0'	OMAS MAS SV-1-TB	SP-1-T	-	-	-INSTALL STREET NAME SIGN ON M.A. -F = 20'
Ⓗ	1A	10'	-	-	-	19.5'	2.5'	- -	SP-1-T	-	-	-
Ⓘ	15TS	30'	-	15'	Z14	5.0'	5.0'	- SV-2-TB	SP-1-T	Ø3	W	-
Ⓙ	19-3-100	30'	25'	15'	165W HPS	EXISTING		OMAS SV-2-TB	-	-	-	-REMOVE/SALVAGE -REMOVE/SALVAGE CCTV CAMERA [4]
Ⓙ'	29-5-100	30'	55'	15'	Z14	4.5'	4.1'	OMAS 2-MAS	-	-	-	- INSTALL STREET NAME SIGN ON M.A. - F= 20', F = 15' [3]
Ⓚ	1A	10'	-	-	-	15.75'	3.9'	- -	SP-1-T	Ø1	S	-
Ⓛ	PBA POST	4'-7"	-	-	-	19.25'	7.0'	- -	-	Ø1	E	-

CONDUCTOR AND CONDUIT SCHEDULE

AWG SIZE OR CABLE TYPE	PHASE	POLE OR CIRCUIT	CONDUIT SIZE AND RUN 3" (1)	4" (2)	#4" (3)	#3-3" (4)	2-3" (5)	#2-4" (6)	#2-4" (7)	3" (8)	2-3" (9)	#2-4" (10)	3-4" (11)
CONDUCTOR 3		POLE Ⓐ	-	-	-	-	-	-	1	-	-	-	1
		POLE Ⓑ	-	-	-	-	-	1	1	-	-	-	1
		POLE Ⓒ	-	-	-	-	-	1	1	-	-	-	1
		POLE Ⓓ	-	-	-	-	-	1	1	-	-	-	1
		POLE Ⓔ	1	1	1	1	1	1	1	-	-	-	1
		POLE Ⓕ	1	1	1	1	1	1	1	-	-	-	1
		POLE Ⓖ	-	-	-	-	-	-	-	-	1	1	1
		POLE Ⓗ	-	-	-	-	-	-	-	-	1	1	1
12 CONDUCTOR		POLE Ⓘ	-	-	-	-	-	-	-	-	1	1	1
		POLE Ⓙ	-	-	-	-	-	-	-	-	1	1	1
		POLE Ⓚ	-	-	-	-	-	-	-	-	1	1	1
		POLE Ⓛ	-	-	-	-	-	-	-	-	1	1	1
TOTAL CABLES			1	1	2	3	2	5	7	1	7	6	11
#6	POWER		-	-	-	-	-	2	2	-	-	-	2
#8	GROUND		1	1	1	1	1	1	1	1	1	1	1
#10	SAFETY LTG.		2	2	2	2	2	2	2	2	2	2	-
TYPE 'B' DLC	LOOP DETECTOR	Ø1	-	-	-	-	-	-	-	-	4	5	5
		Ø2	-	-	1	5	5	5	5	-	-	-	5
		Ø3	-	-	-	-	-	-	5	-	-	-	5
		Ø4	4	4	4	4	4	4	4	1	1	1	5
		Ø5	-	-	-	-	-	-	-	-	-	-	-
		Ø6	-	-	-	-	-	-	-	-	-	-	-
		Ø7	-	-	-	-	-	-	-	-	-	-	-
		Ø8	-	-	-	-	-	-	-	-	-	-	-
TOTAL			4	4	5	9	9	9	14	1	5	6	20
E.V.P.E. CABLE			-	-	-	-	-	2	2	-	-	2	4
INTERCONNECT CABLE			-	-	-	-	-	-	-	-	1	1	1
CONDUIT FILL PERCENTAGE			15%	16%	18%	18%	22%	17%	21%	10%	16%	15%	23%

* CONDUIT SHALL BE ENCASED IN CONCRETE PER DETAIL X SHEET XX.

DETECTOR SCHEDULE

NO.	PHASE	SLOT	TERMINAL	NO.	PHASE	SLOT	TERMINAL
1	2	I2U	T2-5&6	16	3	I5U	T4-5&6
2	2	I2L	T2-7&8	17	3	I5L	T4-7&8
3	2	I3U	T2-9&10	18	3	J5U	T5-5&6
4	2	I3L	T2-11&12	19	3	J5L	T5-7&8
5	2	I4U	T4-1&2	20	3	I9L	T6-11&12
6	4	I6U	T4-9&10	PPB	2	I12U	T8-4&COM6
7	4	I6L	T4-11&12	PPB	4	I12L	T8-5&COM6
8	4	I7U	T6-1&2	PPB	1	I13U	T8-7&COM9
9	4	I7L	T6-3&4	PPB	3	I13L	T8-8&COM9
10	4	I8U	T6-5&6	EVA	2	J12U	T9-4&COM6
11	1	I1U	T2-1&2	EVB	4	J13U	T9-7&COM9
12	1	I1L	T2-3&4	EVC	1	J12L	T9-5&COM6
13	1	J1U	T3-1&2	EVD	3	J13L	T9-8&COM9
14	1	J1L	T3-3&4	FLASH	-	I14U	T8-10&COM12
15	1	I9U	T6-9&10				

NOTE : THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY

RICK ENGINEERING COMPANY
5620 FRIARS ROAD
SAN DIEGO, CA 92110
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(FAX) 619-291-4165
J-18429
San Diego • Riverside • Orange • Sacramento • San Luis Obispo • Phoenix • Tucson • Denver
rickengineering.com

TRAFFIC SIGNAL NOTES:

1. PULL BOXES SHALL BE NO. 6, AND CONDUIT 3" UNLESS NOTED OTHERWISE.
2. LOCATION OF ALL UNDERGROUND UTILITIES ARE APPROXIMATE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATIONS AND VERIFY ALL CONDITIONS ON THE JOB SITE.
3. THE TRAFFIC SIGNAL CONTRACTOR SHALL OBTAIN A TRAFFIC CONTROL PLAN PERMIT FROM THE CITY OF SAN DIEGO PERMIT CENTER A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO START OF WORK.
4. ALL TRAFFIC SIGNAL POLE FOUNDATIONS SHALL HAVE A 3" CONDUIT INSTALLED TO THE ADJACENT PULL BOX AND THE CONTROLLER FOUNDATION SHALL HAVE A SPARE 3" CONDUIT INSTALLED TO THE ADJACENT NO. 6 PULL BOX FOR FUTURE USE.
5. THE TRAFFIC SIGNAL CONTRACTOR IS RESPONSIBLE FOR THE LAYOUT AND INSTALLATION OF LOOP DETECTORS, TRAFFIC STRIPING, PAVEMENT MARKINGS, PARKING REMOVAL AND TRAFFIC SIGNING (EXCEPT "D" SERIES STREET NAME SIGNS) AS SHOWN ON THESE PLANS.
   5a. THE TRAFFIC SIGNAL CONTRACTOR SHALL OBTAIN THE APPROVAL OF CITY RESIDENT ENGINEER OF THE LOOP LOCATION PRIOR TO CUTTING AND THE STRIPING, PAVEMENT MARKING, PARKING REMOVAL AND SIGN LOCATIONS PRIOR TO PAINTING AND INSTALLATION.
   5b. AFTER APPROVAL OF LOCATION, THE TRAFFIC SIGNAL CONTRACTOR SHALL WAIT A MINIMUM OF FIFTEEN (15) WORKING DAYS BEFORE PERMANENTLY REMOVING ANY PARKING, SO THAT ADVANCE NOTICE TO ADJACENT PROPERTY OWNERS CAN BE MADE BY THE CITY.
   5c. THE TRAFFIC SIGNAL CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL OF ALL UNNECESSARY AND CONFLICTING STRIPING AND PAVEMENT MARKINGS.
6. THE TRAFFIC SIGNAL CONTRACTOR SHALL NOT ERECT ANY SIGNAL STANDARDS MORE THAN THREE (3) WEEKS PRIOR TO SCHEDULED TRAFFIC SIGNAL TURN ON.
7. CONTRACTOR SHALL PROVIDE ALL CABLING AND CONDUCTORS NECESSARY TO PERFORM ALL FUNCTIONS SHOWN ON THESE PLANS.
8. ALL POLES, CONDUIT, PULL BOXES, STRIPING AND LOOP DETECTOR LOCATIONS SHOWN ON THESE PLANS ARE APPROXIMATE. ACTUAL LOCATIONS SHALL BE DETERMINED BY FIELD CONDITIONS AT THE TIME OF CONSTRUCTION AND AS DIRECTED BY THE CITY OF SAN DIEGO.
9. ROUTING AND LOCATIONS OF UNDERGROUND ELECTRICAL SYSTEM IS DIAGRAMMATIC AND SUBJECT TO APPROVAL OF THE ENGINEER. UNDERGROUND ELECTRICAL LINES AND SUBSURFACE STRUCTURES MAY BE RELOCATED IF NECESSARY TO CLEAR OTHER EXISTING UNDERGROUND FACILITIES.
10. ALL TREES AND SHRUBS SHALL BE TRIMMED OR REMOVED AS DETERMINED BY THE CITY RESIDENT ENGINEER AS REQUIRED TO MAINTAIN SIGNAL HEAD VISIBILITY AND SIGHT DISTANCE.
11. ALL VEHICLE SIGNAL HEADS SHALL BE 12" WITH BACK PLATES.
12. ALL SIGNAL AND PEDESTRIAN INDICATIONS SHALL BE L.E.D.
13. ALL LOOPS TO BE TYPE "E" AS SHOWN ON THIS PLAN. LOOP DETECTORS SHALL BE 6' DIAMETER WITH 10' SPACING AND POSITIONED IN CENTER OF LANE UNLESS OTHERWISE SHOWN. SEE CALIFORNIA STANDARD PLAN SHEET ES-5B, FOR DETECTOR LEGEND AND DETAILS. FRONT LOOPS SHALL BE MODIFIED TYPE "E" LOOPS PER SDE-104.
14. PEDESTRIAN SIGNAL HEADS AND PUSH BUTTONS SHALL BE INTERNATIONAL SYMBOLS. PEDESTRIAN SIGNAL HEAD SHALL BE 16"X18" L.E.D. COUNT DOWN INDICATIONS. PEDESTRIAN PUSH BUTTONS SHALL BE 2" PER ADA REQUIREMENTS.
15. METALLIC PPB HOUSING COLOR SHALL MATCH COLOR NO. 33538 OF FED-STD-595 WHEN PPB ARE PLACED ON A TRAFFIC SIGNAL POLE.

WORK TO BE DONE:

THE IMPROVEMENTS CONSIST OF THE FOLLOWING WORK TO BE DONE ACCORDING TO THESE PLANS AND THE SPECIFICATIONS AND STANDARD DRAWINGS OF THE CITY OF SAN DIEGO.

STANDARD DRAWINGS:

DOCUMENT NO.	EDITION	DESCRIPTION
PWP1010119-03	2018	CITY OF SAN DIEGO STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION
PWP1030119-06	2018	CALIFORNIA DEPARTMENT OF TRANSPORTATION CUSTOMARY STANDARD SPECIFICATIONS

STANDARD SPECIFICATIONS:

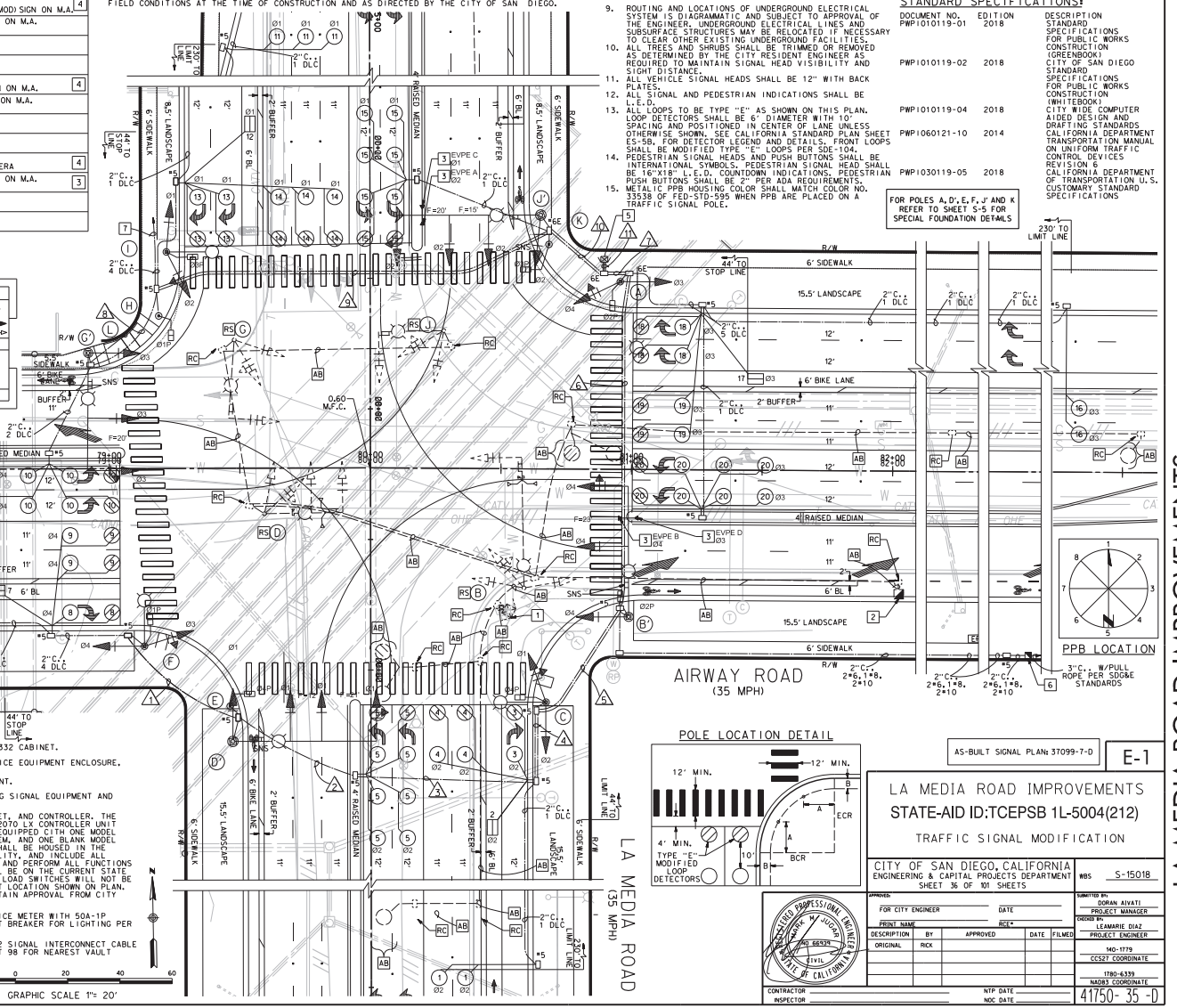
DOCUMENT NO.	EDITION	DESCRIPTION
PWP1010119-01	2018	STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREENBOOK)
PWP1010119-02	2018	CITY OF SAN DIEGO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (WHITEBOOK)
PWP1010119-04	2018	CITY WIDE COMPUTER AIDED DESIGN AND DRAFTING STANDARDS
PWP1060121-10	2014	CALIFORNIA DEPARTMENT TRANSPORTATION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES REVISION 5
PWP1030119-05	2018	CALIFORNIA DEPARTMENT OF TRANSPORTATION U.S. CUSTOMARY STANDARD SPECIFICATIONS

FOR POLES A, D', E, F, J' AND K REFER TO SHEET S-5 FOR SPECIAL FOUNDATION DETAILS

PHASE DIAGRAM

Ø1	Ø2	Ø3	Ø4
NOT USED	NOT USED	NOT USED	NOT USED
Ø5	Ø6	Ø7	Ø8

EXISTING/PROPOSED PHASE DIAGRAM



CONSTRUCTION NOTES:

1. RC EXISTING 170 CONTROLLER ASSEMBLY IN TYPE 332 CABINET.
2. RC EXISTING TYPE III-BF SIGNAL/LIGHTING SERVICE EQUIPMENT ENCLOSURE, AS SHOWN.
3. INSTALL EMERGENCY VEHICLE PREEMPTION EQUIPMENT.
4. CONTRACTOR TO REMOVE AND SALVAGE ALL EXISTING SIGNAL EQUIPMENT AND RETURN TO CITY OF SAN DIEGO.
5. INSTALL FOUNDATION, TYPE 332L ALUMINUM CABINET, AND CONTROLLER. THE CONTROLLER ASSEMBLY SHALL CONSIST OF A TYPE 2070 LX CONTROLLER UNIT WITH OMNI EX INTERSECTION CONTROL SOFTWARE, EQUIPPED CITH ONE MODEL 412C SYSTEM MEMORY MODULE, ONE MODEL 404 MODEM, AND ONE BLANK MODEL 27256 EPROM PROGRAMMING CHIP. THE ASSEMBLY SHALL BE HOUSED IN THE MODEL 332L CABINET, WIRED FOR 8-PHASE CAPABILITY, AND INCLUDE ALL ACCESSORIES NECESSARY TO PROVIDE THE PHASING AND PERFORM ALL FUNCTIONS INDICATED ON THESE PLANS. ALL EQUIPMENT SHALL BE ON THE CURRENT STATE OF CALIFORNIA "QUALIFIED PRODUCTS LIST". GDI LOAD SWITCHES WILL NOT BE ACCEPTED FOR PED SIGNALS. APPROXIMATE CABINET LOCATION SHOWN ON PLAN. CONTRACTOR TO DETERMINE BEST LOCATION AND OBTAIN APPROVAL FROM CITY RESIDENT ENGINEER PRIOR TO INSTALLATION.
6. INSTALL TYPE III-BF SIGNAL AND LIGHTING SERVICE METER WITH 50A-1P CIRCUIT BREAKER FOR SIGNAL AND 30A-1P CIRCUIT BREAKER FOR LIGHTING PER CALTRANS STANDARDS.
7. PROVIDE AND INSTALL A 2" CONDUIT WITH 6PR #22 SIGNAL INTERCONNECT CABLE (SIC) TO NEAREST VAULT. PLEASE REFER TO SHEET 98 FOR NEAREST VAULT LOCATION.
8. CONTRACTOR SHALL REFER TO SHEET 100 FOR THE CONDUIT INSTALLATION OVER THE PROPOSED STORM DRAIN.

GRAPHIC SCALE 1"= 20'

POLE LOCATION DETAIL

AS-BUILT SIGNAL PLAN: 37099-7-D

E-1

LA MEDIA ROAD IMPROVEMENTS

STATE-AID ID:TCEPSB 1L-5004(212)

TRAFFIC SIGNAL MODIFICATION

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING & CAPITAL PROJECTS DEPARTMENT
SHEET 36 OF 101 SHEETS

WBS S-15018

REGISTERED PROFESSIONAL ENGINEER — DERRICK M. JUDD — NO. 66524 — CIVIL — STATE OF CALIFORNIA

APPROVED:
FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	RICK			

SUBMITTED BY: DORAN AIVATI, PROJECT MANAGER
CHECKED BY: LEAMARIE DIAZ, PROJECT ENGINEER
140-1779
CC527 COORDINATE
1780-6339
NAD83 COORDINATE
41750-35-D

CONTRACTOR — NTP DATE
INSPECTOR — NOC DATE

LA MEDIA ROAD IMPROVEMENTS

\\cdp-1\civil_comp\projects\C_SD_N18429_La_Media_Rd_City of SD\Traffic\Sheets\18429_sig01.dgn
\\cdp-1\comp_comp\projects\C_SD_N18429_La_Media_Rd_City of SD\Traffic\Sheets\PDF\2022_041\SD Carolinas 2005.dscrlor
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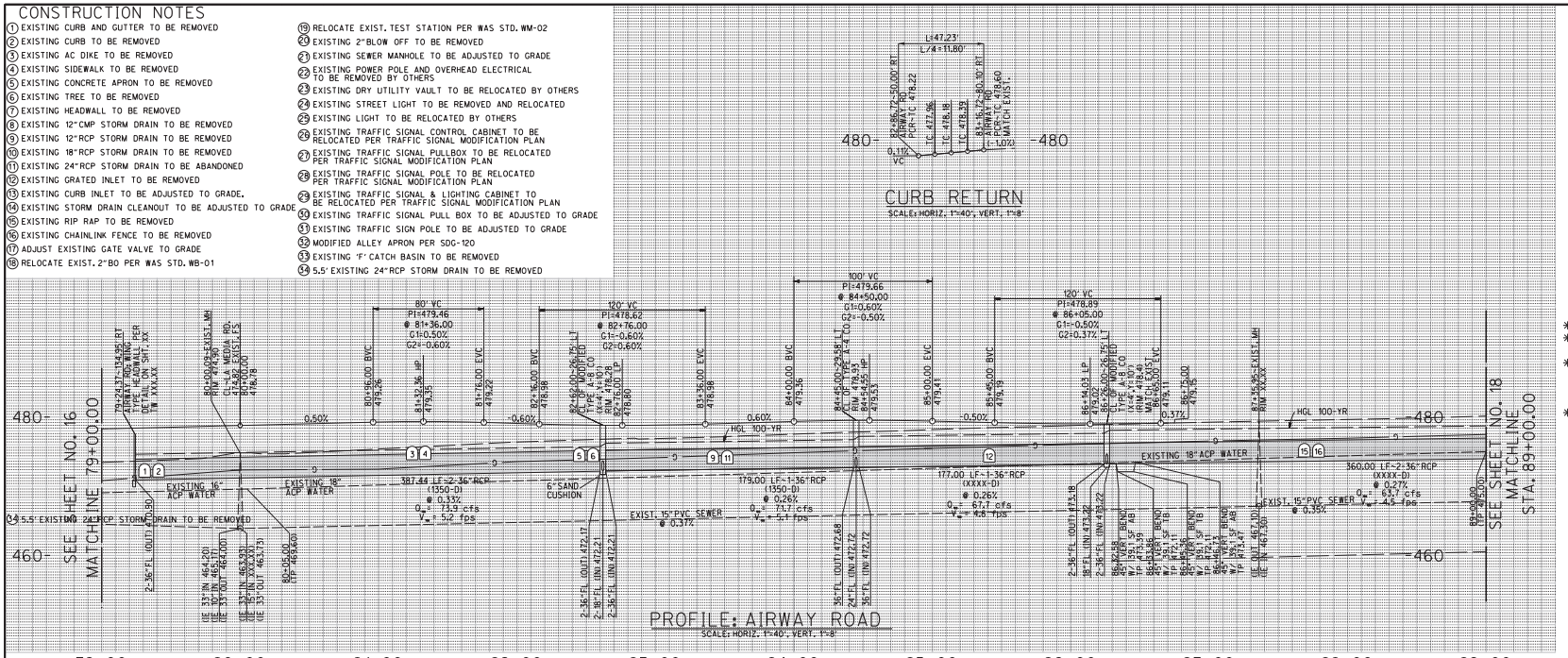
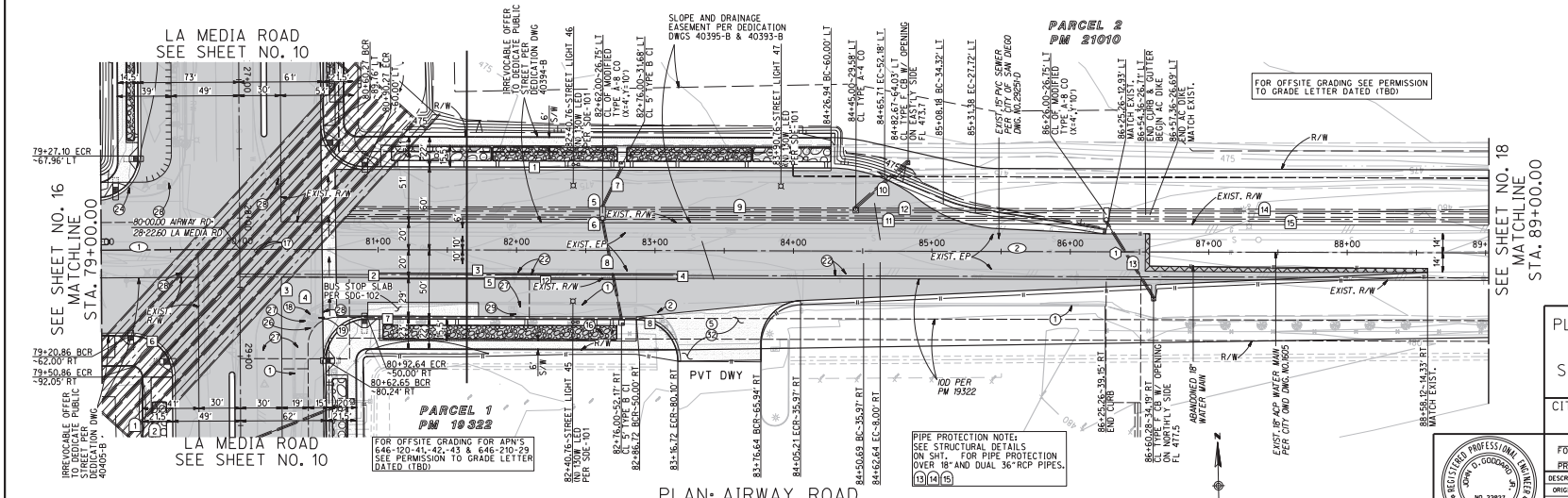
CONSTRUCTION NOTES

1. EXISTING CURB AND GUTTER TO BE REMOVED
2. EXISTING CURB TO BE REMOVED
3. EXISTING AC DIKE TO BE REMOVED
4. EXISTING SIDEWALK TO BE REMOVED
5. EXISTING CONCRETE APRON TO BE REMOVED
6. EXISTING TREE TO BE REMOVED
7. EXISTING HEADWALL TO BE REMOVED
8. EXISTING 12"CMP STORM DRAIN TO BE REMOVED
9. EXISTING 12"RCP STORM DRAIN TO BE REMOVED
10. EXISTING 18"RCP STORM DRAIN TO BE REMOVED
11. EXISTING 24"RCP STORM DRAIN TO BE ABANDONED
12. EXISTING GRATED INLET TO BE REMOVED
13. EXISTING CURB INLET TO BE ADJUSTED TO GRADE.
14. EXISTING STORM DRAIN CLEANOUT TO BE ADJUSTED TO GRADE
15. EXISTING RIP RAP TO BE REMOVED
16. EXISTING CHAINLINK FENCE TO BE REMOVED
17. ADJUST EXISTING GATE VALVE TO GRADE
18. RELOCATE EXIST. 2"BO PER WAS STD. WB-01
19. RELOCATE EXIST. TEST STATION PER WAS STD. WM-02
20. EXISTING 2"BLOW OFF TO BE REMOVED
21. EXISTING SEWER MANHOLE TO BE ADJUSTED TO GRADE
22. EXISTING POWER POLE AND OVERHEAD ELECTRICAL TO BE REMOVED BY OTHERS
23. EXISTING DRY UTILITY VAULT TO BE RELOCATED BY OTHERS
24. EXISTING STREET LIGHT TO BE REMOVED AND RELOCATED
25. EXISTING LIGHT TO BE RELOCATED BY OTHERS
26. EXISTING TRAFFIC SIGNAL CONTROL CABINET TO BE RELOCATED PER TRAFFIC SIGNAL MODIFICATION PLAN
27. EXISTING TRAFFIC SIGNAL PULLBOX TO BE RELOCATED PER TRAFFIC SIGNAL MODIFICATION PLAN
28. EXISTING TRAFFIC SIGNAL POLE TO BE RELOCATED PER TRAFFIC SIGNAL MODIFICATION PLAN
29. EXISTING TRAFFIC SIGNAL & LIGHTING CABINET TO BE RELOCATED PER TRAFFIC SIGNAL MODIFICATION PLAN
30. EXISTING TRAFFIC SIGNAL PULL BOX TO BE ADJUSTED TO GRADE
31. EXISTING TRAFFIC SIGN POLE TO BE ADJUSTED TO GRADE
32. MODIFIED ALLEY APRON PER SDG-120
33. EXISTING 'F' CATCH BASIN TO BE REMOVED
34. 5.5' EXISTING 24"RCP STORM DRAIN TO BE REMOVED





CENTERLINE DATA

NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
1	N87°12'03"W		100.00'	
2	N88°39'05"W		902.25'	

CURB DATA

NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
1	N88°39'05"W		336.67'	
2	Δ=80°00'00"	2.00'	6.28'	
3	N88°39'05"W		242.37'	
4	Δ=80°00'00"	2.00'	6.28'	
5	N88°39'05"W		214.44'	
6	N87°12'03"W		401.36'	
7	N88°39'05"W		194.08'	
8	Δ=90°11'38"	30.00'	47.23'	

STORM DRAIN DATA

NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
1	N44°26'35"E		48.39'	36"RCP-WT-J (1350-D)
2	N44°26'35"E		47.75'	36"RCP-WT-J (1350-D)
3	Δ=46°54'20"	404.17'	330.87'	36"RCP-WT-J (1350-D)
4	Δ=46°54'20"	400.00'	327.46'	36"RCP-WT-J (1350-D)
5	N88°39'05"W		8.18'	36"RCP-WT-J (1350-D)
6	N88°39'05"W		7.52'	36"RCP-WT-J (1350-D)
* 7	N27°34'27"E		31.68'	18" RCP (1350-D)
* 8	N09°40'00"W		73.27'	18" RCP (1350-D)
9	N88°39'05"W		179.00'	36"RCP-WT-J (1350-D)
* 10	N49°40'18"E		48.80'	18" RCP (1350-D)
11	N88°39'05"W		360.00'	36"RCP-WT-J (1350-D)
12	N88°39'05"W		177.00'	36"RCP-WT-J (XXXX-D)
13	N30°42'03"W		64.55'	18" RCP (XXXX-D)
* 14	N88°39'05"W		274.20'	36"RCP-WT-J (XXXX-D)
15	N88°39'05"W		274.21'	36"RCP-WT-J (XXXX-D)

* SEE SHEET 25 FOR STORM DRAIN PROFILES

WATER DATA

NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
1	N88°39'03"W		1415'	16" PVC-CL235 (C-905)

C-17

PLANS FOR THE CONSTRUCTION OF AIRWAY ROAD

STA. 79+00.00 TO STA. 89+00.00

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 17 OF 37 SHEETS

WBS X-XXXX/ X-XXXX

SUBMITTED BY: PROJECT MANAGER

CHECKED BY: PROJECT ENGINEER

140-1779 PCS27 COORDINATE

1780-6339 PCS83 COORDINATE

XXXXX- 17 -D

FOR CITY ENGINEER ____ DATE ____

PRINT NAME ____ RCE# ____

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			

CONTRACTOR ____ DATE STARTED ____

INSPECTOR ____ DATE COMPLETED ____

REGISTERED PROFESSIONAL ENGINEER — MARK D. GOODSELL — NO. 33837 CIVIL — STATE OF CALIFORNIA

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J-18429

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LA MEDIA ROAD & AIRWAY ROAD

Appendix M - La Media Road and Airway Road Intersection - Volume Forecast Calculations

AM Peak Hour												
2022 Base Year (Majestic Airway)												
INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
9	29	134	8	344	295	58	11	50	28	13	56	85
2024 Base Year (The Collection at Cactus)												
INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
9	31	143	9	365	313	62	12	53	30	14	60	91

PM Peak Hour												
2022 Base Year (Majestic Airway)												
INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
9	33	292	4	209	178	45	46	86	42	25	71	269
2024 Base Year (The Collection at Cactus)												
INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
9	35	310	5	222	189	48	49	92	45	27	76	286

median. The segment west of La Media Road was under an extended closure to traffic as of August 2022. The *Otay Mesa Community Plan Mobility Element* designates Airway Road as a four-lane major road with a planned buffered Class II bike facility and planned Class I bike path along the south side of Airway Road. The posted speed limit along Airway Road is 40 miles per hour and parking is prohibited on both sides of road. Currently, Airway Road does not provide bicycle facilities within the study area.

SR-905 is a six-lane freeway that provides east-west connectivity within the vicinity of the project site. There are currently interchanges at Caliente Avenue, Britannia Boulevard, La Media Road, and Siempre Viva Road. The posted speed limit along SR-905 is 65 miles per hour.

Figure 3-1 shows the existing geometrics of the study intersections and functional classification for the roadways within the study area.

3.2 TRAFFIC VOLUMES

Peak-Hour intersection turning movement counts and 24-Hour roadway segment volumes were collected by National Data and Surveying Services (NDS) on Thursday August 4, 2022. Vehicular classifications were obtained along La Media Road, north of Airway Road, for the development of PHV assumptions. It should be noted that these traffic counts were collected when local schools were on summer break. Because the study area roadways and intersections are not located near residential uses or schools, an insignificant seasonal variation of traffic is expected. Southwestern College is located along Airway Road, just west of the study area. However, this location is not currently accessible from La Media Road because of the long-term closure of Airway Road, just west of La Media Road. Prior to collection of this data, approval was obtained from City staff.

Due to the closure of the west leg of La Media Road & Airway Road, recent traffic data is not available for the SBR, EBL, EBT and WBT movements. Additionally, data is not available for the prohibited EBR movement. To account for these turning movement volumes that would occur with the removal of Airway Road closure, traffic volumes at this location were developed based on traffic data collected in November 2015 for the Plaza La Media North Traffic Impact Study (PTS# 334235, dated January 2021). A 14 percent growth rate (to account for 7 years of traffic growth) was applied to these 2015 traffic volumes for the SBR, EBL, EBT, EBR and WBT turning movement volumes to develop the assumptions of existing traffic for these movements. The traffic data collected in 2022 for the SBL, SBT, WBL and WBR was utilized. Furthermore, to account for the reduction in traffic along roadway segment of La Media Road, between SR-905 EB Ramps and Airway Road, a 21.8 percent increase in traffic was assumed based on the comparison of ADT evaluated by the La Media Retail TIS.

Appendix B contains the existing traffic counts at the study intersections and roadway segments, and documentation of the City's approval for summer counts. Appendix B also contains the historic counts, assumptions, and calculations for normalizing the existing peak hour turning movement volumes at La Media Road & Airway Road, and the existing ADT collected along La Media Road, between SR-905 EB Ramps and Airway Road.

Based on the vehicle classification information obtained along La Media Road, a 32-percent heavy vehicle factor was applied to the intersection of Airway Road and La Media Road. For all other intersections on the network, a 16 percent heavy vehicles factor was assumed based on vehicle classification counts collected

6 OPENING DAY (YEAR 2025) CONDITIONS

This section provides a description of the Opening Day (Year 2025) Conditions. 2025 is expected to be the opening year of the Project. This scenario establishes a baseline to compare against plus project scenario to determine the Project's direct impacts.

6.1 TRAFFIC VOLUMES

Since the Opening Day (Year 2025) scenario includes the completion of La Media Road CIP Project #S-15018, and the addition of northbound travel lanes and traffic volumes, traffic volumes at the intersection of La Media Road and Airway Road were developed based on traffic data collected in 2015 for the Plaza La Media North Traffic Impact Study (PTS# 334235, dated January 2021). The intersection turning movement volumes were increased by 21 percent total, or 3 percent annually over 7 years (2015 to 2022, when existing traffic data was collected for the proposed Project). This growth rate was calculated using roadway segment volumes included in the SANDAG Model Series 14 (ABM 2+) for 2016 baseline model year and 2025. **Appendix D** contains the 2015 traffic counts used for development of La Media Road and Airway Road, screen capture of the model plots utilized, and 9-year and annual growth rate calculations for each intersection approach and the total approach volumes. Based on the model volume projections, the intersection volumes are expected to increase 2.9% annually, or 17.4% between 2016 and 2022. 3% annually / 21% total growth rate was selected for conservative and rounding purposes.

Opening Day (Year 2025) traffic volumes were developed by adding traffic generated by reasonably foreseeable cumulative projects in the Project's vicinity that are planned to open at or around year 2025. These projects were obtained from a review of City of San Diego Discretionary and Ministerial Approvals on Open DSD and recent traffic studies in the area. Cumulative Projects are listed below in **Table 6-1** and are displayed in **Figure 6-1**. The cumulative projects identified are estimated to generate approximately 70,935 daily trips with 5,364 morning peak-hour trips and 6,234 afternoon peak-hour trips. Traffic volumes associated with these cumulative projects were added, and the resulting Opening Day (Year 2025) traffic volumes are shown in **Figure 6-2**.

It should be noted that the Tijuana Cross Border Phase 1 development (PTS #597523), which included the addition of 6,838 passengers, was complete when existing traffic counts were collected in August 2022. However, all Phase 1 trips generated by development were included in the Cumulative Project list and added to the study area. This is due to the existing closure of Airway Road and the restriction of northbound traffic along La Media Road, south of Airway Road. It is assumed that all trips associated by the Phase 1 development are currently utilizing intersections and roadway outside of the proposed Project's study area but would begin traveling through the Project's study area once improvements to the intersection of La Media Road and Airway Road are complete and the NBL, SBR, EBL, EBT, EBR and WBT movements are accommodated. The Marijuana Production Facility development (PTS #585510) was operational in August 2022. Therefore, trips associated with development were excluded since they were present when existing traffic counts were conducted. Phase 1 of the Sunroad Otay Mesa development was completed prior to August 2022 but was not yet operational. Therefore, traffic generated by Phase 1 was included. Additionally, BDM Mixed Use and Metro Airpark SCR Phase 2 developments are expected to open around year 2027, shortly after the Project is constructed and operating. Trips associated with these projects are included for a more conservative evaluation of the potential Opening Day (Year 2025) Conditions.

APPENDIX D

OPENING DAY (YEAR 2025) GROWTH RATE CALCULATION

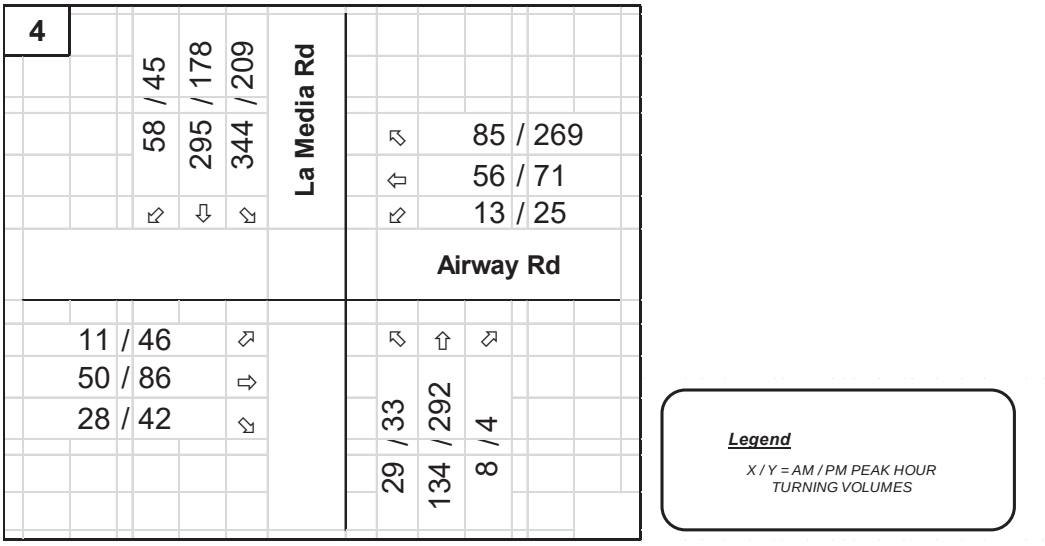
Intersection of La Media Road and Airway Road: The Opening Day (Year 2025) scenario includes the completion of CIP improvements and addition of northbound travel lanes and traffic volumes. Traffic volumes at this location were developed based on traffic data collected in 2015 for the Plaza La Media North Traffic Impact Study (dated January 2021). The turning movement counts are included in **Attachment 5**. These intersection volumes were increased by 21% total, or 3% annually over 7 years (2015 to 2022, when existing traffic data was collected for the proposed Project). This growth rate was calculated using roadway segment volumes included in the SANDAG Model Series 14 (ABM 2+) for 2016 baseline model year and 2025. **Attachment 6** contains a screen capture of the model plots utilized. **Table 3** outlines the 9-year growth rates and annual growth rates calculated for each leg of the intersection, and the intersection as a whole.

Based on the model volume projections, the intersection volumes are expected to increase 2.9% annually, or 17.4% between 2016 and 2022. 3% annually / 21% total growth rate was selected for conservative and rounding purposes. **Figure 1** shows these baseline turning movement volumes (without cumulative project traffic). Finally, cumulative project traffic volumes would be added to these developed intersection volumes to capture the traffic growth between Existing (2022) and Opening Day (2025) conditions.

Table 3 La Media Road / Airway Calculated Growth Rate

Segment	2016 ABM2+ Series 14 Model	2025 ABM2+ Series 14 Model	9 Year Growth Rate	Annual Growth Rate
La Media Road				
between SR 905 EB Ramps and Airway Rd	12,700	16,200	27.6%	3.1%
between Airway Road and Siempre Viva Rd	7,000	11,400	62.9%	7.0%
Airway Road				
between Centurion Street and La Media Road	2,700	2,800	3.7%	0.4%
between La Media Road and Project Main Driveway	5,300	4,500	-15.1%	-1.7%
Total Intersection Average	**27,700**	**34,900**	**26.0%**	**2.9%**

Figure 1 – Opening Day (Year 2025) Baseline Volumes – Without Cum Volumes



ATTACHMENT 5
2015 INTERSECTION VOLUMES AT LA MEDIA ROAD / AIRWAY ROAD

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

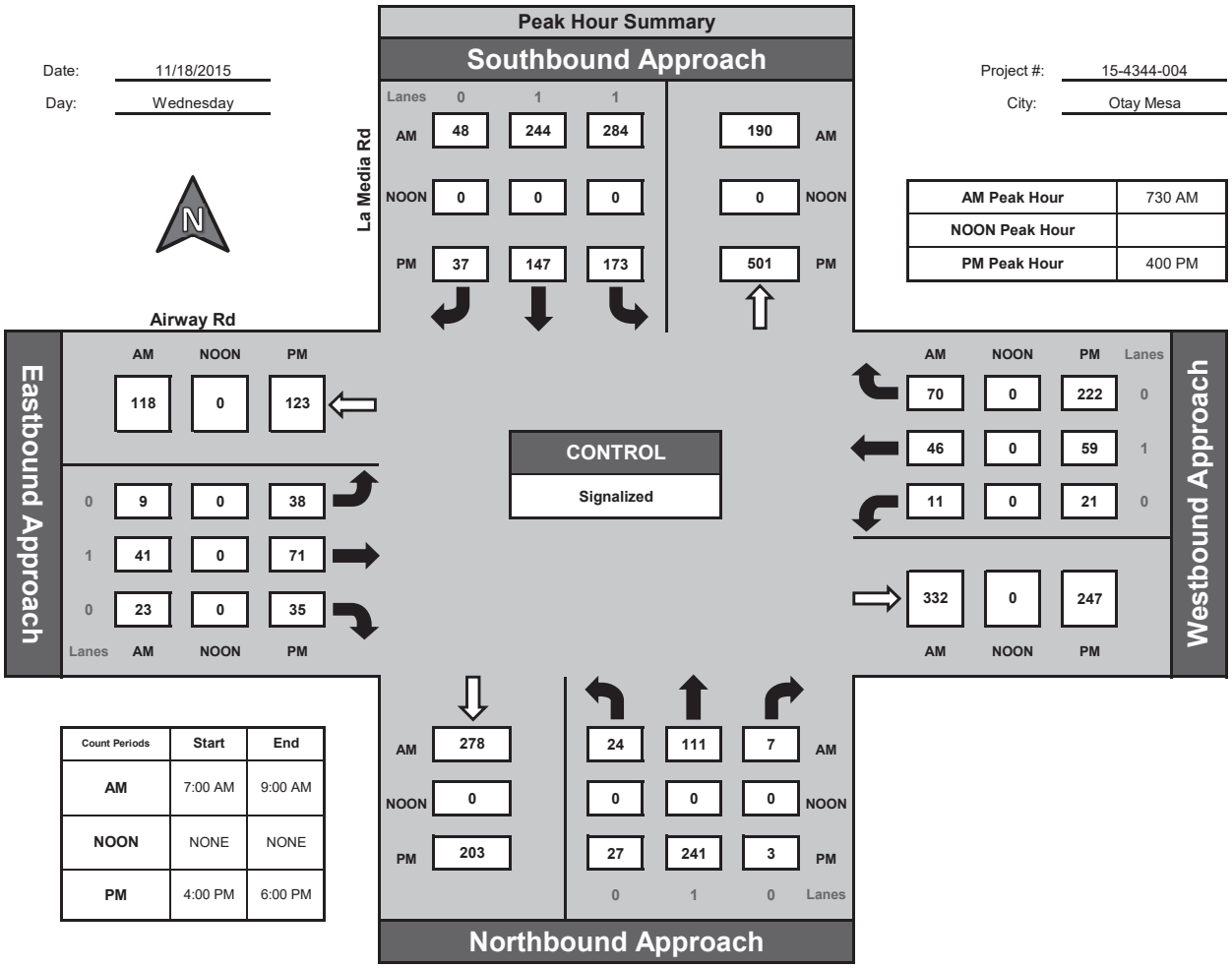
La Media Rd and Airway Rd , Otay Mesa

Date: 11/18/2015

Day: Wednesday

Project #: 15-4344-004

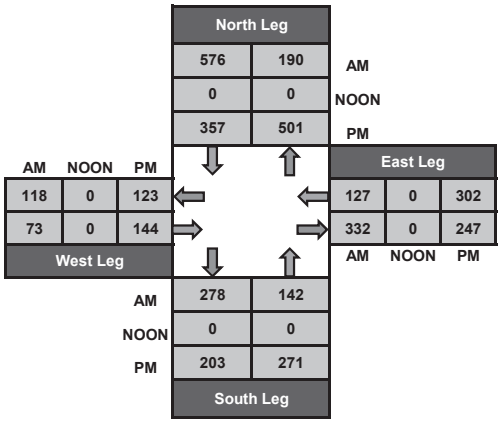
City: Otay Mesa



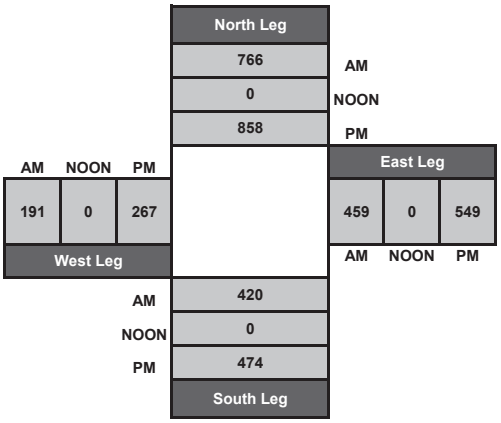
AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	400 PM

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-4344-005 **Day:** Wednesday

City: Otay Mesa **Date:** 11/18/2015

AM

NS/EW Streets:	La Media Rd			La Media Rd			Avenida De La Fuente			Avenida De La Fuente			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	0	0	1	1	0	
7:00 AM	0	17	0	11	36	0	0	0	0	3	0	8	75
7:15 AM	0	19	0	17	39	0	0	0	0	4	0	10	89
7:30 AM	0	16	0	16	25	0	0	0	0	5	0	5	67
7:45 AM	0	19	1	28	53	0	0	0	0	8	0	10	119
8:00 AM	0	16	2	22	22	0	0	0	0	14	0	12	88
8:15 AM	0	13	0	28	41	0	0	0	0	20	0	11	113
8:30 AM	0	19	4	26	31	0	0	0	0	17	0	24	121
8:45 AM	0	23	3	18	37	0	0	0	0	22	0	12	115
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	142	10	166	284	0	0	0	0	93	0	92	787
APPROACH %'s :	0.00%	93.42%	6.58%	36.89%	63.11%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	50.27%	0.00%	49.73%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	0	67	7	104	147	0	0	0	0	59	0	57	441
PEAK HR FACTOR :		0.804			0.775			0.000			0.707		0.911

CONTROL : 3-Way Stop (NB/SB/WB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-4344-005 **Day:** Wednesday

City: Otay Mesa **Date:** 11/18/2015

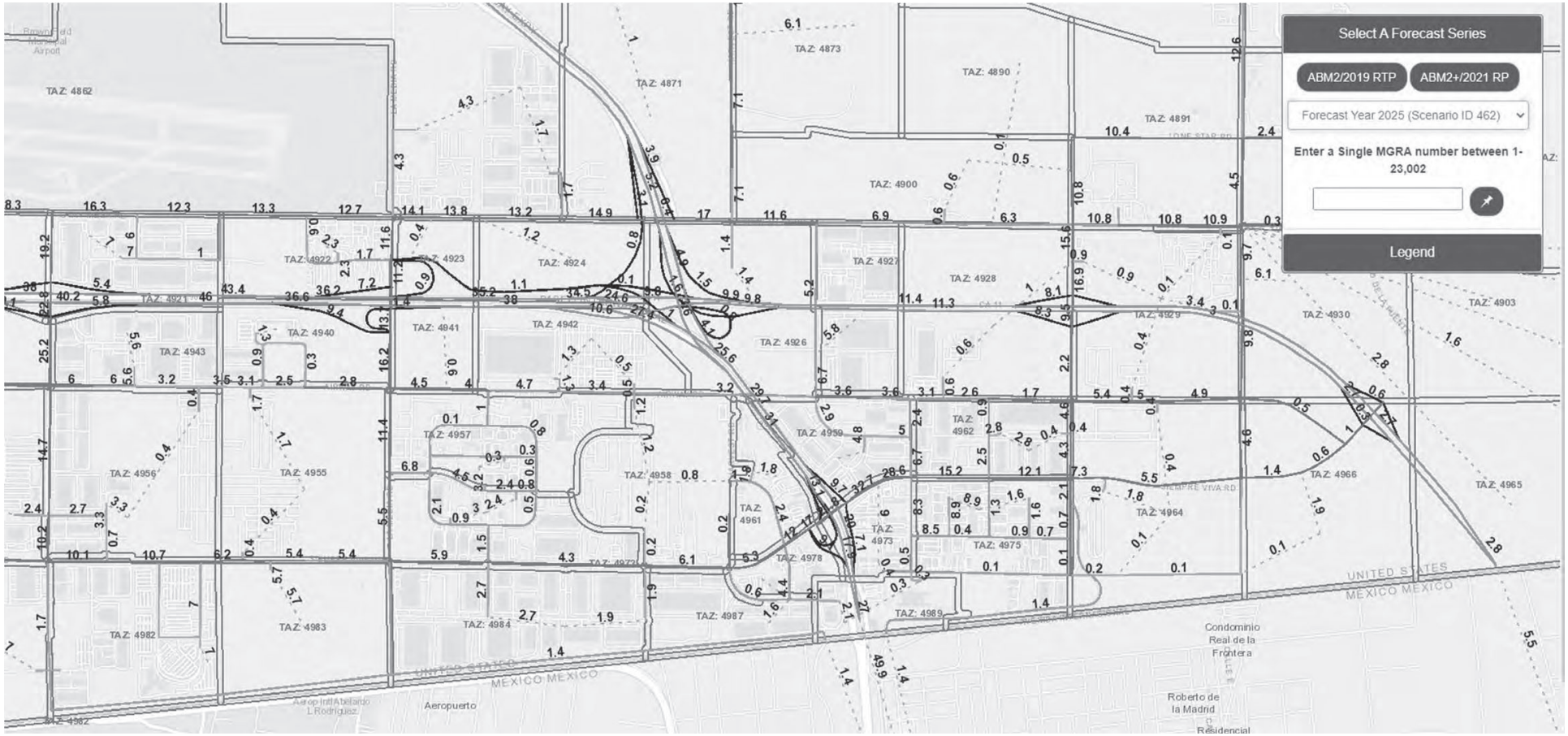
PM

NS/EW Streets:	La Media Rd			La Media Rd			Avenida De La Fuente			Avenida De La Fuente			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	0	0	1	1	0	
4:00 PM	0	40	1	18	37	0	0	0	0	14	0	17	127
4:15 PM	0	45	3	21	29	0	0	0	0	19	0	22	139
4:30 PM	0	41	3	16	34	0	0	0	0	21	0	25	140
4:45 PM	0	27	2	9	36	0	0	0	0	27	0	21	122
5:00 PM	0	41	5	18	19	0	0	0	0	12	0	39	134
5:15 PM	0	21	1	15	5	0	0	0	0	6	0	16	64
5:30 PM	0	11	4	5	5	0	0	0	0	5	0	17	47
5:45 PM	0	17	0	2	5	0	0	0	0	6	0	21	51
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	243	19	104	170	0	0	0	0	110	0	178	824
APPROACH %'s :	0.00%	92.75%	7.25%	37.96%	62.04%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	38.19%	0.00%	61.81%	
PEAK HR START TIME :	415 PM												TOTAL
PEAK HR VOL :	0	154	13	64	118	0	0	0	0	79	0	107	535
PEAK HR FACTOR :		0.870			0.910			0.000			0.912		0.955

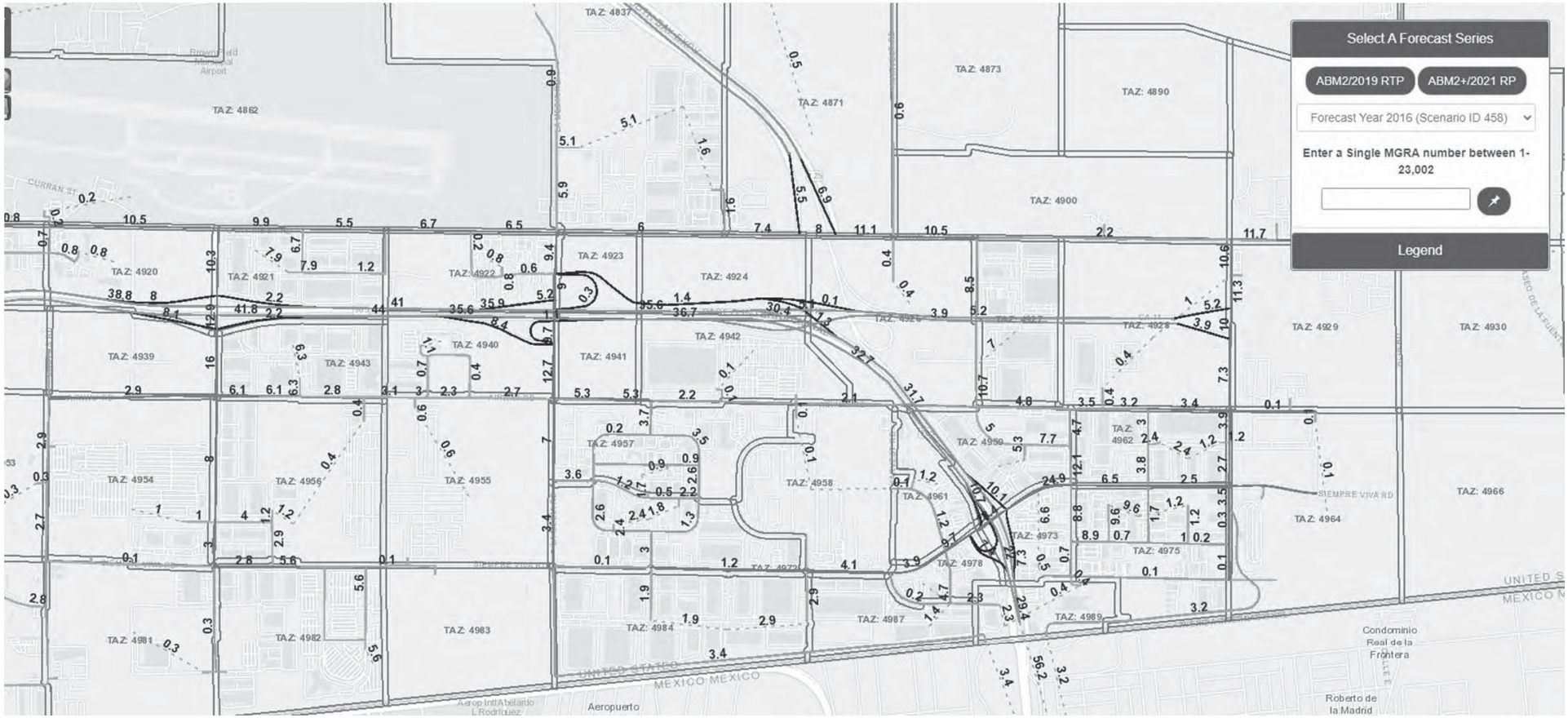
CONTROL : 3-Way Stop (NB/SB/WB)

ATTACHMENT 6
SANDAG SERIES 14 (ABM2+) MODEL PLOTS

SANDAG ABM 2+ - Forecast Year 2025 (Scenario ID 462)



SANDAG ABM 2+ - Base Year 2016 (Scenario ID 458)



Appendix N - LOS Calculation Worksheets – Opening Year 2027 Conditions



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	1010	68	131	719	85	80	15	101	57	14	97
Future Volume (vph)	120	1010	68	131	719	85	80	15	101	57	14	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1641	4663		1641	4629		1641	1727	1449	1641	1727	1468
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1641	4663		1641	4629		1641	1727	1449	1641	1727	1468
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	1098	74	142	782	92	87	16	110	62	15	105
RTOR Reduction (vph)	0	4	0	0	9	0	0	0	93	0	0	90
Lane Group Flow (vph)	130	1168	0	142	865	0	87	16	17	62	15	15
Confl. Peds. (#/hr)			3			2			2			
Confl. Bikes (#/hr)			1			1						
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	13.4	32.4		14.2	33.2		8.5	13.8	13.8	7.1	12.4	12.4
Effective Green, g (s)	13.4	32.4		14.2	33.2		8.5	13.8	13.8	7.1	12.4	12.4
Actuated g/C Ratio	0.15	0.37		0.16	0.38		0.10	0.16	0.16	0.08	0.14	0.14
Clearance Time (s)	4.4	6.0		4.4	6.0		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.4		2.0	4.2		2.0	3.2	3.2	2.0	2.0	2.0
Lane Grp Cap (vph)	252	1732		267	1762		159	273	229	133	245	208
v/s Ratio Prot	0.08	c0.25		c0.09	0.19		c0.05	0.01		0.04	0.01	
v/s Ratio Perm									c0.01			0.01
v/c Ratio	0.52	0.67		0.53	0.49		0.55	0.06	0.08	0.47	0.06	0.07
Uniform Delay, d1	33.9	23.0		33.5	20.6		37.5	31.2	31.3	38.2	32.4	32.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	1.2		1.0	0.3		2.1	0.1	0.2	0.9	0.0	0.1
Delay (s)	34.7	24.2		34.5	20.9		39.6	31.3	31.4	39.2	32.4	32.5
Level of Service	C	C		C	C		D	C	C	D	C	C
Approach Delay (s)		25.2			22.8			34.7			34.7	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	25.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	87.2	Sum of lost time (s)	19.7
Intersection Capacity Utilization	54.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1049	1	30	980	1	23
Future Volume (vph)	1049	1	30	980	1	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0		5.4	7.0	5.9	5.9
Lane Util. Factor	0.91		1.00	0.91	0.97	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	4715		1641	4715	3183	1468
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	4715		1641	4715	3183	1468
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1140	1	33	1065	1	25
RTOR Reduction (vph)	0	0	0	0	0	24
Lane Group Flow (vph)	1141	0	33	1065	1	1
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Actuated Green, G (s)	29.5		2.1	37.0	1.7	1.7
Effective Green, g (s)	29.5		2.1	37.0	1.7	1.7
Actuated g/C Ratio	0.57		0.04	0.72	0.03	0.03
Clearance Time (s)	7.0		5.4	7.0	5.9	5.9
Vehicle Extension (s)	4.5		2.0	4.5	2.0	2.0
Lane Grp Cap (vph)	2695		66	3380	104	48
v/s Ratio Prot	c0.24		0.02	c0.23	0.00	
v/s Ratio Perm						c0.00
v/c Ratio	0.42		0.50	0.32	0.01	0.02
Uniform Delay, d1	6.2		24.2	2.7	24.1	24.1
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2		2.2	0.1	0.0	0.1
Delay (s)	6.4		26.4	2.8	24.1	24.2
Level of Service	A		C	A	C	C
Approach Delay (s)	6.4			3.5	24.2	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	5.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	51.6	Sum of lost time (s)	18.3
Intersection Capacity Utilization	39.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	645	440	345	349	661	518
Future Volume (vph)	645	440	345	349	661	518
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.3	4.4	6.0	5.3	5.3
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	4715	1457	1641	4715	3183	1446
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	4715	1457	1641	4715	3183	1446
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	701	478	375	379	718	563
RTOR Reduction (vph)	0	47	0	0	0	318
Lane Group Flow (vph)	701	431	375	379	718	245
Confl. Peds. (#/hr)		5				4
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Actuated Green, G (s)	24.0	50.7	30.8	59.2	26.7	26.7
Effective Green, g (s)	24.0	50.7	30.8	59.2	26.7	26.7
Actuated g/C Ratio	0.25	0.52	0.32	0.61	0.27	0.27
Clearance Time (s)	6.0	5.3	4.4	6.0	5.3	5.3
Vehicle Extension (s)	4.4	2.0	2.0	4.3	2.0	2.0
Lane Grp Cap (vph)	1164	759	519	2871	874	397
v/s Ratio Prot	c0.15	0.16	c0.23	0.08	c0.23	
v/s Ratio Perm		0.14				0.17
v/c Ratio	0.60	0.57	0.72	0.13	0.82	0.62
Uniform Delay, d1	32.4	15.8	29.4	8.1	33.0	30.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1	0.6	4.2	0.0	6.0	2.0
Delay (s)	33.5	16.4	33.6	8.1	39.0	32.8
Level of Service	C	B	C	A	D	C
Approach Delay (s)	26.6			20.8	36.3	
Approach LOS	C			C	D	

Intersection Summary			
HCM 2000 Control Delay	29.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	97.2	Sum of lost time (s)	15.7
Intersection Capacity Utilization	68.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	322	0	136	914	1084	0	0	699	76
Future Volume (vph)	0	0	0	322	0	136	914	1084	0	0	699	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1795	1795	1630	1630	1630
Total Lost time (s)				5.1	5.1	5.1	4.7	5.1			5.1	
Lane Util. Factor				1.00	0.95	0.95	0.97	0.91			0.91	
Frpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Frt				1.00	0.85	0.85	1.00	1.00			0.99	
Flt Protected				0.95	1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1641	1395	1395	3183	4455			3980	
Flt Permitted				0.95	1.00	1.00	0.95	1.00			1.00	
Satd. Flow (perm)				1641	1395	1395	3183	4455			3980	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	350	0	148	993	1178	0	0	752	82
RTOR Reduction (vph)	0	0	0	0	56	56	0	0	0	0	10	0
Lane Group Flow (vph)	0	0	0	350	18	18	993	1178	0	0	824	0
Confl. Peds. (#/hr)									6			1
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8		8						
Actuated Green, G (s)				27.4	27.4	27.4	40.4	72.8			27.7	
Effective Green, g (s)				27.4	27.4	27.4	40.4	72.8			27.7	
Actuated g/C Ratio				0.25	0.25	0.25	0.37	0.66			0.25	
Clearance Time (s)				5.1	5.1	5.1	4.7	5.1			5.1	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				407	346	346	1164	2937			998	
v/s Ratio Prot					0.01		c0.31	0.26			c0.21	
v/s Ratio Perm				c0.21		0.01						
v/c Ratio				0.86	0.05	0.05	0.85	0.40			0.83	
Uniform Delay, d1				39.7	31.6	31.6	32.3	8.7			39.1	
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2				16.4	0.1	0.1	6.2	0.1			5.7	
Delay (s)				56.0	31.7	31.7	38.5	8.8			44.7	
Level of Service				E	C	C	D	A			D	
Approach Delay (s)		0.0			48.8			22.4			44.7	
Approach LOS		A			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	31.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	110.4	Sum of lost time (s)	14.9
Intersection Capacity Utilization	92.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	259	2	1264	0	0	0	0	1724	261	83	969	0
Future Volume (vph)	259	2	1264	0	0	0	0	1724	261	83	969	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1728	1728	1900	1781	1781
Total Lost time (s)		5.1	5.1					5.1		4.7	5.1	
Lane Util. Factor		1.00	0.88					0.95		0.97	0.91	
Frpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Frt		1.00	0.85					0.98		1.00	1.00	
Flt Protected		0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)		1646	2584					2920		3183	4420	
Flt Permitted		0.95	1.00					1.00		0.95	1.00	
Satd. Flow (perm)		1646	2584					2920		3183	4420	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94	0.92	0.92	0.92
Adj. Flow (vph)	282	2	1374	0	0	0	0	1834	278	90	1053	0
RTOR Reduction (vph)	0	0	129	0	0	0	0	8	0	0	0	0
Lane Group Flow (vph)	0	284	1245	0	0	0	0	2104	0	90	1053	0
Confl. Peds. (#/hr)									2			
Confl. Bikes (#/hr)												2
Turn Type	Perm	NA	Perm					NA		Prot	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4									
Actuated Green, G (s)		48.9	48.9					81.2		5.0	90.9	
Effective Green, g (s)		48.9	48.9					81.2		5.0	90.9	
Actuated g/C Ratio		0.33	0.33					0.54		0.03	0.61	
Clearance Time (s)		5.1	5.1					5.1		4.7	5.1	
Vehicle Extension (s)		3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)		536	842					1580		106	2678	
v/s Ratio Prot								c0.72		c0.03	0.24	
v/s Ratio Perm		0.17	c0.48									
v/c Ratio		0.53	1.48					1.33		0.85	0.39	
Uniform Delay, d1		41.2	50.5					34.4		72.1	15.3	
Progression Factor		1.00	1.00					1.00		1.00	1.00	
Incremental Delay, d2		0.9	221.6					153.7		43.4	0.1	
Delay (s)		42.1	272.1					188.1		115.5	15.4	
Level of Service		D	F					F		F	B	
Approach Delay (s)		232.7			0.0			188.1			23.3	
Approach LOS		F			A			F			C	

Intersection Summary			
HCM 2000 Control Delay	164.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.9
Intersection Capacity Utilization	92.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	823	323	43	59	117	261	31	886	69	576	1175	505
Future Volume (vph)	823	323	43	59	117	261	31	886	69	576	1175	505
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.2	5.2	4.4	4.9		4.4	5.1	5.1
Lane Util. Factor	0.95	0.95			1.00	1.00	1.00	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99			1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.98			0.98	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1559	1592			1699	1468	1641	3246		1641	1727	1450
Flt Permitted	0.95	0.98			0.98	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1559	1592			1699	1468	1641	3246		1641	1727	1450
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	895	351	47	64	127	284	34	963	75	626	1277	549
RTOR Reduction (vph)	0	2	0	0	0	237	0	4	0	0	0	104
Lane Group Flow (vph)	644	647	0	0	191	47	34	1034	0	626	1277	445
Confl. Peds. (#/hr)												1
Turn Type	Split	NA		Split	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8						6
Actuated Green, G (s)	29.8	29.8			21.9	21.9	3.9	38.8		27.7	62.4	62.4
Effective Green, g (s)	29.8	29.8			21.9	21.9	3.9	38.8		27.7	62.4	62.4
Actuated g/C Ratio	0.22	0.22			0.16	0.16	0.03	0.28		0.20	0.45	0.45
Clearance Time (s)	5.3	5.3			5.2	5.2	4.4	4.9		4.4	5.1	5.1
Vehicle Extension (s)	2.0	2.0			3.7	3.7	2.0	3.8		2.0	3.8	3.8
Lane Grp Cap (vph)	336	343			269	232	46	912		329	780	655
v/s Ratio Prot	c0.41	0.41			c0.11		0.02	0.32		c0.38	c0.74	
v/s Ratio Perm						0.03						0.31
v/c Ratio	1.92	1.89			0.71	0.20	0.74	1.13		1.90	1.64	0.68
Uniform Delay, d1	54.1	54.1			55.0	50.5	66.5	49.6		55.1	37.8	29.9
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	423.4	410.3			8.9	0.5	41.1	74.0		417.5	292.5	3.0
Delay (s)	477.5	464.4			64.0	51.0	107.6	123.6		472.6	330.3	32.9
Level of Service	F	F			E	D	F	F		F	F	C
Approach Delay (s)		470.9			56.2			123.1			300.1	
Approach LOS		F			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	284.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.63		
Actuated Cycle Length (s)	138.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	123.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	959	526	52	188	6
Future Volume (Veh/h)	3	959	526	52	188	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	1042	572	57	204	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			1251			
pX, platoon unblocked						
vC, conflicting volume	629				1620	572
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	629				1620	572
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				0	99
cM capacity (veh/h)	953				113	520

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total	1045	572	57	211
Volume Left	3	0	0	204
Volume Right	0	0	57	7
cSH	953	1700	1700	116
Volume to Capacity	0.00	0.34	0.03	1.82
Queue Length 95th (ft)	0	0	0	416
Control Delay (s)	0.1	0.0	0.0	463.4
Lane LOS	A			F
Approach Delay (s)	0.1	0.0		463.4
Approach LOS				F

Intersection Summary			
Average Delay	51.9		
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	10	330	40	280	156	77	20	45	516	150	11	10
Future Volume (vph)	10	330	40	280	156	77	20	45	516	150	11	10
Peak Hour Factor	0.92	0.92	0.92	0.76	0.92	0.76	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	359	43	368	170	101	22	49	561	163	12	11

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	413	639	632	186
Volume Left (vph)	11	368	22	163
Volume Right (vph)	43	101	561	11
Hadj (s)	-0.02	0.05	-0.49	0.17
Departure Headway (s)	8.2	8.2	7.7	9.6
Degree Utilization, x	0.95	1.46	1.35	0.50
Capacity (veh/h)	426	450	480	359
Control Delay (s)	59.3	240.9	192.2	21.7
Approach Delay (s)	59.3	240.9	192.2	21.7
Approach LOS	F	F	F	C

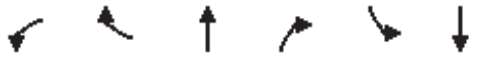
Intersection Summary			
Delay	162.5		
Level of Service	F		
Intersection Capacity Utilization	106.9%	ICU Level of Service	G
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	173	87	14	124	210	53	174	9	623	387	74
Future Volume (vph)	56	173	87	14	124	210	53	174	9	623	387	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.88	0.97	0.95	1.00	0.97	0.91	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3183	3282	1468	3183	3282	2584	3183	3282	1468	3183	4715	2584
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3183	3282	1468	3183	3282	2584	3183	3282	1468	3183	4715	2584
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	61	188	95	15	135	228	58	189	10	677	421	80
RTOR Reduction (vph)	0	0	79	0	0	201	0	0	6	0	0	32
Lane Group Flow (vph)	61	188	16	15	135	27	58	189	4	677	421	48
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	6.0	16.9	16.9	1.3	12.2	12.2	5.9	39.0	39.0	28.1	61.2	61.2
Effective Green, g (s)	6.0	16.9	16.9	1.3	12.2	12.2	5.9	39.0	39.0	28.1	61.2	61.2
Actuated g/C Ratio	0.06	0.17	0.17	0.01	0.12	0.12	0.06	0.38	0.38	0.28	0.60	0.60
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	188	547	244	40	395	311	185	1263	565	882	2848	1561
v/s Ratio Prot	c0.02	c0.06		0.00	0.04		0.02	0.06		c0.21	c0.09	
v/s Ratio Perm			0.01			0.01			0.00			0.02
v/c Ratio	0.32	0.34	0.06	0.38	0.34	0.09	0.31	0.15	0.01	0.77	0.15	0.03
Uniform Delay, d1	45.7	37.3	35.5	49.6	40.9	39.6	45.8	20.3	19.2	33.6	8.7	8.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	0.4	0.1	5.8	0.5	0.1	1.0	0.3	0.0	4.0	0.1	0.0
Delay (s)	46.7	37.7	35.7	55.4	41.4	39.7	46.7	20.6	19.2	37.7	8.8	8.1
Level of Service	D	D	D	E	D	D	D	C	B	D	A	A
Approach Delay (s)		38.7			40.9			26.4			25.3	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	30.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	101.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	44.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	8	1	8	11	1	9
Future Volume (vph)	8	1	8	11	1	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	1	9	12	1	10

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	10	21	11
Volume Left (vph)	9	0	1
Volume Right (vph)	1	12	0
Hadj (s)	0.15	-0.31	0.05
Departure Headway (s)	4.1	3.6	4.0
Degree Utilization, x	0.01	0.02	0.01
Capacity (veh/h)	861	986	893
Control Delay (s)	7.2	6.7	7.0
Approach Delay (s)	7.2	6.7	7.0
Approach LOS	A	A	A

Intersection Summary			
Delay	6.9		
Level of Service	A		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	109	988	111	133	1126	74	74	15	155	91	14	115
Future Volume (vph)	109	988	111	133	1126	74	74	15	155	91	14	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1641	4633		1641	4665		1641	1727	1446	1641	1727	1468
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1641	4633		1641	4665		1641	1727	1446	1641	1727	1468
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	118	1074	121	145	1224	80	80	16	168	99	15	125
RTOR Reduction (vph)	0	8	0	0	4	0	0	0	142	0	0	101
Lane Group Flow (vph)	118	1187	0	145	1300	0	80	16	26	99	15	24
Confl. Peds. (#/hr)			2			3			3			
Confl. Bikes (#/hr)									1			
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	12.1	32.6		14.0	34.5		8.2	14.2	14.2	11.6	17.6	17.6
Effective Green, g (s)	12.1	32.6		14.0	34.5		8.2	14.2	14.2	11.6	17.6	17.6
Actuated g/C Ratio	0.13	0.35		0.15	0.37		0.09	0.15	0.15	0.13	0.19	0.19
Clearance Time (s)	4.4	6.0		4.4	6.0		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.4		2.0	4.2		2.0	3.2	3.2	2.0	2.0	2.0
Lane Grp Cap (vph)	215	1639		249	1747		146	266	222	206	330	280
v/s Ratio Prot	0.07	0.26		c0.09	c0.28		0.05	0.01		c0.06	0.01	
v/s Ratio Perm									c0.02			c0.02
v/c Ratio	0.55	0.72		0.58	0.74		0.55	0.06	0.12	0.48	0.05	0.09
Uniform Delay, d1	37.4	25.8		36.3	25.0		40.2	33.3	33.5	37.4	30.4	30.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	1.8		2.2	1.9		2.2	0.1	0.3	0.6	0.0	0.0
Delay (s)	39.0	27.7		38.6	26.9		42.4	33.4	33.8	38.1	30.4	30.7
Level of Service	D	C		D	C		D	C	C	D	C	C
Approach Delay (s)		28.7			28.1			36.4			33.7	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	29.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	92.1	Sum of lost time (s)	19.7
Intersection Capacity Utilization	55.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1232	2	38	1228	5	19
Future Volume (vph)	1232	2	38	1228	5	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0		5.4	7.0	5.9	5.9
Lane Util. Factor	0.91		1.00	0.91	0.97	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	4714		1641	4715	3183	1468
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	4714		1641	4715	3183	1468
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1339	2	41	1335	5	21
RTOR Reduction (vph)	0	0	0	0	0	20
Lane Group Flow (vph)	1341	0	41	1335	5	1
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Actuated Green, G (s)	30.7		3.8	39.9	1.8	1.8
Effective Green, g (s)	30.7		3.8	39.9	1.8	1.8
Actuated g/C Ratio	0.56		0.07	0.73	0.03	0.03
Clearance Time (s)	7.0		5.4	7.0	5.9	5.9
Vehicle Extension (s)	4.5		2.0	4.5	2.0	2.0
Lane Grp Cap (vph)	2650		114	3445	104	48
v/s Ratio Prot	c0.28		0.02	c0.28	c0.00	
v/s Ratio Perm						0.00
v/c Ratio	0.51		0.36	0.39	0.05	0.01
Uniform Delay, d1	7.3		24.2	2.8	25.6	25.5
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3		0.7	0.1	0.1	0.0
Delay (s)	7.6		24.9	2.9	25.6	25.6
Level of Service	A		C	A	C	C
Approach Delay (s)	7.6			3.5	25.6	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	5.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	54.6	Sum of lost time (s)	18.3
Intersection Capacity Utilization	45.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	485	757	545	693	558	422
Future Volume (vph)	485	757	545	693	558	422
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.3	4.4	6.0	5.3	5.3
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	4715	1461	1641	4715	3183	1435
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	4715	1461	1641	4715	3183	1435
Peak-hour factor, PHF	0.94	0.94	0.92	0.92	0.92	0.92
Adj. Flow (vph)	516	805	592	753	607	459
RTOR Reduction (vph)	0	10	0	0	0	301
Lane Group Flow (vph)	516	795	592	753	607	158
Confl. Peds. (#/hr)		2				14
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Actuated Green, G (s)	21.1	56.4	30.6	56.1	35.3	35.3
Effective Green, g (s)	21.1	56.4	30.6	56.1	35.3	35.3
Actuated g/C Ratio	0.21	0.55	0.30	0.55	0.34	0.34
Clearance Time (s)	6.0	5.3	4.4	6.0	5.3	5.3
Vehicle Extension (s)	4.4	2.0	2.0	4.3	2.0	2.0
Lane Grp Cap (vph)	968	802	488	2575	1094	493
v/s Ratio Prot	0.11	c0.34	c0.36	0.16	0.19	
v/s Ratio Perm		0.20				0.11
v/c Ratio	0.53	0.99	1.21	0.29	0.55	0.32
Uniform Delay, d1	36.4	22.9	36.0	12.6	27.3	24.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	29.5	113.6	0.1	0.3	0.1
Delay (s)	37.3	52.4	149.7	12.7	27.7	25.0
Level of Service	D	D	F	B	C	C
Approach Delay (s)	46.5			73.0	26.5	
Approach LOS	D			E	C	

Intersection Summary			
HCM 2000 Control Delay	50.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	102.7	Sum of lost time (s)	15.7
Intersection Capacity Utilization	85.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	274	0	137	1336	872	0	0	1079	232
Future Volume (vph)	0	0	0	274	0	137	1336	872	0	0	1079	232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1795	1795	1630	1630	1630
Total Lost time (s)				5.1	5.1	5.1	4.7	5.1			5.1	
Lane Util. Factor				1.00	0.95	0.95	0.97	0.91			0.91	
Frpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Frt				1.00	0.85	0.85	1.00	1.00			0.97	
Flt Protected				0.95	1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1641	1395	1395	3183	4455			3929	
Flt Permitted				0.95	1.00	1.00	0.95	1.00			1.00	
Satd. Flow (perm)				1641	1395	1395	3183	4455			3929	
Peak-hour factor, PHF	0.92	0.92	0.92	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	295	0	147	1452	948	0	0	1173	252
RTOR Reduction (vph)	0	0	0	0	62	61	0	0	0	0	24	0
Lane Group Flow (vph)	0	0	0	295	12	12	1452	948	0	0	1401	0
Confl. Peds. (#/hr)									6			1
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8		8						
Actuated Green, G (s)				22.9	22.9	22.9	56.3	106.9			45.9	
Effective Green, g (s)				22.9	22.9	22.9	56.3	106.9			45.9	
Actuated g/C Ratio				0.16	0.16	0.16	0.40	0.76			0.33	
Clearance Time (s)				5.1	5.1	5.1	4.7	5.1			5.1	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				268	228	228	1280	3401			1288	
v/s Ratio Prot					0.01		c0.46	0.21			c0.36	
v/s Ratio Perm				c0.18		0.01						
v/c Ratio				1.10	0.05	0.05	1.13	0.28			1.09	
Uniform Delay, d1				58.5	49.4	49.4	41.9	5.0			47.0	
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2				84.6	0.1	0.1	70.6	0.0			52.5	
Delay (s)				143.2	49.5	49.5	112.5	5.0			99.5	
Level of Service				F	D	D	F	A			F	
Approach Delay (s)		0.0			112.0			70.0			99.5	
Approach LOS		A			F			E			F	

Intersection Summary			
HCM 2000 Control Delay	84.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	14.9
Intersection Capacity Utilization	101.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	1	1159	0	0	0	0	2060	421	168	1178	0
Future Volume (vph)	125	1	1159	0	0	0	0	2060	421	168	1178	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1728	1728	1900	1781	1781
Total Lost time (s)		5.1	5.1					5.1		4.7	5.1	
Lane Util. Factor		1.00	0.88					0.95		0.97	0.91	
Frpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Frt		1.00	0.85					0.97		1.00	1.00	
Flt Protected		0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)		1646	2584					2899		3183	4420	
Flt Permitted		0.95	1.00					1.00		0.95	1.00	
Satd. Flow (perm)		1646	2584					2899		3183	4420	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94	0.93	0.93	0.93
Adj. Flow (vph)	136	1	1260	0	0	0	0	2191	448	181	1267	0
RTOR Reduction (vph)	0	0	116	0	0	0	0	11	0	0	0	0
Lane Group Flow (vph)	0	137	1144	0	0	0	0	2628	0	181	1267	0
Confl. Peds. (#/hr)									4			2
Confl. Bikes (#/hr)												2
Turn Type	Perm	NA	Perm					NA		Prot	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4									
Actuated Green, G (s)		38.9	38.9					88.9		7.3	100.9	
Effective Green, g (s)		38.9	38.9					88.9		7.3	100.9	
Actuated g/C Ratio		0.26	0.26					0.59		0.05	0.67	
Clearance Time (s)		5.1	5.1					5.1		4.7	5.1	
Vehicle Extension (s)		3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)		426	670					1718		154	2973	
v/s Ratio Prot								c0.91		c0.06	0.29	
v/s Ratio Perm		0.08	c0.44									
v/c Ratio		0.32	1.71					1.53		1.18	0.43	
Uniform Delay, d1		44.9	55.6					30.5		71.3	11.3	
Progression Factor		1.00	1.00					1.00		1.00	1.00	
Incremental Delay, d2		0.4	325.0					241.2		127.4	0.1	
Delay (s)		45.3	380.6					271.8		198.8	11.4	
Level of Service		D	F					F		F	B	
Approach Delay (s)		347.7			0.0			271.8			34.8	
Approach LOS		F			A			F			C	

Intersection Summary			
HCM 2000 Control Delay	228.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.56		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.9
Intersection Capacity Utilization	101.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	717	197	40	83	328	532	46	1234	53	353	1092	929
Future Volume (vph)	717	197	40	83	328	532	46	1234	53	353	1092	929
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.2	5.2	4.4	4.9		4.4	5.1	5.1
Lane Util. Factor	0.95	0.95			1.00	1.00	1.00	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99			1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.98			0.99	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1559	1578			1710	1468	1641	3259		1641	1727	1450
Flt Permitted	0.95	0.98			0.99	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1559	1578			1710	1468	1641	3259		1641	1727	1450
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	779	214	43	90	357	578	50	1341	58	384	1187	1010
RTOR Reduction (vph)	0	2	0	0	0	143	0	2	0	0	0	225
Lane Group Flow (vph)	514	520	0	0	447	435	50	1397	0	384	1187	785
Confl. Peds. (#/hr)			1						3			1
Turn Type	Split	NA		Split	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8						6
Actuated Green, G (s)	26.7	26.7			36.8	36.8	5.6	47.1		19.6	60.9	60.9
Effective Green, g (s)	26.7	26.7			36.8	36.8	5.6	47.1		19.6	60.9	60.9
Actuated g/C Ratio	0.18	0.18			0.25	0.25	0.04	0.31		0.13	0.41	0.41
Clearance Time (s)	5.3	5.3			5.2	5.2	4.4	4.9		4.4	5.1	5.1
Vehicle Extension (s)	2.0	2.0			3.7	3.7	2.0	3.8		2.0	3.8	3.8
Lane Grp Cap (vph)	277	280			419	360	61	1023		214	701	588
v/s Ratio Prot	c0.33	0.33			0.26		0.03	0.43		c0.23	c0.69	
v/s Ratio Perm						c0.30						0.54
v/c Ratio	1.86	1.86			1.07	1.21	0.82	1.37		1.79	1.69	1.34
Uniform Delay, d1	61.6	61.6			56.6	56.6	71.7	51.5		65.2	44.5	44.5
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	398.6	398.4			62.9	117.4	53.3	170.8		375.6	318.1	162.5
Delay (s)	460.3	460.1			119.5	174.0	125.0	222.3		440.8	362.7	207.0
Level of Service	F	F			F	F	F	F		F	F	F
Approach Delay (s)		460.2			150.2			218.9			313.4	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	288.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.64		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	125.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	779	1068	184	83	1
Future Volume (Veh/h)	0	779	1068	184	83	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	847	1161	200	90	1
Pedestrians					1	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			1251			
pX, platoon unblocked	0.84				0.84	0.84
vC, conflicting volume	1362				2009	1162
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1335				2108	1096
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				0	100
cM capacity (veh/h)	432				47	217

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total	847	1161	200	91
Volume Left	0	0	0	90
Volume Right	0	0	200	1
cSH	432	1700	1700	47
Volume to Capacity	0.00	0.68	0.12	1.92
Queue Length 95th (ft)	0	0	0	229
Control Delay (s)	0.0	0.0	0.0	615.4
Lane LOS				F
Approach Delay (s)	0.0	0.0		615.4
Approach LOS				F

Intersection Summary			
Average Delay	24.4		
Intersection Capacity Utilization	67.5%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	10	228	30	541	380	159	47	15	430	111	44	10
Future Volume (vph)	10	228	30	541	380	159	47	15	430	111	44	10
Peak Hour Factor	0.92	0.92	0.92	0.84	0.92	0.84	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	248	33	644	413	189	51	16	467	121	48	11

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	292	1246	534	180
Volume Left (vph)	11	644	51	121
Volume Right (vph)	33	189	467	11
Hadj (s)	-0.03	0.05	-0.47	0.13
Departure Headway (s)	8.1	7.5	7.0	8.8
Degree Utilization, x	0.66	2.61	1.04	0.44
Capacity (veh/h)	435	488	518	386
Control Delay (s)	25.3	747.3	77.7	18.6
Approach Delay (s)	25.3	747.3	77.7	18.6
Approach LOS	D	F	F	C

Intersection Summary			
Delay	436.7		
Level of Service	F		
Intersection Capacity Utilization	123.4%	ICU Level of Service	H
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	225	89	27	227	538	66	348	5	382	376	93
Future Volume (vph)	64	225	89	27	227	538	66	348	5	382	376	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.88	0.97	0.95	1.00	0.97	0.91	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3183	3282	1468	3183	3282	2584	3183	3282	1468	3183	4715	2584
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3183	3282	1468	3183	3282	2584	3183	3282	1468	3183	4715	2584
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	70	245	97	29	247	585	72	378	5	415	409	101
RTOR Reduction (vph)	0	0	79	0	0	489	0	0	3	0	0	47
Lane Group Flow (vph)	70	245	18	29	247	96	72	378	2	415	409	54
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	6.2	18.0	18.0	3.9	15.7	15.7	6.2	39.7	39.7	17.6	51.1	51.1
Effective Green, g (s)	6.2	18.0	18.0	3.9	15.7	15.7	6.2	39.7	39.7	17.6	51.1	51.1
Actuated g/C Ratio	0.07	0.19	0.19	0.04	0.16	0.16	0.07	0.42	0.42	0.18	0.54	0.54
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	207	620	277	130	541	426	207	1368	612	588	2530	1387
v/s Ratio Prot	c0.02	0.07		0.01	c0.08		0.02	c0.12		c0.13	0.09	
v/s Ratio Perm			0.01			0.04			0.00			0.02
v/c Ratio	0.34	0.40	0.07	0.22	0.46	0.23	0.35	0.28	0.00	0.71	0.16	0.04
Uniform Delay, d1	42.5	33.8	31.7	44.2	35.9	34.5	42.6	18.3	16.2	36.4	11.2	10.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	0.4	0.1	0.9	0.6	0.3	1.0	0.5	0.0	3.9	0.1	0.1
Delay (s)	43.5	34.2	31.8	45.1	36.5	34.8	43.6	18.8	16.2	40.2	11.3	10.5
Level of Service	D	C	C	D	D	C	D	B	B	D	B	B
Approach Delay (s)		35.2			35.6			22.7			24.2	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	29.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	95.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	43.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	5	0	0	11	0	0
Future Volume (vph)	5	0	0	11	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	0	0	12	0	0

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	5	12	0
Volume Left (vph)	5	0	0
Volume Right (vph)	0	12	0
Hadj (s)	0.23	-0.57	0.00
Departure Headway (s)	4.2	3.3	3.9
Degree Utilization, x	0.01	0.01	0.00
Capacity (veh/h)	857	1070	912
Control Delay (s)	7.2	6.4	6.9
Approach Delay (s)	7.2	6.4	0.0
Approach LOS	A	A	A

Intersection Summary			
Delay	6.6		
Level of Service	A		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Appendix O - LOS Calculation Worksheets – Opening Year 2027 with Project Conditions



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	1022	68	151	765	99	80	15	106	61	14	97
Future Volume (vph)	120	1022	68	151	765	99	80	15	106	61	14	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1641	4664		1641	4621		1641	1727	1449	1641	1727	1468
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1641	4664		1641	4621		1641	1727	1449	1641	1727	1468
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	1111	74	164	832	108	87	16	115	66	15	105
RTOR Reduction (vph)	0	4	0	0	10	0	0	0	97	0	0	90
Lane Group Flow (vph)	130	1181	0	164	930	0	87	16	18	66	15	15
Confl. Peds. (#/hr)			3			2			2			
Confl. Bikes (#/hr)			1			1						
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	13.5	32.8		15.8	35.1		8.6	13.7	13.7	7.3	12.4	12.4
Effective Green, g (s)	13.5	32.8		15.8	35.1		8.6	13.7	13.7	7.3	12.4	12.4
Actuated g/C Ratio	0.15	0.37		0.18	0.39		0.10	0.15	0.15	0.08	0.14	0.14
Clearance Time (s)	4.4	6.0		4.4	6.0		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.4		2.0	4.2		2.0	3.2	3.2	2.0	2.0	2.0
Lane Grp Cap (vph)	248	1713		290	1816		158	264	222	134	239	203
v/s Ratio Prot	0.08	c0.25		c0.10	0.20		c0.05	0.01		0.04	0.01	
v/s Ratio Perm									c0.01			0.01
v/c Ratio	0.52	0.69		0.57	0.51		0.55	0.06	0.08	0.49	0.06	0.07
Uniform Delay, d1	34.9	23.9		33.6	20.6		38.5	32.3	32.4	39.2	33.4	33.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9	1.4		1.5	0.4		2.3	0.1	0.2	1.0	0.0	0.1
Delay (s)	35.9	25.3		35.1	20.9		40.9	32.4	32.6	40.3	33.4	33.5
Level of Service	D	C		D	C		D	C	C	D	C	C
Approach Delay (s)		26.3			23.1			35.9			35.9	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	26.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	89.3	Sum of lost time (s)	19.7
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1070	1	30	1060	1	23
Future Volume (vph)	1070	1	30	1060	1	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0		5.4	7.0	5.9	5.9
Lane Util. Factor	0.91		1.00	0.91	0.97	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	4715		1641	4715	3183	1468
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	4715		1641	4715	3183	1468
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.67
Adj. Flow (vph)	1163	1	33	1152	1	34
RTOR Reduction (vph)	0	0	0	0	0	32
Lane Group Flow (vph)	1164	0	33	1152	1	2
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Actuated Green, G (s)	28.6		2.3	36.3	2.7	2.7
Effective Green, g (s)	28.6		2.3	36.3	2.7	2.7
Actuated g/C Ratio	0.55		0.04	0.70	0.05	0.05
Clearance Time (s)	7.0		5.4	7.0	5.9	5.9
Vehicle Extension (s)	4.5		2.0	4.5	2.0	2.0
Lane Grp Cap (vph)	2598		72	3297	165	76
v/s Ratio Prot	c0.25		0.02	c0.24	0.00	
v/s Ratio Perm						c0.00
v/c Ratio	0.45		0.46	0.35	0.01	0.02
Uniform Delay, d1	6.9		24.2	3.1	23.3	23.3
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2		1.7	0.1	0.0	0.0
Delay (s)	7.2		25.9	3.2	23.3	23.4
Level of Service	A		C	A	C	C
Approach Delay (s)	7.2			3.8	23.4	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	5.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	51.9	Sum of lost time (s)	18.3
Intersection Capacity Utilization	39.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	645	461	359	349	741	572
Future Volume (vph)	645	461	359	349	741	572
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.3	4.4	6.0	5.3	5.3
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	4715	1458	1641	4715	3183	1446
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	4715	1458	1641	4715	3183	1446
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	701	501	390	379	805	622
RTOR Reduction (vph)	0	40	0	0	0	305
Lane Group Flow (vph)	701	461	390	379	805	317
Confl. Peds. (#/hr)		5				4
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Actuated Green, G (s)	24.6	55.8	30.5	59.5	31.2	31.2
Effective Green, g (s)	24.6	55.8	30.5	59.5	31.2	31.2
Actuated g/C Ratio	0.24	0.55	0.30	0.58	0.31	0.31
Clearance Time (s)	6.0	5.3	4.4	6.0	5.3	5.3
Vehicle Extension (s)	4.4	2.0	2.0	4.3	2.0	2.0
Lane Grp Cap (vph)	1137	797	490	2750	973	442
v/s Ratio Prot	c0.15	0.18	c0.24	0.08	c0.25	
v/s Ratio Perm		0.14				0.22
v/c Ratio	0.62	0.58	0.80	0.14	0.83	0.72
Uniform Delay, d1	34.5	15.3	32.9	9.6	32.9	31.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3	0.6	8.2	0.0	5.6	4.6
Delay (s)	35.8	15.9	41.0	9.7	38.5	36.1
Level of Service	D	B	D	A	D	D
Approach Delay (s)	27.5			25.6	37.4	
Approach LOS	C			C	D	

Intersection Summary			
HCM 2000 Control Delay	31.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	102.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	71.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	336	0	136	1040	1218	0	0	734	76
Future Volume (vph)	0	0	0	336	0	136	1040	1218	0	0	734	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1795	1795	1630	1630	1630
Total Lost time (s)				5.1	5.1	5.1	4.7	5.1			5.1	
Lane Util. Factor				1.00	0.95	0.95	0.97	0.91			0.91	
Frpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Frt				1.00	0.85	0.85	1.00	1.00			0.99	
Flt Protected				0.95	1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1641	1395	1395	3183	4455			3983	
Flt Permitted				0.95	1.00	1.00	0.95	1.00			1.00	
Satd. Flow (perm)				1641	1395	1395	3183	4455			3983	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	365	0	148	1130	1324	0	0	789	82
RTOR Reduction (vph)	0	0	0	0	56	56	0	0	0	0	10	0
Lane Group Flow (vph)	0	0	0	365	18	18	1130	1324	0	0	861	0
Confl. Peds. (#/hr)									6			1
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8		8						
Actuated Green, G (s)				28.8	28.8	28.8	45.9	79.4			28.8	
Effective Green, g (s)				28.8	28.8	28.8	45.9	79.4			28.8	
Actuated g/C Ratio				0.24	0.24	0.24	0.39	0.67			0.24	
Clearance Time (s)				5.1	5.1	5.1	4.7	5.1			5.1	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				399	339	339	1233	2987			968	
v/s Ratio Prot					0.01		c0.35	0.30			c0.22	
v/s Ratio Perm				c0.22		0.01						
v/c Ratio				0.91	0.05	0.05	0.92	0.44			0.89	
Uniform Delay, d1				43.6	34.3	34.3	34.4	9.1			43.3	
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2				25.1	0.1	0.1	10.7	0.1			10.1	
Delay (s)				68.7	34.4	34.4	45.1	9.2			53.3	
Level of Service				E	C	C	D	A			D	
Approach Delay (s)		0.0			58.8			25.8			53.3	
Approach LOS		A			E			C			D	

Intersection Summary			
HCM 2000 Control Delay	36.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	118.4	Sum of lost time (s)	14.9
Intersection Capacity Utilization	102.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	259	2	1297	0	0	0	0	1984	311	83	1018	0
Future Volume (vph)	259	2	1297	0	0	0	0	1984	311	83	1018	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1728	1728	1900	1781	1781
Total Lost time (s)		5.1	5.1					5.1		4.7	5.1	
Lane Util. Factor		1.00	0.88					0.95		0.97	0.91	
Frpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Frt		1.00	0.85					0.98		1.00	1.00	
Flt Protected		0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)		1646	2584					2918		3183	4420	
Flt Permitted		0.95	1.00					1.00		0.95	1.00	
Satd. Flow (perm)		1646	2584					2918		3183	4420	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94	0.92	0.92	0.92
Adj. Flow (vph)	282	2	1410	0	0	0	0	2111	331	90	1107	0
RTOR Reduction (vph)	0	0	132	0	0	0	0	8	0	0	0	0
Lane Group Flow (vph)	0	284	1278	0	0	0	0	2434	0	90	1107	0
Confl. Peds. (#/hr)									2			
Confl. Bikes (#/hr)												2
Turn Type	Perm	NA	Perm					NA		Prot	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4									
Actuated Green, G (s)		44.9	44.9					85.2		5.0	94.9	
Effective Green, g (s)		44.9	44.9					85.2		5.0	94.9	
Actuated g/C Ratio		0.30	0.30					0.57		0.03	0.63	
Clearance Time (s)		5.1	5.1					5.1		4.7	5.1	
Vehicle Extension (s)		3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)		492	773					1657		106	2796	
v/s Ratio Prot								c0.83		c0.03	0.25	
v/s Ratio Perm		0.17	c0.49									
v/c Ratio		0.58	1.65					1.47		0.85	0.40	
Uniform Delay, d1		44.5	52.5					32.4		72.1	13.5	
Progression Factor		1.00	1.00					1.00		1.00	1.00	
Incremental Delay, d2		1.6	299.5					214.3		43.4	0.1	
Delay (s)		46.2	352.1					246.7		115.5	13.6	
Level of Service		D	F					F		F	B	
Approach Delay (s)		300.8			0.0			246.7			21.3	
Approach LOS		F			A			F			C	

Intersection Summary			
HCM 2000 Control Delay	213.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.51		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.9
Intersection Capacity Utilization	102.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1133	361	58	59	127	261	35	886	69	576	1175	587
Future Volume (vph)	1133	361	58	59	127	261	35	886	69	576	1175	587
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.2	5.2	4.4	4.9		4.4	5.1	5.1
Lane Util. Factor	0.95	0.95			1.00	1.00	1.00	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99			1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.98			0.98	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1559	1586			1700	1468	1641	3246		1641	1727	1449
Flt Permitted	0.95	0.98			0.98	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1559	1586			1700	1468	1641	3246		1641	1727	1449
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1232	392	63	64	138	284	38	963	75	626	1277	638
RTOR Reduction (vph)	0	2	0	0	0	154	0	4	0	0	0	126
Lane Group Flow (vph)	838	847	0	0	202	130	38	1034	0	626	1277	512
Confl. Peds. (#/hr)												1
Turn Type	Split	NA		Split	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8						6
Actuated Green, G (s)	39.8	39.8			22.8	22.8	4.0	37.0		19.6	52.4	52.4
Effective Green, g (s)	39.8	39.8			22.8	22.8	4.0	37.0		19.6	52.4	52.4
Actuated g/C Ratio	0.29	0.29			0.16	0.16	0.03	0.27		0.14	0.38	0.38
Clearance Time (s)	5.3	5.3			5.2	5.2	4.4	4.9		4.4	5.1	5.1
Vehicle Extension (s)	2.0	2.0			3.7	3.7	2.0	3.8		2.0	3.8	3.8
Lane Grp Cap (vph)	446	454			278	240	47	864		231	651	546
v/s Ratio Prot	c0.54	0.53			c0.12		0.02	0.32		c0.38	c0.74	
v/s Ratio Perm						0.09						0.35
v/c Ratio	1.88	1.87			0.73	0.54	0.81	1.20		2.71	1.96	0.94
Uniform Delay, d1	49.6	49.6			55.1	53.3	67.1	51.0		59.7	43.3	41.7
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	404.0	397.8			9.5	2.9	60.7	99.9		781.6	438.3	23.9
Delay (s)	453.6	447.4			64.7	56.2	127.8	150.9		841.3	481.6	65.7
Level of Service	F	F			E	E	F	F		F	F	E
Approach Delay (s)		450.4			59.7			150.1			465.8	
Approach LOS		F			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	368.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.86		
Actuated Cycle Length (s)	139.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	134.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	1057	582	92	456	6
Future Volume (Veh/h)	3	1057	582	92	456	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	1149	633	100	496	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			1251			
pX, platoon unblocked						
vC, conflicting volume	733				1788	633
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	733				1788	633
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				0	99
cM capacity (veh/h)	872				89	480

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total	1152	633	100	503
Volume Left	3	0	0	496
Volume Right	0	0	100	7
cSH	872	1700	1700	90
Volume to Capacity	0.00	0.37	0.06	5.59
Queue Length 95th (ft)	0	0	0	Err
Control Delay (s)	0.1	0.0	0.0	Err
Lane LOS	A			F
Approach Delay (s)	0.1	0.0		Err
Approach LOS				F

Intersection Summary			
Average Delay	2106.2		
Intersection Capacity Utilization	90.3%	ICU Level of Service	E
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	10	330	40	318	156	93	20	49	516	210	26	10
Future Volume (vph)	10	330	40	318	156	93	20	49	516	210	26	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.80	0.80	0.92	0.92	0.92
Hourly flow rate (vph)	11	359	43	346	170	101	22	61	645	228	28	11

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	413	617	728	267
Volume Left (vph)	11	346	22	228
Volume Right (vph)	43	101	645	11
Hadj (s)	-0.02	0.05	-0.49	0.18
Departure Headway (s)	8.8	8.9	8.4	9.7
Degree Utilization, x	1.01	1.52	1.69	0.72
Capacity (veh/h)	404	408	435	363
Control Delay (s)	78.1	271.6	341.4	34.4
Approach Delay (s)	78.1	271.6	341.4	34.4
Approach LOS	F	F	F	D

Intersection Summary			
Delay	226.0		
Level of Service	F		
Intersection Capacity Utilization	114.3%	ICU Level of Service	H
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	184	87	14	127	210	53	174	9	623	387	74
Future Volume (vph)	56	184	87	14	127	210	53	174	9	623	387	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.88	0.97	0.95	1.00	0.97	0.91	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3183	3282	1468	3183	3282	2584	3183	3282	1468	3183	4715	2584
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3183	3282	1468	3183	3282	2584	3183	3282	1468	3183	4715	2584
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	61	200	95	15	138	228	58	189	10	677	421	80
RTOR Reduction (vph)	0	0	83	0	0	205	0	0	5	0	0	26
Lane Group Flow (vph)	61	200	12	15	138	23	58	189	5	677	421	54
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	6.4	16.7	16.7	2.5	12.8	12.8	6.3	59.5	59.5	32.7	85.9	85.9
Effective Green, g (s)	6.4	16.7	16.7	2.5	12.8	12.8	6.3	59.5	59.5	32.7	85.9	85.9
Actuated g/C Ratio	0.05	0.13	0.13	0.02	0.10	0.10	0.05	0.47	0.47	0.26	0.67	0.67
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	159	430	192	62	329	259	157	1532	685	816	3179	1742
v/s Ratio Prot	c0.02	c0.06		0.00	0.04		0.02	0.06		c0.21	c0.09	
v/s Ratio Perm			0.01			0.01			0.00			0.02
v/c Ratio	0.38	0.47	0.06	0.24	0.42	0.09	0.37	0.12	0.01	0.83	0.13	0.03
Uniform Delay, d1	58.6	51.2	48.5	61.5	53.8	52.0	58.6	19.2	18.2	44.7	7.4	6.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	0.8	0.1	2.0	0.9	0.1	1.5	0.2	0.0	7.0	0.1	0.0
Delay (s)	60.1	52.0	48.6	63.5	54.7	52.2	60.1	19.4	18.2	51.7	7.5	6.9
Level of Service	E	D	D	E	D	D	E	B	B	D	A	A
Approach Delay (s)		52.5			53.5			28.5			32.9	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	39.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	127.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	44.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1060	548	40	0	38
Future Volume (Veh/h)	0	1060	548	40	0	38
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1152	596	43	0	41
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	639				1770	618
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	639				1770	618
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	92
cM capacity (veh/h)	945				92	490

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1152	639	41
Volume Left	0	0	0
Volume Right	0	43	41
cSH	1700	1700	490
Volume to Capacity	0.68	0.38	0.08
Queue Length 95th (ft)	0	0	7
Control Delay (s)	0.0	0.0	13.0
Lane LOS			B
Approach Delay (s)	0.0	0.0	13.0
Approach LOS			B

Intersection Summary			
Average Delay		0.3	
Intersection Capacity Utilization		59.1%	ICU Level of Service B
Analysis Period (min)		15	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	134	18	0	0	62	92	5	0	207	0
Future Volume (Veh/h)	0	0	134	18	0	0	62	92	5	0	207	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	146	20	0	0	67	100	5	0	225	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	459	464	225	608	462	102	225			105		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	459	464	225	608	462	102	225			105		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	82	94	100	100	95			100		
cM capacity (veh/h)	493	471	814	322	472	953	1344			1486		

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total	146	20	0	67	105	225
Volume Left	0	20	0	67	0	0
Volume Right	146	0	0	0	5	0
cSH	814	322	1700	1344	1700	1486
Volume to Capacity	0.18	0.06	0.00	0.05	0.06	0.00
Queue Length 95th (ft)	16	5	0	4	0	0
Control Delay (s)	10.4	16.9	0.0	7.8	0.0	0.0
Lane LOS	B	C	A	A		
Approach Delay (s)	10.4	16.9		3.0		0.0
Approach LOS	B	C				

Intersection Summary				
Average Delay	4.2			
Intersection Capacity Utilization	41.0%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	57	0	77	15	0	150
Future Volume (Veh/h)	57	0	77	15	0	150
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	62	0	84	16	0	163
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	255	92			100	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	255	92			100	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	100			100	
cM capacity (veh/h)	734	965			1493	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	62	100	163
Volume Left	62	0	0
Volume Right	0	16	0
cSH	734	1700	1493
Volume to Capacity	0.08	0.06	0.00
Queue Length 95th (ft)	7	0	0
Control Delay (s)	10.4	0.0	0.0
Lane LOS	B		
Approach Delay (s)	10.4	0.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	17.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	76	0	0	0	20	38
Future Volume (Veh/h)	76	0	0	0	20	38
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	83	0	0	0	22	41
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			None		
Median storage veh)	2					
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			83		83	83
vC1, stage 1 conf vol					83	
vC2, stage 2 conf vol					0	
vCu, unblocked vol			83		83	83
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		98	96
cM capacity (veh/h)			1514		917	976

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	83	0	0	63
Volume Left	0	0	0	22
Volume Right	0	0	0	41
cSH	1700	1700	1700	955
Volume to Capacity	0.05	0.00	0.00	0.07
Queue Length 95th (ft)	0	0	0	5
Control Delay (s)	0.0	0.0	0.0	9.0
Lane LOS				A
Approach Delay (s)	0.0	0.0		9.0
Approach LOS				A

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	14.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	230	8	0	1	30	18	11	1	47	0
Future Volume (vph)	0	0	230	8	0	1	30	18	11	1	47	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	250	9	0	1	33	20	12	1	51	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	250	10	65	52
Volume Left (vph)	0	9	33	1
Volume Right (vph)	250	1	12	0
Hadj (s)	-0.57	0.15	0.02	0.04
Departure Headway (s)	3.6	4.6	4.5	4.5
Degree Utilization, x	0.25	0.01	0.08	0.07
Capacity (veh/h)	965	746	751	740
Control Delay (s)	7.8	7.6	7.9	7.8
Approach Delay (s)	7.8	7.6	7.9	7.8
Approach LOS	A	A	A	A

Intersection Summary				
Delay			7.8	
Level of Service			A	
Intersection Capacity Utilization			30.9%	ICU Level of Service
Analysis Period (min)			15	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	0	19	19	0	19	10	20	10	0	0	0
Future Volume (Veh/h)	19	0	19	19	0	19	10	20	10	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	21	0	21	21	0	21	11	22	11	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	70	55	0	70	50	28	0			33		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	70	55	0	70	50	28	0			33		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	98	98	100	98	99			100		
cM capacity (veh/h)	898	831	1085	899	836	1048	1623			1579		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	42	42	44	0
Volume Left	21	21	11	0
Volume Right	21	21	11	0
cSH	983	968	1623	1700
Volume to Capacity	0.04	0.04	0.01	0.00
Queue Length 95th (ft)	3	3	1	0
Control Delay (s)	8.8	8.9	1.8	0.0
Lane LOS	A	A	A	
Approach Delay (s)	8.8	8.9	1.8	0.0
Approach LOS	A	A		

Intersection Summary				
Average Delay	6.4			
Intersection Capacity Utilization	13.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	109	1035	111	141	1146	81	74	15	175	104	14	115
Future Volume (vph)	109	1035	111	141	1146	81	74	15	175	104	14	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1641	4636		1641	4661		1641	1727	1446	1641	1727	1468
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1641	4636		1641	4661		1641	1727	1446	1641	1727	1468
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	118	1125	121	153	1246	88	80	16	190	113	15	125
RTOR Reduction (vph)	0	8	0	0	5	0	0	0	162	0	0	101
Lane Group Flow (vph)	118	1238	0	153	1329	0	80	16	28	113	15	24
Confl. Peds. (#/hr)			2			3			3			
Confl. Bikes (#/hr)									1			
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	12.2	34.0		14.8	36.6		8.3	14.3	14.3	12.6	18.6	18.6
Effective Green, g (s)	12.2	34.0		14.8	36.6		8.3	14.3	14.3	12.6	18.6	18.6
Actuated g/C Ratio	0.13	0.36		0.16	0.38		0.09	0.15	0.15	0.13	0.19	0.19
Clearance Time (s)	4.4	6.0		4.4	6.0		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.4		2.0	4.2		2.0	3.2	3.2	2.0	2.0	2.0
Lane Grp Cap (vph)	209	1652		254	1788		142	258	216	216	336	286
v/s Ratio Prot	0.07	0.27		c0.09	c0.29		0.05	0.01		c0.07	0.01	
v/s Ratio Perm									c0.02			c0.02
v/c Ratio	0.56	0.75		0.60	0.74		0.56	0.06	0.13	0.52	0.04	0.09
Uniform Delay, d1	39.1	27.0		37.6	25.3		41.8	34.8	35.2	38.6	31.2	31.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.1	2.1		2.7	1.9		3.0	0.1	0.3	1.1	0.0	0.0
Delay (s)	41.2	29.1		40.3	27.2		44.8	34.9	35.5	39.7	31.2	31.5
Level of Service	D	C		D	C		D	C	D	D	C	C
Approach Delay (s)		30.1			28.6			38.1			35.1	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	30.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	95.4	Sum of lost time (s)	19.7
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1312	2	38	1263	5	19
Future Volume (vph)	1312	2	38	1263	5	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0		5.4	7.0	5.9	5.9
Lane Util. Factor	0.91		1.00	0.91	0.97	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	4714		1641	4715	3183	1468
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	4714		1641	4715	3183	1468
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1426	2	41	1373	5	21
RTOR Reduction (vph)	0	0	0	0	0	20
Lane Group Flow (vph)	1428	0	41	1373	5	1
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Actuated Green, G (s)	31.3		3.8	40.5	1.9	1.9
Effective Green, g (s)	31.3		3.8	40.5	1.9	1.9
Actuated g/C Ratio	0.57		0.07	0.73	0.03	0.03
Clearance Time (s)	7.0		5.4	7.0	5.9	5.9
Vehicle Extension (s)	4.5		2.0	4.5	2.0	2.0
Lane Grp Cap (vph)	2668		112	3453	109	50
v/s Ratio Prot	c0.30		0.02	c0.29	c0.00	
v/s Ratio Perm						0.00
v/c Ratio	0.54		0.37	0.40	0.05	0.01
Uniform Delay, d1	7.5		24.6	2.8	25.8	25.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3		0.7	0.1	0.1	0.0
Delay (s)	7.8		25.3	2.9	25.9	25.8
Level of Service	A		C	A	C	C
Approach Delay (s)	7.8			3.6	25.8	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	5.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	55.3	Sum of lost time (s)	18.3
Intersection Capacity Utilization	45.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	485	837	599	693	593	445
Future Volume (vph)	485	837	599	693	593	445
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.3	4.4	6.0	5.3	5.3
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	4715	1461	1641	4715	3183	1435
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	4715	1461	1641	4715	3183	1435
Peak-hour factor, PHF	0.94	0.94	0.92	0.92	0.92	0.92
Adj. Flow (vph)	516	890	651	753	645	484
RTOR Reduction (vph)	0	6	0	0	0	306
Lane Group Flow (vph)	516	884	651	753	645	178
Confl. Peds. (#/hr)		2				14
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Actuated Green, G (s)	21.1	60.2	30.3	55.8	39.1	39.1
Effective Green, g (s)	21.1	60.2	30.3	55.8	39.1	39.1
Actuated g/C Ratio	0.20	0.57	0.29	0.53	0.37	0.37
Clearance Time (s)	6.0	5.3	4.4	6.0	5.3	5.3
Vehicle Extension (s)	4.4	2.0	2.0	4.3	2.0	2.0
Lane Grp Cap (vph)	936	828	468	2477	1171	528
v/s Ratio Prot	0.11	c0.39	c0.40	0.16	0.20	
v/s Ratio Perm		0.21				0.12
v/c Ratio	0.55	1.07	1.39	0.30	0.55	0.34
Uniform Delay, d1	38.3	23.0	38.0	14.2	26.6	24.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	50.7	188.7	0.1	0.3	0.1
Delay (s)	39.3	73.7	226.7	14.3	26.9	24.3
Level of Service	D	E	F	B	C	C
Approach Delay (s)	61.1			112.8	25.8	
Approach LOS	E			F	C	

Intersection Summary			
HCM 2000 Control Delay	69.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	106.2	Sum of lost time (s)	15.7
Intersection Capacity Utilization	93.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	324	0	137	1391	930	0	0	1213	232
Future Volume (vph)	0	0	0	324	0	137	1391	930	0	0	1213	232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1795	1795	1630	1630	1630
Total Lost time (s)				5.1	5.1	5.1	4.7	5.1			5.1	
Lane Util. Factor				1.00	0.95	0.95	0.97	0.91			0.91	
Frpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Frt				1.00	0.85	0.85	1.00	1.00			0.98	
Flt Protected				0.95	1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1641	1395	1395	3183	4455			3939	
Flt Permitted				0.95	1.00	1.00	0.95	1.00			1.00	
Satd. Flow (perm)				1641	1395	1395	3183	4455			3939	
Peak-hour factor, PHF	0.92	0.92	0.92	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	348	0	147	1512	1011	0	0	1318	252
RTOR Reduction (vph)	0	0	0	0	61	60	0	0	0	0	19	0
Lane Group Flow (vph)	0	0	0	348	13	13	1512	1011	0	0	1551	0
Confl. Peds. (#/hr)									6			1
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8		8						
Actuated Green, G (s)				25.9	25.9	25.9	57.3	113.9			51.9	
Effective Green, g (s)				25.9	25.9	25.9	57.3	113.9			51.9	
Actuated g/C Ratio				0.17	0.17	0.17	0.38	0.76			0.35	
Clearance Time (s)				5.1	5.1	5.1	4.7	5.1			5.1	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				283	240	240	1215	3382			1362	
v/s Ratio Prot					0.01		c0.47	0.23			c0.39	
v/s Ratio Perm				c0.21		0.01						
v/c Ratio				1.23	0.05	0.05	1.24	0.30			1.14	
Uniform Delay, d1				62.1	51.8	51.8	46.4	5.6			49.0	
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2				130.4	0.1	0.1	117.1	0.0			71.9	
Delay (s)				192.4	51.9	51.9	163.4	5.7			120.9	
Level of Service				F	D	D	F	A			F	
Approach Delay (s)		0.0			150.7			100.2			120.9	
Approach LOS		A			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	112.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.9
Intersection Capacity Utilization	105.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	1	1284	0	0	0	0	2173	444	168	1362	0
Future Volume (vph)	125	1	1284	0	0	0	0	2173	444	168	1362	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1728	1728	1900	1781	1781
Total Lost time (s)		5.1	5.1					5.1		4.7	5.1	
Lane Util. Factor		1.00	0.88					0.95		0.97	0.91	
Frpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Frt		1.00	0.85					0.97		1.00	1.00	
Flt Protected		0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)		1646	2584					2899		3183	4420	
Flt Permitted		0.95	1.00					1.00		0.95	1.00	
Satd. Flow (perm)		1646	2584					2899		3183	4420	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94	0.93	0.93	0.93
Adj. Flow (vph)	136	1	1396	0	0	0	0	2312	472	181	1465	0
RTOR Reduction (vph)	0	0	68	0	0	0	0	11	0	0	0	0
Lane Group Flow (vph)	0	137	1328	0	0	0	0	2773	0	181	1465	0
Confl. Peds. (#/hr)									4	2		
Confl. Bikes (#/hr)												2
Turn Type	Perm	NA	Perm					NA		Prot	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4									
Actuated Green, G (s)		41.9	41.9					86.9		6.3	97.9	
Effective Green, g (s)		41.9	41.9					86.9		6.3	97.9	
Actuated g/C Ratio		0.28	0.28					0.58		0.04	0.65	
Clearance Time (s)		5.1	5.1					5.1		4.7	5.1	
Vehicle Extension (s)		3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)		459	721					1679		133	2884	
v/s Ratio Prot								c0.96		c0.06	0.33	
v/s Ratio Perm		0.08	c0.51									
v/c Ratio		0.30	1.84					1.65		1.36	0.51	
Uniform Delay, d1		42.5	54.0					31.5		71.8	13.5	
Progression Factor		1.00	1.00					1.00		1.00	1.00	
Incremental Delay, d2		0.4	383.9					295.8		203.2	0.1	
Delay (s)		42.9	438.0					327.4		275.0	13.7	
Level of Service		D	F					F		F	B	
Approach Delay (s)		402.7			0.0			327.4			42.4	
Approach LOS		F			A			F			D	

Intersection Summary			
HCM 2000 Control Delay	268.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.70		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.9
Intersection Capacity Utilization	105.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	853	213	47	83	366	532	62	1234	53	353	1092	1238
Future Volume (vph)	853	213	47	83	366	532	62	1234	53	353	1092	1238
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.2	5.2	4.4	4.9		4.4	5.1	5.1
Lane Util. Factor	0.95	0.95			1.00	1.00	1.00	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99			1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.97			0.99	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1559	1575			1711	1468	1641	3259		1641	1727	1449
Flt Permitted	0.95	0.97			0.99	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1559	1575			1711	1468	1641	3259		1641	1727	1449
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	927	232	51	90	398	578	67	1341	58	384	1187	1346
RTOR Reduction (vph)	0	2	0	0	0	115	0	2	0	0	0	299
Lane Group Flow (vph)	603	605	0	0	488	463	67	1397	0	384	1187	1047
Confl. Peds. (#/hr)			1						3			1
Turn Type	Split	NA		Split	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8						6
Actuated Green, G (s)	26.7	26.7			39.8	39.8	4.6	47.1		16.6	58.9	58.9
Effective Green, g (s)	26.7	26.7			39.8	39.8	4.6	47.1		16.6	58.9	58.9
Actuated g/C Ratio	0.18	0.18			0.27	0.27	0.03	0.31		0.11	0.39	0.39
Clearance Time (s)	5.3	5.3			5.2	5.2	4.4	4.9		4.4	5.1	5.1
Vehicle Extension (s)	2.0	2.0			3.7	3.7	2.0	3.8		2.0	3.8	3.8
Lane Grp Cap (vph)	277	280			453	389	50	1023		181	678	568
v/s Ratio Prot	c0.39	0.38			0.29		0.04	0.43		c0.23	0.69	
v/s Ratio Perm						c0.32						c0.72
v/c Ratio	2.18	2.16			1.08	1.19	1.34	1.37		2.12	1.75	1.84
Uniform Delay, d1	61.6	61.6			55.1	55.1	72.7	51.5		66.7	45.5	45.5
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	541.4	533.3			64.6	108.1	242.5	170.8		522.9	343.9	386.0
Delay (s)	603.0	594.9			119.7	163.2	315.2	222.3		589.6	389.5	431.5
Level of Service	F	F			F	F	F	F		F	F	F
Approach Delay (s)		599.0			143.3			226.5			435.2	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	372.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.78		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	132.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	822	1282	336	200	1
Future Volume (Veh/h)	0	822	1282	336	200	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	893	1393	365	217	1
Pedestrians					1	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			1251			
pX, platoon unblocked	0.83				0.83	0.83
vC, conflicting volume	1759				2287	1394
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1813				2451	1372
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				0	99
cM capacity (veh/h)	280				28	148

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total	893	1393	365	218
Volume Left	0	0	0	217
Volume Right	0	0	365	1
cSH	280	1700	1700	28
Volume to Capacity	0.00	0.82	0.21	7.70
Queue Length 95th (ft)	0	0	0	Err
Control Delay (s)	0.0	0.0	0.0	Err
Lane LOS				F
Approach Delay (s)	0.0	0.0		Err
Approach LOS				F

Intersection Summary			
Average Delay	759.8		
Intersection Capacity Utilization	85.3%	ICU Level of Service	E
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	10	228	30	557	380	221	47	30	430	138	50	10
Future Volume (vph)	10	228	30	557	380	221	47	30	430	138	50	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.29	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	248	33	605	413	762	51	33	467	150	54	11

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	292	1780	551	215
Volume Left (vph)	11	605	51	150
Volume Right (vph)	33	762	467	11
Hadj (s)	-0.03	-0.15	-0.46	0.14
Departure Headway (s)	8.3	7.6	7.3	8.9
Degree Utilization, x	0.68	3.74	1.11	0.53
Capacity (veh/h)	423	480	499	387
Control Delay (s)	27.0	1254.9	101.0	21.4
Approach Delay (s)	27.0	1254.9	101.0	21.4
Approach LOS	D	F	F	C

Intersection Summary			
Delay	811.0		
Level of Service	F		
Intersection Capacity Utilization	133.6%	ICU Level of Service	H
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	230	89	27	238	538	66	348	5	382	376	93
Future Volume (vph)	64	230	89	27	238	538	66	348	5	382	376	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.88	0.97	0.95	1.00	0.97	0.91	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3183	3282	1468	3183	3282	2584	3183	3282	1468	3183	4715	2584
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3183	3282	1468	3183	3282	2584	3183	3282	1468	3183	4715	2584
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	70	250	97	29	259	585	72	378	5	415	409	101
RTOR Reduction (vph)	0	0	79	0	0	495	0	0	3	0	0	41
Lane Group Flow (vph)	70	250	18	29	259	90	72	378	2	415	409	60
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	6.4	20.7	20.7	3.3	17.6	17.6	6.2	54.5	54.5	19.9	68.2	68.2
Effective Green, g (s)	6.4	20.7	20.7	3.3	17.6	17.6	6.2	54.5	54.5	19.9	68.2	68.2
Actuated g/C Ratio	0.06	0.18	0.18	0.03	0.15	0.15	0.05	0.48	0.48	0.17	0.60	0.60
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	178	593	265	91	504	397	172	1563	699	553	2810	1540
v/s Ratio Prot	c0.02	c0.08		0.01	c0.08		0.02	c0.12		c0.13	0.09	
v/s Ratio Perm			0.01			0.03			0.00			0.02
v/c Ratio	0.39	0.42	0.07	0.32	0.51	0.23	0.42	0.24	0.00	0.75	0.15	0.04
Uniform Delay, d1	52.1	41.5	38.8	54.4	44.5	42.4	52.4	17.7	15.7	44.9	10.2	9.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.4	0.5	0.1	2.0	0.9	0.3	1.6	0.4	0.0	5.7	0.1	0.0
Delay (s)	53.6	42.0	38.9	56.5	45.4	42.7	54.0	18.1	15.7	50.6	10.3	9.6
Level of Service	D	D	D	E	D	D	D	B	B	D	B	A
Approach Delay (s)		43.2			44.0			23.7			28.3	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	35.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	114.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	43.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	822	1131	152	0	16
Future Volume (Veh/h)	0	822	1131	152	0	16
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	893	1229	165	0	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1394				2204	1312
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1394				2204	1312
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	91
cM capacity (veh/h)	491				49	194

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	893	1394	17
Volume Left	0	0	0
Volume Right	0	165	17
cSH	1700	1700	194
Volume to Capacity	0.53	0.82	0.09
Queue Length 95th (ft)	0	0	7
Control Delay (s)	0.0	0.0	25.3
Lane LOS			D
Approach Delay (s)	0.0	0.0	25.3
Approach LOS			D

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	90	8	0	0	140	216	20	0	136	0
Future Volume (Veh/h)	0	0	90	8	0	0	140	216	20	0	136	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	98	9	0	0	152	235	22	0	148	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	687	709	148	796	698	246	148			257		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	687	709	148	796	698	246	148			257		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	89	96	100	100	89			100		
cM capacity (veh/h)	332	321	899	250	326	793	1434			1308		

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total	98	9	0	152	257	148
Volume Left	0	9	0	152	0	0
Volume Right	98	0	0	0	22	0
cSH	899	250	1700	1434	1700	1308
Volume to Capacity	0.11	0.04	0.00	0.11	0.15	0.00
Queue Length 95th (ft)	9	3	0	9	0	0
Control Delay (s)	9.5	20.0	0.0	7.8	0.0	0.0
Lane LOS	A	C	A	A		
Approach Delay (s)	9.5	20.0		2.9		0.0
Approach LOS	A	C				

Intersection Summary				
Average Delay	3.5			
Intersection Capacity Utilization	36.4%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	25	0	159	57	0	111
Future Volume (Veh/h)	25	0	159	57	0	111
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	0	173	62	0	121
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	325	204			235	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	325	204			235	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	100			100	
cM capacity (veh/h)	669	837			1332	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	27	235	121
Volume Left	27	0	0
Volume Right	0	62	0
cSH	669	1700	1332
Volume to Capacity	0.04	0.14	0.00
Queue Length 95th (ft)	3	0	0
Control Delay (s)	10.6	0.0	0.0
Lane LOS	B		
Approach Delay (s)	10.6	0.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	21.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	34	0	0	0	76	16
Future Volume (Veh/h)	34	0	0	0	76	16
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	37	0	0	0	83	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			None		
Median storage veh)	2					
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			37		37	37
vC1, stage 1 conf vol					37	
vC2, stage 2 conf vol					0	
vCu, unblocked vol			37		37	37
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		91	98
cM capacity (veh/h)			1574		962	1035

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	37	0	0	100
Volume Left	0	0	0	83
Volume Right	0	0	0	17
cSH	1700	1700	1700	973
Volume to Capacity	0.02	0.00	0.00	0.10
Queue Length 95th (ft)	0	0	0	9
Control Delay (s)	0.0	0.0	0.0	9.1
Lane LOS				A
Approach Delay (s)	0.0	0.0		9.1
Approach LOS				A

Intersection Summary			
Average Delay	6.7		
Intersection Capacity Utilization	15.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	101	5	0	0	114	38	11	0	16	0
Future Volume (vph)	0	0	101	5	0	0	114	38	11	0	16	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	110	5	0	0	124	41	12	0	17	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	110	5	177	17
Volume Left (vph)	0	5	124	0
Volume Right (vph)	110	0	12	0
Hadj (s)	-0.57	0.23	0.13	0.03
Departure Headway (s)	3.8	4.7	4.3	4.4
Degree Utilization, x	0.12	0.01	0.21	0.02
Capacity (veh/h)	905	720	814	794
Control Delay (s)	7.3	7.7	8.4	7.4
Approach Delay (s)	7.3	7.7	8.4	7.4
Approach LOS	A	A	A	A

Intersection Summary				
Delay	8.0			
Level of Service	A			
Intersection Capacity Utilization	28.6%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	0	8	8	0	8	38	76	38	0	0	0
Future Volume (Veh/h)	8	0	8	8	0	8	38	76	38	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	0	9	9	0	9	41	83	41	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	194	206	0	194	186	104	0			124		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	194	206	0	194	186	104	0			124		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	99	99	100	99	97			100		
cM capacity (veh/h)	743	673	1085	744	691	951	1623			1463		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	18	18	165	0
Volume Left	9	9	41	0
Volume Right	9	9	41	0
cSH	882	835	1623	1700
Volume to Capacity	0.02	0.02	0.03	0.00
Queue Length 95th (ft)	2	2	2	0
Control Delay (s)	9.2	9.4	2.0	0.0
Lane LOS	A	A	A	
Approach Delay (s)	9.2	9.4	2.0	0.0
Approach LOS	A	A		

Intersection Summary				
Average Delay	3.3			
Intersection Capacity Utilization	18.4%	ICU Level of Service	A	
Analysis Period (min)	15			

Appendix P - Horizon Year 2062 Volume Calculations

Horizon Year 2062 Volume Calculations

Roadway	Segment	Existing Counts (2024)	TFIC Base Year (2016)	TFIC Future Year (2050)	Growth per Year per TFIC (2016 to 2050)	Total Growth Existing 2024 to 2062 (per TFIC)	Proposed HY ADT (applying growth to existing counts using Series 14)	Near-Term 2027 ADT (Existing + Cumulative Projects)	Delta between NT to HY	Total Growth NT 2027 to 2062 (per TFIC)	Proposed HY ADT (applying growth per year to NT)	Delta (NT to HY)	Final HY ADT Volumes
Otay Mesa Rd	West of Cactus Rd	11,615	10,800	18,500	200	7,600	19,200	29,520	-35%	7,000	36,500	24%	36,500
Otay Mesa Rd	Cactus Rd to Continental St	12,362	10,500	17,000	200	7,600	20,000	31,890	-37%	7,000	38,900	22%	38,900
Otay Mesa Rd	Continental St to Britannia Blvd	13,456	10,500	18,400	200	7,600	21,100	32,980	-36%	7,000	40,000	21%	40,000
Otay Mesa Rd	East of Britannia Blvd	11,859	9,900	18,300	200	7,600	19,500	29,510	-34%	7,000	36,500	24%	36,500
Britannia Blvd	Otay Mesa Rd to SR-905 WB Ramps	12,323	10,300	10,500	4	148	12,500	33,550	-63%	136	33,700	0.4%	33,700
Britannia Blvd	SR-905 WB Ramps to SR-905 EB Ramps	21,031	12,900	18,100	200	7,600	28,600	51,380	-44%	7,000	58,400	14%	58,400
Britannia Blvd	SR-905 EB-Ramps to Airway Rd	30,204	16,000	24,700	300	11,400	41,600	69,700	-40%	10,500	80,200	15%	80,200
Britannia Blvd	South of Airway Rd	18,333	8,000	16,100	200	7,600	25,900	46,170	-44%	7,000	53,200	15%	53,200
Airway Rd	Cactus Rd to Park Wy	3,735	2,900	3,900	27	1,042	4,800	19,680	-76%	959	20,600	5%	20,600
Airway Rd	Park Wy to Continental St	3,735	2,900	3,900	27	1,042	4,800	19,680	-76%	959	20,600	5%	20,600
Airway Rd	Continental St to Britannia Blvd	4,403	2,900	7,400	100	3,800	8,200	23,260	-65%	3,500	26,800	15%	26,800
Airway Rd	Britannia Blvd to 50' west of La Media Rd	8,075	6,100	11,800	200	7,600	15,700	16,310	-4%	7,000	23,300	43%	23,300
Cactus Rd	Street D to Airway Rd	342	0	2,400	100	3,800	4,100	2,620	56%	3,500	6,100	133%	6,100
Cactus Rd	South of Airway Rd	3,402	2,900	6,800	100	3,800	7,200	10,890	-34%	3,500	14,400	32%	14,400
Continental St	Street D/Colchester Ct to Airway Rd*	468	N/A	N/A	N/A	N/A	N/A	3,220	N/A	160	3,380	5%	3,400

Appendix Q - LOS Calculation Worksheets – Horizon Year 2062 Conditions



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	1150	100	190	850	120	90	30	110	70	20	110
Future Volume (vph)	150	1150	100	190	850	120	90	30	110	70	20	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1641	4649		1641	4614		1641	1727	1449	1641	1727	1468
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1641	4649		1641	4614		1641	1727	1449	1641	1727	1468
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	158	1211	105	200	895	126	95	32	116	74	21	116
RTOR Reduction (vph)	0	7	0	0	11	0	0	0	91	0	0	95
Lane Group Flow (vph)	158	1309	0	200	1010	0	95	32	25	74	21	21
Confl. Peds. (#/hr)			3			2			2			
Confl. Bikes (#/hr)			1			1						
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	16.0	36.6		18.4	39.0		11.7	22.8	22.8	7.5	18.6	18.6
Effective Green, g (s)	16.0	36.6		18.4	39.0		11.7	22.8	22.8	7.5	18.6	18.6
Actuated g/C Ratio	0.15	0.35		0.18	0.37		0.11	0.22	0.22	0.07	0.18	0.18
Clearance Time (s)	4.4	6.0		4.4	6.0		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.4		2.0	4.2		2.0	3.2	3.2	2.0	2.0	2.0
Lane Grp Cap (vph)	250	1620		287	1713		182	375	314	117	305	260
v/s Ratio Prot	0.10	c0.28		c0.12	0.22		c0.06	c0.02		0.05	0.01	
v/s Ratio Perm									0.02			0.01
v/c Ratio	0.63	0.81		0.70	0.59		0.52	0.09	0.08	0.63	0.07	0.08
Uniform Delay, d1	41.7	31.0		40.7	26.6		44.0	32.8	32.7	47.4	36.0	36.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.8	3.4		5.8	0.7		1.2	0.1	0.1	7.9	0.0	0.0
Delay (s)	45.5	34.4		46.5	27.2		45.3	32.9	32.9	55.3	36.0	36.1
Level of Service	D	C		D	C		D	C	C	E	D	D
Approach Delay (s)		35.6			30.4			37.7			42.8	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	34.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	61.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1210	40	50	1140	20	30
Future Volume (vph)	1210	40	50	1140	20	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0		5.4	7.0	5.9	5.9
Lane Util. Factor	0.91		1.00	0.91	0.97	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	4693		1641	4715	3183	1468
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	4693		1641	4715	3183	1468
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1274	42	53	1200	21	32
RTOR Reduction (vph)	1	0	0	0	0	30
Lane Group Flow (vph)	1315	0	53	1200	21	2
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Actuated Green, G (s)	37.7		4.4	47.5	3.2	3.2
Effective Green, g (s)	37.7		4.4	47.5	3.2	3.2
Actuated g/C Ratio	0.59		0.07	0.75	0.05	0.05
Clearance Time (s)	7.0		5.4	7.0	5.9	5.9
Vehicle Extension (s)	4.5		2.0	4.5	2.0	2.0
Lane Grp Cap (vph)	2781		113	3521	160	73
v/s Ratio Prot	c0.28		0.03	c0.25	c0.01	
v/s Ratio Perm						0.00
v/c Ratio	0.47		0.47	0.34	0.13	0.02
Uniform Delay, d1	7.3		28.5	2.7	28.9	28.7
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2		1.1	0.1	0.1	0.0
Delay (s)	7.5		29.6	2.8	29.0	28.8
Level of Service	A		C	A	C	C
Approach Delay (s)	7.5			4.0	28.9	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	6.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	63.6	Sum of lost time (s)	18.3
Intersection Capacity Utilization	46.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	750	490	410	480	710	580
Future Volume (vph)	750	490	410	480	710	580
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.3	4.4	6.0	5.3	5.3
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	4715	1457	1641	4715	3183	1446
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	4715	1457	1641	4715	3183	1446
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	789	516	432	505	747	611
RTOR Reduction (vph)	0	31	0	0	0	300
Lane Group Flow (vph)	789	485	432	505	747	311
Confl. Peds. (#/hr)		5				4
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Actuated Green, G (s)	26.1	54.9	30.6	61.1	28.8	28.8
Effective Green, g (s)	26.1	54.9	30.6	61.1	28.8	28.8
Actuated g/C Ratio	0.26	0.54	0.30	0.60	0.28	0.28
Clearance Time (s)	6.0	5.3	4.4	6.0	5.3	5.3
Vehicle Extension (s)	4.4	2.0	2.0	4.3	2.0	2.0
Lane Grp Cap (vph)	1216	790	496	2846	905	411
v/s Ratio Prot	c0.17	0.17	c0.26	0.11	c0.23	
v/s Ratio Perm		0.16				0.22
v/c Ratio	0.65	0.61	0.87	0.18	0.83	0.76
Uniform Delay, d1	33.5	15.9	33.4	8.9	33.8	33.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	1.0	14.9	0.0	5.9	6.9
Delay (s)	34.9	16.9	48.4	8.9	39.8	40.0
Level of Service	C	B	D	A	D	D
Approach Delay (s)	27.8			27.1	39.8	
Approach LOS	C			C	D	

Intersection Summary			
HCM 2000 Control Delay	32.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	101.2	Sum of lost time (s)	15.7
Intersection Capacity Utilization	75.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	340	10	160	990	1130	0	0	790	110
Future Volume (vph)	0	0	0	340	10	160	990	1130	0	0	790	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1795	1795	1630	1630	1630
Total Lost time (s)				5.1	5.1	5.1	4.7	5.1			5.1	
Lane Util. Factor				1.00	0.95	0.95	0.97	0.91			0.91	
Frpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Frt				1.00	0.87	0.85	1.00	1.00			0.98	
Flt Protected				0.95	1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1641	1425	1395	3183	4455			3965	
Flt Permitted				0.95	1.00	1.00	0.95	1.00			1.00	
Satd. Flow (perm)				1641	1425	1395	3183	4455			3965	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	358	11	168	1042	1189	0	0	832	116
RTOR Reduction (vph)	0	0	0	0	60	67	0	0	0	0	14	0
Lane Group Flow (vph)	0	0	0	358	30	22	1042	1189	0	0	934	0
Confl. Peds. (#/hr)									6			1
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8		8						
Actuated Green, G (s)				28.1	28.1	28.1	42.7	77.6			30.2	
Effective Green, g (s)				28.1	28.1	28.1	42.7	77.6			30.2	
Actuated g/C Ratio				0.24	0.24	0.24	0.37	0.67			0.26	
Clearance Time (s)				5.1	5.1	5.1	4.7	5.1			5.1	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				397	345	338	1172	2982			1033	
v/s Ratio Prot					0.02		c0.33	0.27			c0.24	
v/s Ratio Perm				c0.22		0.02						
v/c Ratio				0.90	0.09	0.06	0.89	0.40			0.90	
Uniform Delay, d1				42.6	34.0	33.8	34.4	8.6			41.4	
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2				23.0	0.1	0.1	8.5	0.1			11.0	
Delay (s)				65.6	34.1	33.9	42.9	8.7			52.4	
Level of Service				E	C	C	D	A			D	
Approach Delay (s)		0.0			55.0			24.7			52.4	
Approach LOS		A			E			C			D	

Intersection Summary			
HCM 2000 Control Delay	36.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	115.9	Sum of lost time (s)	14.9
Intersection Capacity Utilization	103.8%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	320	60	1340	0	0	0	0	1800	330	110	1020	0
Future Volume (vph)	320	60	1340	0	0	0	0	1800	330	110	1020	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1728	1728	1900	1781	1781
Total Lost time (s)		5.1	5.1					5.1		4.7	5.1	
Lane Util. Factor		1.00	0.88					0.95		0.97	0.91	
Frpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Frt		1.00	0.85					0.98		1.00	1.00	
Flt Protected		0.96	1.00					1.00		0.95	1.00	
Satd. Flow (prot)		1657	2584					2908		3183	4420	
Flt Permitted		0.96	1.00					1.00		0.95	1.00	
Satd. Flow (perm)		1657	2584					2908		3183	4420	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	337	63	1411	0	0	0	0	1895	347	116	1074	0
RTOR Reduction (vph)	0	0	128	0	0	0	0	10	0	0	0	0
Lane Group Flow (vph)	0	400	1283	0	0	0	0	2232	0	116	1074	0
Confl. Peds. (#/hr)									2			
Confl. Bikes (#/hr)												2
Turn Type	Perm	NA	Perm					NA		Prot	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4									
Actuated Green, G (s)		47.9	47.9					81.9		5.3	91.9	
Effective Green, g (s)		47.9	47.9					81.9		5.3	91.9	
Actuated g/C Ratio		0.32	0.32					0.55		0.04	0.61	
Clearance Time (s)		5.1	5.1					5.1		4.7	5.1	
Vehicle Extension (s)		3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)		529	825					1587		112	2707	
v/s Ratio Prot								c0.77		c0.04	0.24	
v/s Ratio Perm		0.24	c0.50									
v/c Ratio		0.76	1.56					1.41		1.04	0.40	
Uniform Delay, d1		45.8	51.0					34.0		72.3	14.9	
Progression Factor		1.00	1.00					1.00		1.00	1.00	
Incremental Delay, d2		6.1	255.8					186.7		95.0	0.1	
Delay (s)		51.9	306.9					220.8		167.3	15.0	
Level of Service		D	F					F		F	B	
Approach Delay (s)		250.5			0.0			220.8			29.8	
Approach LOS		F			A			F			C	

Intersection Summary			
HCM 2000 Control Delay	187.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.44		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.9
Intersection Capacity Utilization	103.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	850	340	60	110	130	310	40	970	130	620	1220	510
Future Volume (vph)	850	340	60	110	130	310	40	970	130	620	1220	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.2	5.2	4.4	4.9		4.4	5.1	5.1
Lane Util. Factor	0.95	0.95			1.00	1.00	1.00	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99			1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	0.98			0.98	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1559	1589			1689	1468	1641	3224		1641	1727	1450
Flt Permitted	0.95	0.98			0.98	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1559	1589			1689	1468	1641	3224		1641	1727	1450
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	895	358	63	116	137	326	42	1021	137	653	1284	537
RTOR Reduction (vph)	0	2	0	0	0	227	0	6	0	0	0	106
Lane Group Flow (vph)	653	661	0	0	253	99	42	1152	0	653	1284	431
Confl. Peds. (#/hr)												1
Turn Type	Split	NA		Split	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8						6
Actuated Green, G (s)	28.7	28.7			26.5	26.5	4.0	40.0		27.6	63.4	63.4
Effective Green, g (s)	28.7	28.7			26.5	26.5	4.0	40.0		27.6	63.4	63.4
Actuated g/C Ratio	0.20	0.20			0.19	0.19	0.03	0.28		0.19	0.44	0.44
Clearance Time (s)	5.3	5.3			5.2	5.2	4.4	4.9		4.4	5.1	5.1
Vehicle Extension (s)	2.0	2.0			3.7	3.7	2.0	3.8		2.0	3.8	3.8
Lane Grp Cap (vph)	313	319			313	272	46	904		317	767	644
v/s Ratio Prot	c0.42	0.42			c0.15		0.03	0.36		c0.40	c0.74	
v/s Ratio Perm						0.07						0.30
v/c Ratio	2.09	2.07			0.81	0.36	0.91	1.27		2.06	1.67	0.67
Uniform Delay, d1	56.9	56.9			55.6	50.7	69.1	51.3		57.5	39.6	31.3
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	499.6	492.6			14.7	1.0	98.1	131.9		487.8	309.0	2.8
Delay (s)	556.6	549.5			70.3	51.7	167.3	183.2		545.3	348.6	34.2
Level of Service	F	F			E	D	F	F		F	F	C
Approach Delay (s)		553.0			59.8			182.6			332.3	
Approach LOS		F			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	323.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.70		
Actuated Cycle Length (s)	142.6	Sum of lost time (s)	20.0
Intersection Capacity Utilization	131.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	990	550	70	200	10
Future Volume (Veh/h)	10	990	550	70	200	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	11	1042	579	74	211	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			1251			
pX, platoon unblocked						
vC, conflicting volume	653				1643	579
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	653				1643	579
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				0	98
cM capacity (veh/h)	934				108	515

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total	1053	579	74	222
Volume Left	11	0	0	211
Volume Right	0	0	74	11
cSH	934	1700	1700	113
Volume to Capacity	0.01	0.34	0.04	1.97
Queue Length 95th (ft)	1	0	0	455
Control Delay (s)	0.4	0.0	0.0	529.1
Lane LOS	A			F
Approach Delay (s)	0.4	0.0		529.1
Approach LOS				F

Intersection Summary			
Average Delay	61.1		
Intersection Capacity Utilization	78.4%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	20	340	50	300	170	90	30	60	540	170	20	20
Future Volume (vph)	20	340	50	300	170	90	30	60	540	170	20	20
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	21	358	53	316	179	95	32	63	568	179	21	21

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	432	590	663	221
Volume Left (vph)	21	316	32	179
Volume Right (vph)	53	95	568	21
Hadj (s)	-0.03	0.04	-0.47	0.14
Departure Headway (s)	8.5	8.6	8.1	9.7
Degree Utilization, x	1.02	1.40	1.48	0.60
Capacity (veh/h)	418	431	450	362
Control Delay (s)	78.4	219.4	250.9	26.0
Approach Delay (s)	78.4	219.4	250.9	26.0
Approach LOS	F	F	F	D

Intersection Summary			
Delay	176.0		
Level of Service	F		
Intersection Capacity Utilization	116.2%	ICU Level of Service	H
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	220	130	30	140	230	60	175	30	670	440	130
Future Volume (vph)	120	220	130	30	140	230	60	175	30	670	440	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.88	0.97	0.95	1.00	0.97	0.91	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3183	3282	1468	3183	3282	2584	3183	3282	1468	3183	4715	2584
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3183	3282	1468	3183	3282	2584	3183	3282	1468	3183	4715	2584
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	126	232	137	32	147	242	63	184	32	705	463	137
RTOR Reduction (vph)	0	0	116	0	0	218	0	0	18	0	0	49
Lane Group Flow (vph)	126	232	21	32	147	24	63	184	14	705	463	88
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	10.4	19.9	19.9	3.4	12.9	12.9	6.6	55.0	55.0	34.1	82.5	82.5
Effective Green, g (s)	10.4	19.9	19.9	3.4	12.9	12.9	6.6	55.0	55.0	34.1	82.5	82.5
Actuated g/C Ratio	0.08	0.15	0.15	0.03	0.10	0.10	0.05	0.43	0.43	0.27	0.64	0.64
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	257	508	227	84	329	259	163	1405	628	845	3029	1660
v/s Ratio Prot	c0.04	c0.07		0.01	0.04		0.02	0.06		c0.22	c0.10	
v/s Ratio Perm			0.01			0.01			0.01			0.03
v/c Ratio	0.49	0.46	0.09	0.38	0.45	0.09	0.39	0.13	0.02	0.83	0.15	0.05
Uniform Delay, d1	56.5	49.3	46.5	61.5	54.4	52.4	58.9	22.2	21.2	44.5	9.1	8.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	0.7	0.2	2.9	1.0	0.2	1.5	0.2	0.1	7.1	0.1	0.1
Delay (s)	57.9	50.0	46.7	64.3	55.4	52.6	60.5	22.4	21.2	51.6	9.2	8.6
Level of Service	E	D	D	E	E	D	E	C	C	D	A	A
Approach Delay (s)		51.1			54.5			30.9			32.0	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	39.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	128.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	46.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	10	10	10	20	10	10
Future Volume (vph)	10	10	10	20	10	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	11	11	11	21	11	11

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	22	32	22
Volume Left (vph)	11	0	11
Volume Right (vph)	11	21	0
Hadj (s)	-0.17	-0.36	0.13
Departure Headway (s)	3.8	3.6	4.1
Degree Utilization, x	0.02	0.03	0.03
Capacity (veh/h)	918	987	866
Control Delay (s)	6.9	6.7	7.2
Approach Delay (s)	6.9	6.7	7.2
Approach LOS	A	A	A

Intersection Summary			
Delay		6.9	
Level of Service		A	
Intersection Capacity Utilization		17.7%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	160	1260	160	170	1290	90	90	30	170	100	30	130
Future Volume (vph)	160	1260	160	170	1290	90	90	30	170	100	30	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1641	4624		1641	4661		1641	1727	1446	1641	1727	1468
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1641	4624		1641	4661		1641	1727	1446	1641	1727	1468
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	168	1326	168	179	1358	95	95	32	179	105	32	137
RTOR Reduction (vph)	0	10	0	0	5	0	0	0	147	0	0	113
Lane Group Flow (vph)	168	1484	0	179	1448	0	95	32	32	105	32	24
Confl. Peds. (#/hr)			2			3			3			
Confl. Bikes (#/hr)									1			
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	16.1	41.2		17.1	42.2		11.5	19.3	19.3	11.5	19.3	19.3
Effective Green, g (s)	16.1	41.2		17.1	42.2		11.5	19.3	19.3	11.5	19.3	19.3
Actuated g/C Ratio	0.15	0.38		0.16	0.39		0.11	0.18	0.18	0.11	0.18	0.18
Clearance Time (s)	4.4	6.0		4.4	6.0		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.4		2.0	4.2		2.0	3.2	3.2	2.0	2.0	2.0
Lane Grp Cap (vph)	242	1751		257	1807		173	306	256	173	306	260
v/s Ratio Prot	0.10	c0.32		c0.11	0.31		0.06	0.02		c0.06	0.02	
v/s Ratio Perm									c0.02			0.02
v/c Ratio	0.69	0.85		0.70	0.80		0.55	0.10	0.12	0.61	0.10	0.09
Uniform Delay, d1	44.0	30.9		43.4	29.6		46.2	37.5	37.6	46.5	37.5	37.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.8	4.3		6.5	2.9		1.9	0.2	0.2	4.1	0.1	0.1
Delay (s)	50.8	35.2		49.9	32.4		48.1	37.7	37.9	50.6	37.6	37.5
Level of Service	D	D		D	C		D	D	D	D	D	D
Approach Delay (s)		36.8			34.4			41.0			42.5	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	36.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	108.8	Sum of lost time (s)	19.7
Intersection Capacity Utilization	64.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1480	50	90	1520	30	40
Future Volume (vph)	1480	50	90	1520	30	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0		5.4	7.0	5.9	5.9
Lane Util. Factor	0.91		1.00	0.91	0.97	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	4692		1641	4715	3183	1468
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	4692		1641	4715	3183	1468
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1558	53	95	1600	32	42
RTOR Reduction (vph)	2	0	0	0	0	39
Lane Group Flow (vph)	1609	0	95	1600	32	3
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Actuated Green, G (s)	32.1		7.7	45.2	4.3	4.3
Effective Green, g (s)	32.1		7.7	45.2	4.3	4.3
Actuated g/C Ratio	0.51		0.12	0.72	0.07	0.07
Clearance Time (s)	7.0		5.4	7.0	5.9	5.9
Vehicle Extension (s)	4.5		2.0	4.5	2.0	2.0
Lane Grp Cap (vph)	2413		202	3415	219	101
v/s Ratio Prot	c0.34		0.06	c0.34	c0.01	
v/s Ratio Perm						0.00
v/c Ratio	0.67		0.47	0.47	0.15	0.03
Uniform Delay, d1	11.2		25.5	3.6	27.3	27.1
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8		0.6	0.2	0.1	0.0
Delay (s)	12.0		26.1	3.8	27.4	27.1
Level of Service	B		C	A	C	C
Approach Delay (s)	12.0			5.0	27.3	
Approach LOS	B			A	C	

Intersection Summary			
HCM 2000 Control Delay	8.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	62.4	Sum of lost time (s)	18.3
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	710	810	610	990	620	450
Future Volume (vph)	710	810	610	990	620	450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.3	4.4	6.0	5.3	5.3
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	4715	1459	1641	4715	3183	1431
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	4715	1459	1641	4715	3183	1431
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	747	853	642	1042	653	474
RTOR Reduction (vph)	0	33	0	0	0	328
Lane Group Flow (vph)	747	820	642	1042	653	146
Confl. Peds. (#/hr)		2				14
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Actuated Green, G (s)	30.8	72.0	45.8	81.0	41.2	41.2
Effective Green, g (s)	30.8	72.0	45.8	81.0	41.2	41.2
Actuated g/C Ratio	0.23	0.54	0.34	0.61	0.31	0.31
Clearance Time (s)	6.0	5.3	4.4	6.0	5.3	5.3
Vehicle Extension (s)	4.4	2.0	2.0	4.3	2.0	2.0
Lane Grp Cap (vph)	1087	786	562	2860	982	441
v/s Ratio Prot	0.16	c0.32	c0.39	0.22	0.21	
v/s Ratio Perm		0.24				0.10
v/c Ratio	0.69	1.04	1.14	0.36	0.66	0.33
Uniform Delay, d1	46.9	30.8	43.9	13.3	40.1	35.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.1	43.9	83.7	0.1	1.3	0.2
Delay (s)	49.1	74.6	127.6	13.4	41.5	35.7
Level of Service	D	E	F	B	D	D
Approach Delay (s)	62.7			56.9	39.0	
Approach LOS	E			E	D	

Intersection Summary			
HCM 2000 Control Delay	54.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	133.5	Sum of lost time (s)	15.7
Intersection Capacity Utilization	92.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	290	10	150	1370	920	0	0	1140	280
Future Volume (vph)	0	0	0	290	10	150	1370	920	0	0	1140	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1795	1795	1630	1630	1630
Total Lost time (s)				5.1	5.1	5.1	4.7	5.1			5.1	
Lane Util. Factor				1.00	0.95	0.95	0.97	0.91			0.91	
Frpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Frt				1.00	0.87	0.85	1.00	1.00			0.97	
Flt Protected				0.95	1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1641	1427	1395	3183	4455			3915	
Flt Permitted				0.95	1.00	1.00	0.95	1.00			1.00	
Satd. Flow (perm)				1641	1427	1395	3183	4455			3915	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	305	11	158	1442	968	0	0	1200	295
RTOR Reduction (vph)	0	0	0	0	62	70	0	0	0	0	30	0
Lane Group Flow (vph)	0	0	0	305	23	14	1442	968	0	0	1465	0
Confl. Peds. (#/hr)									4			1
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8		8						
Actuated Green, G (s)				22.9	22.9	22.9	54.3	106.9			47.9	
Effective Green, g (s)				22.9	22.9	22.9	54.3	106.9			47.9	
Actuated g/C Ratio				0.16	0.16	0.16	0.39	0.76			0.34	
Clearance Time (s)				5.1	5.1	5.1	4.7	5.1			5.1	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				268	233	228	1234	3401			1339	
v/s Ratio Prot					0.02		c0.45	0.22			c0.37	
v/s Ratio Perm				c0.19		0.01						
v/c Ratio				1.14	0.10	0.06	1.17	0.28			1.09	
Uniform Delay, d1				58.5	49.8	49.5	42.9	5.0			46.0	
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2				97.4	0.2	0.1	84.9	0.0			54.4	
Delay (s)				156.0	50.0	49.6	127.7	5.0			100.5	
Level of Service				F	D	D	F	A			F	
Approach Delay (s)		0.0			118.1			78.5			100.5	
Approach LOS		A			F			E			F	

Intersection Summary			
HCM 2000 Control Delay	90.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	14.9
Intersection Capacity Utilization	109.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	10	1210	0	0	0	0	2140	490	210	1220	0
Future Volume (vph)	150	10	1210	0	0	0	0	2140	490	210	1220	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1728	1728	1900	1781	1781
Total Lost time (s)		5.1	5.1					5.1		4.7	5.1	
Lane Util. Factor		1.00	0.88					0.95		0.97	0.91	
Frpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Frt		1.00	0.85					0.97		1.00	1.00	
Flt Protected		0.96	1.00					1.00		0.95	1.00	
Satd. Flow (prot)		1650	2584					2891		3183	4420	
Flt Permitted		0.96	1.00					1.00		0.95	1.00	
Satd. Flow (perm)		1650	2584					2891		3183	4420	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	158	11	1274	0	0	0	0	2253	516	221	1284	0
RTOR Reduction (vph)	0	0	120	0	0	0	0	13	0	0	0	0
Lane Group Flow (vph)	0	169	1154	0	0	0	0	2756	0	221	1284	0
Confl. Peds. (#/hr)									4			2
Confl. Bikes (#/hr)												2
Turn Type	Perm	NA	Perm					NA		Prot	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4									
Actuated Green, G (s)		36.9	36.9					90.9		7.3	102.9	
Effective Green, g (s)		36.9	36.9					90.9		7.3	102.9	
Actuated g/C Ratio		0.25	0.25					0.61		0.05	0.69	
Clearance Time (s)		5.1	5.1					5.1		4.7	5.1	
Vehicle Extension (s)		3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)		405	635					1751		154	3032	
v/s Ratio Prot								c0.95		c0.07	0.29	
v/s Ratio Perm		0.10	c0.45									
v/c Ratio		0.42	1.82					1.57		1.44	0.42	
Uniform Delay, d1		47.5	56.6					29.5		71.3	10.4	
Progression Factor		1.00	1.00					1.00		1.00	1.00	
Incremental Delay, d2		0.7	374.1					261.1		228.8	0.1	
Delay (s)		48.2	430.6					290.6		300.1	10.5	
Level of Service		D	F					F		F	B	
Approach Delay (s)		385.8			0.0			290.6			53.0	
Approach LOS		F			A			F			D	

Intersection Summary			
HCM 2000 Control Delay	252.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.63		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.9
Intersection Capacity Utilization	109.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	730	220	60	160	350	590	90	1310	150	370	1110	950
Future Volume (vph)	730	220	60	160	350	590	90	1310	150	370	1110	950
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.2	5.2	4.4	4.9		4.4	5.1	5.1
Lane Util. Factor	0.95	0.95			1.00	1.00	1.00	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98			1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	0.98			0.98	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1559	1572			1701	1468	1641	3226		1641	1727	1449
Flt Permitted	0.95	0.98			0.98	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1559	1572			1701	1468	1641	3226		1641	1727	1449
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	768	232	63	168	368	621	95	1379	158	389	1168	1000
RTOR Reduction (vph)	0	3	0	0	0	133	0	5	0	0	0	226
Lane Group Flow (vph)	530	530	0	0	536	488	95	1532	0	389	1168	774
Confl. Peds. (#/hr)			1						3			1
Turn Type	Split	NA		Split	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8						6
Actuated Green, G (s)	25.7	25.7			38.8	38.8	6.6	47.1		18.6	58.9	58.9
Effective Green, g (s)	25.7	25.7			38.8	38.8	6.6	47.1		18.6	58.9	58.9
Actuated g/C Ratio	0.17	0.17			0.26	0.26	0.04	0.31		0.12	0.39	0.39
Clearance Time (s)	5.3	5.3			5.2	5.2	4.4	4.9		4.4	5.1	5.1
Vehicle Extension (s)	2.0	2.0			3.7	3.7	2.0	3.8		2.0	3.8	3.8
Lane Grp Cap (vph)	267	269			439	379	72	1012		203	678	568
v/s Ratio Prot	c0.34	0.34			0.32		0.06	0.47		c0.24	c0.68	
v/s Ratio Perm						c0.33						0.53
v/c Ratio	1.99	1.97			1.22	1.29	1.32	1.51		1.92	1.72	1.36
Uniform Delay, d1	62.1	62.1			55.6	55.6	71.7	51.5		65.7	45.5	45.5
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	456.5	449.3			118.4	147.5	213.3	236.1		430.1	331.4	174.4
Delay (s)	518.6	511.4			174.0	203.1	285.0	287.6		495.8	377.0	220.0
Level of Service	F	F			F	F	F	F		F	F	F
Approach Delay (s)		515.0			189.7			287.4			333.6	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	326.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.70		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	135.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	900	1190	200	110	10
Future Volume (Veh/h)	10	900	1190	200	110	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	11	947	1253	211	116	11
Pedestrians					1	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			1251			
pX, platoon unblocked	0.82				0.82	0.82
vC, conflicting volume	1465				2223	1254
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1457				2384	1199
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				0	94
cM capacity (veh/h)	379				30	184

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total	958	1253	211	127
Volume Left	11	0	0	116
Volume Right	0	0	211	11
cSH	379	1700	1700	32
Volume to Capacity	0.03	0.74	0.12	3.95
Queue Length 95th (ft)	2	0	0	Err
Control Delay (s)	1.1	0.0	0.0	Err
Lane LOS	A			F
Approach Delay (s)	1.1	0.0		Err
Approach LOS				F

Intersection Summary			
Average Delay	498.6		
Intersection Capacity Utilization	76.0%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	20	240	40	600	400	200	60	30	490	180	60	20
Future Volume (vph)	20	240	40	600	400	200	60	30	490	180	60	20
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	21	253	42	632	421	211	63	32	516	189	63	21

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	316	1264	611	273
Volume Left (vph)	21	632	63	189
Volume Right (vph)	42	211	516	21
Hadj (s)	-0.03	0.03	-0.45	0.13
Departure Headway (s)	8.7	8.3	7.8	9.1
Degree Utilization, x	0.77	2.91	1.33	0.69
Capacity (veh/h)	398	446	471	384
Control Delay (s)	35.1	884.7	184.3	29.9
Approach Delay (s)	35.1	884.7	184.3	29.9
Approach LOS	E	F	F	D

Intersection Summary			
Delay	507.3		
Level of Service	F		
Intersection Capacity Utilization	145.4%	ICU Level of Service	H
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	270	120	40	260	600	90	360	20	440	450	170
Future Volume (vph)	190	270	120	40	260	600	90	360	20	440	450	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.88	0.97	0.95	1.00	0.97	0.91	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3183	3282	1468	3183	3282	2584	3183	3282	1468	3183	4715	2584
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3183	3282	1468	3183	3282	2584	3183	3282	1468	3183	4715	2584
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	200	284	126	42	274	632	95	379	21	463	474	179
RTOR Reduction (vph)	0	0	98	0	0	529	0	0	12	0	0	84
Lane Group Flow (vph)	200	284	28	42	274	103	95	379	9	463	474	95
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	13.0	27.4	27.4	5.7	20.1	20.1	8.7	51.2	51.2	22.9	65.4	65.4
Effective Green, g (s)	13.0	27.4	27.4	5.7	20.1	20.1	8.7	51.2	51.2	22.9	65.4	65.4
Actuated g/C Ratio	0.11	0.22	0.22	0.05	0.16	0.16	0.07	0.42	0.42	0.19	0.53	0.53
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	335	729	326	147	535	421	224	1363	610	591	2502	1371
v/s Ratio Prot	c0.06	0.09		0.01	c0.08		0.03	c0.12		c0.15	0.10	
v/s Ratio Perm			0.02			0.04			0.01			0.04
v/c Ratio	0.60	0.39	0.09	0.29	0.51	0.24	0.42	0.28	0.01	0.78	0.19	0.07
Uniform Delay, d1	52.6	40.8	38.0	56.8	47.1	44.9	54.8	23.8	21.2	47.8	15.1	14.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.9	0.3	0.1	1.1	0.8	0.3	1.3	0.5	0.0	6.7	0.2	0.1
Delay (s)	55.5	41.1	38.1	57.9	47.9	45.2	56.1	24.3	21.2	54.5	15.2	14.2
Level of Service	E	D	D	E	D	D	E	C	C	D	B	B
Approach Delay (s)		45.2			46.6			30.3			31.4	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	38.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	123.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	48.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	10	0	0	20	0	0
Future Volume (vph)	10	0	0	20	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	11	0	0	21	0	0

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	11	21	0
Volume Left (vph)	11	0	0
Volume Right (vph)	0	21	0
Hadj (s)	0.23	-0.57	0.00
Departure Headway (s)	4.2	3.4	3.9
Degree Utilization, x	0.01	0.02	0.00
Capacity (veh/h)	852	1064	900
Control Delay (s)	7.2	6.4	6.9
Approach Delay (s)	7.2	6.4	0.0
Approach LOS	A	A	A

Intersection Summary			
Delay	6.7		
Level of Service	A		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Appendix R - LOS Calculation Worksheets – Horizon Year 2062 with Project Conditions



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	1162	100	210	896	134	90	30	115	74	20	110
Future Volume (vph)	150	1162	100	210	896	134	90	30	115	74	20	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1641	4650		1641	4609		1641	1727	1449	1641	1727	1468
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1641	4650		1641	4609		1641	1727	1449	1641	1727	1468
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	158	1223	105	221	943	141	95	32	121	78	21	116
RTOR Reduction (vph)	0	7	0	0	12	0	0	0	97	0	0	95
Lane Group Flow (vph)	158	1321	0	221	1072	0	95	32	24	78	21	21
Confl. Peds. (#/hr)			3			2			2			
Confl. Bikes (#/hr)			1			1						
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	15.0	34.7		19.0	38.7		10.2	20.7	20.7	8.2	18.7	18.7
Effective Green, g (s)	15.0	34.7		19.0	38.7		10.2	20.7	20.7	8.2	18.7	18.7
Actuated g/C Ratio	0.15	0.34		0.19	0.38		0.10	0.20	0.20	0.08	0.18	0.18
Clearance Time (s)	4.4	6.0		4.4	6.0		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.4		2.0	4.2		2.0	3.2	3.2	2.0	2.0	2.0
Lane Grp Cap (vph)	240	1577		304	1743		163	349	293	131	315	268
v/s Ratio Prot	0.10	c0.28		c0.13	c0.23		c0.06	c0.02		0.05	0.01	
v/s Ratio Perm									0.02			0.01
v/c Ratio	0.66	0.84		0.73	0.61		0.58	0.09	0.08	0.60	0.07	0.08
Uniform Delay, d1	41.2	31.2		39.2	25.8		44.0	33.2	33.1	45.4	34.6	34.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.9	4.4		7.2	0.8		3.4	0.1	0.1	4.8	0.0	0.0
Delay (s)	46.1	35.6		46.4	26.5		47.4	33.3	33.2	50.2	34.6	34.7
Level of Service	D	D		D	C		D	C	C	D	C	C
Approach Delay (s)		36.7			29.9			38.7			40.3	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	34.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	102.3	Sum of lost time (s)	19.7
Intersection Capacity Utilization	62.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1231	40	50	1220	20	30
Future Volume (vph)	1231	40	50	1220	20	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0		5.4	7.0	5.9	5.9
Lane Util. Factor	0.91		1.00	0.91	0.97	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	4693		1641	4715	3183	1468
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	4693		1641	4715	3183	1468
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1296	42	53	1284	21	32
RTOR Reduction (vph)	2	0	0	0	0	30
Lane Group Flow (vph)	1336	0	53	1284	21	2
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Actuated Green, G (s)	27.7		5.6	38.7	3.0	3.0
Effective Green, g (s)	27.7		5.6	38.7	3.0	3.0
Actuated g/C Ratio	0.51		0.10	0.71	0.05	0.05
Clearance Time (s)	7.0		5.4	7.0	5.9	5.9
Vehicle Extension (s)	4.5		2.0	4.5	2.0	2.0
Lane Grp Cap (vph)	2380		168	3341	174	80
v/s Ratio Prot	c0.28		0.03	c0.27	c0.01	
v/s Ratio Perm						0.00
v/c Ratio	0.56		0.32	0.38	0.12	0.02
Uniform Delay, d1	9.3		22.7	3.2	24.5	24.4
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4		0.4	0.1	0.1	0.0
Delay (s)	9.7		23.1	3.3	24.7	24.5
Level of Service	A		C	A	C	C
Approach Delay (s)	9.7			4.1	24.5	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	7.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	54.6	Sum of lost time (s)	18.3
Intersection Capacity Utilization	46.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	750	511	424	480	790	634
Future Volume (vph)	750	511	424	480	790	634
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.3	4.4	6.0	5.3	5.3
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	4715	1459	1641	4715	3183	1446
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	4715	1459	1641	4715	3183	1446
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.88
Adj. Flow (vph)	789	538	446	505	832	720
RTOR Reduction (vph)	0	25	0	0	0	271
Lane Group Flow (vph)	789	513	446	505	832	449
Confl. Peds. (#/hr)		5				4
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Actuated Green, G (s)	26.6	66.4	30.2	61.2	39.8	39.8
Effective Green, g (s)	26.6	66.4	30.2	61.2	39.8	39.8
Actuated g/C Ratio	0.24	0.59	0.27	0.54	0.35	0.35
Clearance Time (s)	6.0	5.3	4.4	6.0	5.3	5.3
Vehicle Extension (s)	4.4	2.0	2.0	4.3	2.0	2.0
Lane Grp Cap (vph)	1116	862	441	2569	1128	512
v/s Ratio Prot	c0.17	0.21	c0.27	0.11	0.26	
v/s Ratio Perm		0.14				c0.31
v/c Ratio	0.71	0.60	1.01	0.20	0.74	0.88
Uniform Delay, d1	39.3	14.5	41.0	13.0	31.7	34.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.3	0.7	45.7	0.1	2.2	15.2
Delay (s)	41.6	15.2	86.8	13.1	33.9	49.1
Level of Service	D	B	F	B	C	D
Approach Delay (s)	30.9			47.6	41.0	
Approach LOS	C			D	D	

Intersection Summary			
HCM 2000 Control Delay	39.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	112.3	Sum of lost time (s)	15.7
Intersection Capacity Utilization	78.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	354	10	160	1116	1264	0	0	825	110
Future Volume (vph)	0	0	0	354	10	160	1116	1264	0	0	825	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1795	1795	1630	1630	1630
Total Lost time (s)				5.1	5.1	5.1	4.7	5.1			5.1	
Lane Util. Factor				1.00	0.95	0.95	0.97	0.91			0.91	
Frpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Frt				1.00	0.87	0.85	1.00	1.00			0.98	
Flt Protected				0.95	1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1641	1425	1395	3183	4455			3968	
Flt Permitted				0.95	1.00	1.00	0.95	1.00			1.00	
Satd. Flow (perm)				1641	1425	1395	3183	4455			3968	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	373	11	168	1175	1331	0	0	868	116
RTOR Reduction (vph)	0	0	0	0	59	59	0	0	0	0	14	0
Lane Group Flow (vph)	0	0	0	373	31	30	1175	1331	0	0	970	0
Confl. Peds. (#/hr)									6			1
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8		8						
Actuated Green, G (s)				29.3	29.3	29.3	48.0	82.8			30.1	
Effective Green, g (s)				29.3	29.3	29.3	48.0	82.8			30.1	
Actuated g/C Ratio				0.24	0.24	0.24	0.39	0.68			0.25	
Clearance Time (s)				5.1	5.1	5.1	4.7	5.1			5.1	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				393	341	334	1249	3016			976	
v/s Ratio Prot					0.02		c0.37	0.30			c0.24	
v/s Ratio Perm				c0.23		0.02						
v/c Ratio				0.95	0.09	0.09	0.94	0.44			0.99	
Uniform Delay, d1				45.8	36.1	36.1	35.8	9.1			46.0	
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2				32.1	0.1	0.1	13.7	0.1			27.2	
Delay (s)				77.9	36.3	36.2	49.5	9.2			73.3	
Level of Service				E	D	D	D	A			E	
Approach Delay (s)		0.0			64.4			28.1			73.3	
Approach LOS		A			E			C			E	

Intersection Summary			
HCM 2000 Control Delay	44.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	122.3	Sum of lost time (s)	14.9
Intersection Capacity Utilization	113.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	320	60	1373	0	0	0	0	2060	380	110	1069	0
Future Volume (vph)	320	60	1373	0	0	0	0	2060	380	110	1069	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1728	1728	1900	1781	1781
Total Lost time (s)		5.1	5.1					5.1		4.7	5.1	
Lane Util. Factor		1.00	0.88					0.95		0.97	0.91	
Frpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Frt		1.00	0.85					0.98		1.00	1.00	
Flt Protected		0.96	1.00					1.00		0.95	1.00	
Satd. Flow (prot)		1657	2584					2908		3183	4420	
Flt Permitted		0.96	1.00					1.00		0.95	1.00	
Satd. Flow (perm)		1657	2584					2908		3183	4420	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	337	63	1445	0	0	0	0	2168	400	116	1125	0
RTOR Reduction (vph)	0	0	132	0	0	0	0	10	0	0	0	0
Lane Group Flow (vph)	0	400	1313	0	0	0	0	2558	0	116	1125	0
Confl. Peds. (#/hr)									2			
Confl. Bikes (#/hr)												2
Turn Type	Perm	NA	Perm					NA		Prot	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4									
Actuated Green, G (s)		43.9	43.9					85.9		5.3	95.9	
Effective Green, g (s)		43.9	43.9					85.9		5.3	95.9	
Actuated g/C Ratio		0.29	0.29					0.57		0.04	0.64	
Clearance Time (s)		5.1	5.1					5.1		4.7	5.1	
Vehicle Extension (s)		3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)		484	756					1665		112	2825	
v/s Ratio Prot								c0.88		c0.04	0.25	
v/s Ratio Perm		0.24	c0.51									
v/c Ratio		0.83	1.74					1.54		1.04	0.40	
Uniform Delay, d1		49.5	53.0					32.0		72.3	13.1	
Progression Factor		1.00	1.00					1.00		1.00	1.00	
Incremental Delay, d2		11.0	336.9					244.3		95.0	0.1	
Delay (s)		60.5	390.0					276.4		167.3	13.2	
Level of Service		E	F					F		F	B	
Approach Delay (s)		318.5			0.0			276.4			27.6	
Approach LOS		F			A			F			C	

Intersection Summary			
HCM 2000 Control Delay	235.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.58		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.9
Intersection Capacity Utilization	113.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1160	378	75	110	140	310	44	970	130	620	1220	592
Future Volume (vph)	1160	378	75	110	140	310	44	970	130	620	1220	592
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.2	5.2	4.4	4.9		4.4	5.1	5.1
Lane Util. Factor	0.95	0.95			1.00	1.00	1.00	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99			1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	0.98			0.98	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1559	1583			1690	1468	1641	3224		1641	1727	1450
Flt Permitted	0.95	0.98			0.98	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1559	1583			1690	1468	1641	3224		1641	1727	1450
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1221	398	79	116	147	326	46	1021	137	653	1284	623
RTOR Reduction (vph)	0	2	0	0	0	197	0	7	0	0	0	124
Lane Group Flow (vph)	842	854	0	0	263	129	46	1151	0	653	1284	499
Confl. Peds. (#/hr)												1
Turn Type	Split	NA		Split	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8						6
Actuated Green, G (s)	32.8	32.8			27.2	27.2	4.0	39.0		24.6	59.4	59.4
Effective Green, g (s)	32.8	32.8			27.2	27.2	4.0	39.0		24.6	59.4	59.4
Actuated g/C Ratio	0.23	0.23			0.19	0.19	0.03	0.27		0.17	0.41	0.41
Clearance Time (s)	5.3	5.3			5.2	5.2	4.4	4.9		4.4	5.1	5.1
Vehicle Extension (s)	2.0	2.0			3.7	3.7	2.0	3.8		2.0	3.8	3.8
Lane Grp Cap (vph)	356	362			320	278	45	876		281	715	600
v/s Ratio Prot	c0.54	0.54			c0.16		0.03	0.36		c0.40	c0.74	
v/s Ratio Perm						0.09						0.34
v/c Ratio	2.37	2.36			0.82	0.46	1.02	1.31		2.32	1.80	0.83
Uniform Delay, d1	55.3	55.3			55.8	51.6	69.7	52.2		59.4	42.0	37.5
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	623.0	619.7			16.0	1.5	140.7	149.6		606.8	363.7	9.9
Delay (s)	678.3	675.0			71.8	53.2	210.4	201.8		666.2	405.7	47.4
Level of Service	F	F			E	D	F	F		F	F	D
Approach Delay (s)		676.6			61.5			202.1			385.0	
Approach LOS		F			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	398.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.87		
Actuated Cycle Length (s)	143.4	Sum of lost time (s)	20.0
Intersection Capacity Utilization	142.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	1088	606	110	468	10
Future Volume (Veh/h)	10	1088	606	110	468	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	11	1145	638	116	493	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			1251			
pX, platoon unblocked						
vC, conflicting volume	754				1805	638
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	754				1805	638
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				0	98
cM capacity (veh/h)	856				86	477

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total	1156	638	116	504
Volume Left	11	0	0	493
Volume Right	0	0	116	11
cSH	856	1700	1700	88
Volume to Capacity	0.01	0.38	0.07	5.76
Queue Length 95th (ft)	1	0	0	Err
Control Delay (s)	0.4	0.0	0.0	Err
Lane LOS	A			F
Approach Delay (s)	0.4	0.0		Err
Approach LOS				F

Intersection Summary			
Average Delay	2087.8		
Intersection Capacity Utilization	98.4%	ICU Level of Service	F
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	20	340	50	338	170	106	30	64	540	230	35	20
Future Volume (vph)	20	340	50	338	170	106	30	64	540	230	35	20
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	21	358	53	356	179	112	32	67	568	242	37	21

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	432	647	667	300
Volume Left (vph)	21	356	32	242
Volume Right (vph)	53	112	568	21
Hadj (s)	-0.03	0.04	-0.47	0.15
Departure Headway (s)	9.0	9.1	8.6	9.7
Degree Utilization, x	1.09	1.64	1.60	0.81
Capacity (veh/h)	392	399	422	366
Control Delay (s)	100.5	321.1	300.8	43.2
Approach Delay (s)	100.5	321.1	300.8	43.2
Approach LOS	F	F	F	E

Intersection Summary			
Delay	227.2		
Level of Service	F		
Intersection Capacity Utilization	123.6%	ICU Level of Service	H
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	231	130	30	143	230	60	175	30	670	440	130
Future Volume (vph)	120	231	130	30	143	230	60	175	30	670	440	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.88	0.97	0.95	1.00	0.97	0.91	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3183	3282	1468	3183	3282	2584	3183	3282	1468	3183	4715	2584
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3183	3282	1468	3183	3282	2584	3183	3282	1468	3183	4715	2584
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	126	243	137	32	151	242	63	184	32	705	463	137
RTOR Reduction (vph)	0	0	117	0	0	218	0	0	18	0	0	48
Lane Group Flow (vph)	126	243	20	32	151	24	63	184	14	705	463	89
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	10.3	19.3	19.3	4.2	13.2	13.2	6.6	56.9	56.9	35.2	85.5	85.5
Effective Green, g (s)	10.3	19.3	19.3	4.2	13.2	13.2	6.6	56.9	56.9	35.2	85.5	85.5
Actuated g/C Ratio	0.08	0.15	0.15	0.03	0.10	0.10	0.05	0.43	0.43	0.27	0.65	0.65
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	249	481	215	101	329	259	159	1419	634	851	3063	1678
v/s Ratio Prot	c0.04	c0.07		0.01	0.05		0.02	0.06		c0.22	c0.10	
v/s Ratio Perm			0.01			0.01			0.01			0.03
v/c Ratio	0.51	0.51	0.09	0.32	0.46	0.09	0.40	0.13	0.02	0.83	0.15	0.05
Uniform Delay, d1	58.2	51.7	48.6	62.3	55.8	53.8	60.6	22.5	21.4	45.4	9.0	8.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.6	0.8	0.2	1.8	1.0	0.2	1.6	0.2	0.1	6.7	0.1	0.1
Delay (s)	59.8	52.6	48.8	64.1	56.8	53.9	62.2	22.6	21.5	52.1	9.1	8.4
Level of Service	E	D	D	E	E	D	E	C	C	D	A	A
Approach Delay (s)		53.4			55.7			31.4			32.2	
Approach LOS		D			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	40.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	131.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1098	576	40	0	38
Future Volume (Veh/h)	0	1098	576	40	0	38
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	1156	606	42	0	40
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	648				1783	627
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	648				1783	627
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	92
cM capacity (veh/h)	938				90	484

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1156	648	40
Volume Left	0	0	0
Volume Right	0	42	40
cSH	1700	1700	484
Volume to Capacity	0.68	0.38	0.08
Queue Length 95th (ft)	0	0	7
Control Delay (s)	0.0	0.0	13.1
Lane LOS			B
Approach Delay (s)	0.0	0.0	13.1
Approach LOS			B

Intersection Summary			
Average Delay		0.3	
Intersection Capacity Utilization		61.1%	ICU Level of Service B
Analysis Period (min)		15	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	134	18	0	0	65	120	5	0	132	0
Future Volume (Veh/h)	0	0	134	18	0	0	65	120	5	0	132	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	141	19	0	0	68	126	5	0	139	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	401	406	139	544	404	128	139			131		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	401	406	139	544	404	128	139			131		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	84	95	100	100	95			100		
cM capacity (veh/h)	539	509	909	366	511	921	1445			1454		

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total	141	19	0	68	131	139
Volume Left	0	19	0	68	0	0
Volume Right	141	0	0	0	5	0
cSH	909	366	1700	1445	1700	1454
Volume to Capacity	0.16	0.05	0.00	0.05	0.08	0.00
Queue Length 95th (ft)	14	4	0	4	0	0
Control Delay (s)	9.7	15.4	0.0	7.6	0.0	0.0
Lane LOS	A	C	A	A		
Approach Delay (s)	9.7	15.4		2.6		0.0
Approach LOS	A	C				

Intersection Summary				
Average Delay	4.4			
Intersection Capacity Utilization	38.5%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	57	0	105	15	0	75
Future Volume (Veh/h)	57	0	105	15	0	75
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	60	0	111	16	0	79
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	198	119			127	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	198	119			127	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	100			100	
cM capacity (veh/h)	791	933			1459	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	60	127	79
Volume Left	60	0	0
Volume Right	0	16	0
cSH	791	1700	1459
Volume to Capacity	0.08	0.07	0.00
Queue Length 95th (ft)	6	0	0
Control Delay (s)	9.9	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.9	0.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	16.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	76	0	0	0	20	38
Future Volume (Veh/h)	76	0	0	0	20	38
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	80	0	0	0	21	40
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			None		
Median storage veh)	2					
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			80		80	80
vC1, stage 1 conf vol					80	
vC2, stage 2 conf vol					0	
vCu, unblocked vol			80		80	80
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		98	96
cM capacity (veh/h)			1518		920	980

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	80	0	0	61
Volume Left	0	0	0	21
Volume Right	0	0	0	40
cSH	1700	1700	1700	959
Volume to Capacity	0.05	0.00	0.00	0.06
Queue Length 95th (ft)	0	0	0	5
Control Delay (s)	0.0	0.0	0.0	9.0
Lane LOS				A
Approach Delay (s)	0.0	0.0		9.0
Approach LOS				A

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	14.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	230	10	0	10	30	20	20	10	48	0
Future Volume (vph)	0	0	230	10	0	10	30	20	20	10	48	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	242	11	0	11	32	21	21	11	51	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	242	22	74	62
Volume Left (vph)	0	11	32	11
Volume Right (vph)	242	11	21	0
Hadj (s)	-0.57	-0.17	-0.05	0.07
Departure Headway (s)	3.7	4.3	4.4	4.6
Degree Utilization, x	0.25	0.03	0.09	0.08
Capacity (veh/h)	945	790	758	731
Control Delay (s)	7.9	7.4	7.9	8.0
Approach Delay (s)	7.9	7.4	7.9	8.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay	7.9			
Level of Service	A			
Intersection Capacity Utilization	29.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	0	19	19	0	19	10	20	10	0	0	0
Future Volume (Veh/h)	19	0	19	19	0	19	10	20	10	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	20	0	20	20	0	20	11	21	11	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	68	54	0	68	48	26	0			32		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	68	54	0	68	48	26	0			32		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	98	98	100	98	99			100		
cM capacity (veh/h)	902	832	1085	902	837	1049	1623			1580		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	40	40	43	0
Volume Left	20	20	11	0
Volume Right	20	20	11	0
cSH	985	970	1623	1700
Volume to Capacity	0.04	0.04	0.01	0.00
Queue Length 95th (ft)	3	3	1	0
Control Delay (s)	8.8	8.9	1.9	0.0
Lane LOS	A	A	A	
Approach Delay (s)	8.8	8.9	1.9	0.0
Approach LOS	A	A		

Intersection Summary				
Average Delay	6.4			
Intersection Capacity Utilization	13.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	160	1307	160	178	1310	97	90	30	190	113	30	130
Future Volume (vph)	160	1307	160	178	1310	97	90	30	190	113	30	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0		4.4	6.0		4.4	4.9	4.9	4.4	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1641	4627		1641	4659		1641	1727	1445	1641	1727	1468
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1641	4627		1641	4659		1641	1727	1445	1641	1727	1468
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	168	1376	168	187	1379	102	95	32	200	119	32	137
RTOR Reduction (vph)	0	8	0	0	4	0	0	0	173	0	0	116
Lane Group Flow (vph)	168	1536	0	187	1477	0	95	32	27	119	32	21
Confl. Peds. (#/hr)			2			3			3			
Confl. Bikes (#/hr)									1			
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	15.1	34.2		16.4	35.5		10.8	13.1	13.1	12.3	14.6	14.6
Effective Green, g (s)	15.1	34.2		16.4	35.5		10.8	13.1	13.1	12.3	14.6	14.6
Actuated g/C Ratio	0.16	0.36		0.17	0.37		0.11	0.14	0.14	0.13	0.15	0.15
Clearance Time (s)	4.4	6.0		4.4	6.0		4.4	4.9	4.9	4.4	4.9	4.9
Vehicle Extension (s)	2.0	4.4		2.0	4.2		2.0	3.2	3.2	2.0	2.0	2.0
Lane Grp Cap (vph)	258	1653		281	1728		185	236	197	210	263	223
v/s Ratio Prot	0.10	c0.33		c0.11	0.32		0.06	0.02		c0.07	0.02	
v/s Ratio Perm									c0.02			0.01
v/c Ratio	0.65	0.93		0.67	0.85		0.51	0.14	0.14	0.57	0.12	0.09
Uniform Delay, d1	37.8	29.6		37.1	27.7		40.0	36.3	36.3	39.2	35.0	34.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.4	9.8		4.6	4.6		1.0	0.3	0.3	2.1	0.1	0.1
Delay (s)	42.3	39.4		41.6	32.3		41.0	36.6	36.7	41.3	35.1	34.9
Level of Service	D	D		D	C		D	D	D	D	D	C
Approach Delay (s)		39.7			33.4			37.9			37.6	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	36.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	95.7	Sum of lost time (s)	19.7
Intersection Capacity Utilization	65.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1560	50	90	1555	30	40
Future Volume (vph)	1560	50	90	1555	30	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0		5.4	7.0	5.9	5.9
Lane Util. Factor	0.91		1.00	0.91	0.97	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	4693		1641	4715	3183	1468
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	4693		1641	4715	3183	1468
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1642	53	95	1637	32	42
RTOR Reduction (vph)	2	0	0	0	0	39
Lane Group Flow (vph)	1693	0	95	1637	32	3
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Actuated Green, G (s)	33.7		9.6	48.7	4.5	4.5
Effective Green, g (s)	33.7		9.6	48.7	4.5	4.5
Actuated g/C Ratio	0.51		0.15	0.74	0.07	0.07
Clearance Time (s)	7.0		5.4	7.0	5.9	5.9
Vehicle Extension (s)	4.5		2.0	4.5	2.0	2.0
Lane Grp Cap (vph)	2392		238	3473	216	99
v/s Ratio Prot	c0.36		0.06	c0.35	c0.01	
v/s Ratio Perm						0.00
v/c Ratio	0.71		0.40	0.47	0.15	0.03
Uniform Delay, d1	12.4		25.6	3.5	29.0	28.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1		0.4	0.2	0.1	0.0
Delay (s)	13.5		26.0	3.7	29.1	28.8
Level of Service	B		C	A	C	C
Approach Delay (s)	13.5			4.9	28.9	
Approach LOS	B			A	C	

Intersection Summary			
HCM 2000 Control Delay	9.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	66.1	Sum of lost time (s)	18.3
Intersection Capacity Utilization	54.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	710	890	664	990	655	473
Future Volume (vph)	710	890	664	990	655	473
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.3	4.4	6.0	5.3	5.3
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	4715	1459	1641	4715	3183	1431
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	4715	1459	1641	4715	3183	1431
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	747	937	699	1042	689	498
RTOR Reduction (vph)	0	26	0	0	0	344
Lane Group Flow (vph)	747	911	699	1042	689	154
Confl. Peds. (#/hr)		2				14
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Actuated Green, G (s)	30.8	72.0	45.8	81.0	41.2	41.2
Effective Green, g (s)	30.8	72.0	45.8	81.0	41.2	41.2
Actuated g/C Ratio	0.23	0.54	0.34	0.61	0.31	0.31
Clearance Time (s)	6.0	5.3	4.4	6.0	5.3	5.3
Vehicle Extension (s)	4.4	2.0	2.0	4.3	2.0	2.0
Lane Grp Cap (vph)	1087	786	562	2860	982	441
v/s Ratio Prot	0.16	c0.36	c0.43	0.22	0.22	
v/s Ratio Perm		0.27				0.11
v/c Ratio	0.69	1.16	1.24	0.36	0.70	0.35
Uniform Delay, d1	46.9	30.8	43.9	13.3	40.7	35.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.1	85.6	124.1	0.1	1.9	0.2
Delay (s)	49.1	116.4	168.0	13.4	42.6	35.9
Level of Service	D	F	F	B	D	D
Approach Delay (s)	86.5			75.5	39.8	
Approach LOS	F			E	D	

Intersection Summary			
HCM 2000 Control Delay	70.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	133.5	Sum of lost time (s)	15.7
Intersection Capacity Utilization	100.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	340	10	150	1425	978	0	0	1274	280
Future Volume (vph)	0	0	0	340	10	150	1425	978	0	0	1274	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1795	1795	1630	1630	1630
Total Lost time (s)				5.1	5.1	5.1	4.7	5.1			5.1	
Lane Util. Factor				1.00	0.95	0.95	0.97	0.91			0.91	
Frpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Frt				1.00	0.87	0.85	1.00	1.00			0.97	
Flt Protected				0.95	1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1641	1427	1395	3183	4455			3926	
Flt Permitted				0.95	1.00	1.00	0.95	1.00			1.00	
Satd. Flow (perm)				1641	1427	1395	3183	4455			3926	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	358	11	158	1500	1029	0	0	1341	295
RTOR Reduction (vph)	0	0	0	0	61	69	0	0	0	0	23	0
Lane Group Flow (vph)	0	0	0	358	24	15	1500	1029	0	0	1613	0
Confl. Peds. (#/hr)									6			1
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8		8						
Actuated Green, G (s)				26.9	26.9	26.9	57.3	112.9			50.9	
Effective Green, g (s)				26.9	26.9	26.9	57.3	112.9			50.9	
Actuated g/C Ratio				0.18	0.18	0.18	0.38	0.75			0.34	
Clearance Time (s)				5.1	5.1	5.1	4.7	5.1			5.1	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				294	255	250	1215	3353			1332	
v/s Ratio Prot					0.02		c0.47	0.23			c0.41	
v/s Ratio Perm				c0.22		0.01						
v/c Ratio				1.22	0.10	0.06	1.23	0.31			1.21	
Uniform Delay, d1				61.5	51.4	51.1	46.4	6.0			49.5	
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2				124.8	0.2	0.1	112.8	0.1			102.1	
Delay (s)				186.4	51.6	51.2	159.2	6.0			151.7	
Level of Service				F	D	D	F	A			F	
Approach Delay (s)		0.0			143.1			96.9			151.7	
Approach LOS		A			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	121.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.9
Intersection Capacity Utilization	113.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	10	1335	0	0	0	0	2253	513	210	1404	0
Future Volume (vph)	150	10	1335	0	0	0	0	2253	513	210	1404	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1728	1728	1900	1781	1781
Total Lost time (s)		5.1	5.1					5.1		4.7	5.1	
Lane Util. Factor		1.00	0.88					0.95		0.97	0.91	
Frpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Frt		1.00	0.85					0.97		1.00	1.00	
Flt Protected		0.96	1.00					1.00		0.95	1.00	
Satd. Flow (prot)		1650	2584					2891		3183	4420	
Flt Permitted		0.96	1.00					1.00		0.95	1.00	
Satd. Flow (perm)		1650	2584					2891		3183	4420	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	158	11	1405	0	0	0	0	2372	540	221	1478	0
RTOR Reduction (vph)	0	0	75	0	0	0	0	13	0	0	0	0
Lane Group Flow (vph)	0	169	1330	0	0	0	0	2899	0	221	1478	0
Confl. Peds. (#/hr)									4	2		
Confl. Bikes (#/hr)												2
Turn Type	Perm	NA	Perm					NA		Prot	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4									
Actuated Green, G (s)		38.9	38.9					87.9		8.3	100.9	
Effective Green, g (s)		38.9	38.9					87.9		8.3	100.9	
Actuated g/C Ratio		0.26	0.26					0.59		0.06	0.67	
Clearance Time (s)		5.1	5.1					5.1		4.7	5.1	
Vehicle Extension (s)		3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)		427	670					1694		176	2973	
v/s Ratio Prot								c1.00		c0.07	0.33	
v/s Ratio Perm		0.10	c0.51									
v/c Ratio		0.40	1.99					1.71		1.26	0.50	
Uniform Delay, d1		45.9	55.6					31.0		70.8	12.1	
Progression Factor		1.00	1.00					1.00		1.00	1.00	
Incremental Delay, d2		0.6	448.8					322.6		152.9	0.1	
Delay (s)		46.5	504.3					353.6		223.7	12.2	
Level of Service		D	F					F		F	B	
Approach Delay (s)		455.2			0.0			353.6			39.7	
Approach LOS		F			A			F			D	

Intersection Summary			
HCM 2000 Control Delay	293.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.76		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.9
Intersection Capacity Utilization	113.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	866	236	67	160	388	590	106	1310	150	370	1110	1259
Future Volume (vph)	866	236	67	160	388	590	106	1310	150	370	1110	1259
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.2	5.2	4.4	4.9		4.4	5.1	5.1
Lane Util. Factor	0.95	0.95			1.00	1.00	1.00	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98			1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	0.98			0.99	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1559	1570			1702	1468	1641	3226		1641	1727	1449
Flt Permitted	0.95	0.98			0.99	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1559	1570			1702	1468	1641	3226		1641	1727	1449
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	912	248	71	168	408	621	112	1379	158	389	1168	1325
RTOR Reduction (vph)	0	3	0	0	0	124	0	6	0	0	0	299
Lane Group Flow (vph)	611	617	0	0	576	497	112	1531	0	389	1168	1026
Confl. Peds. (#/hr)			1						3			1
Turn Type	Split	NA		Split	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8						6
Actuated Green, G (s)	26.7	26.7			39.8	39.8	7.6	46.1		17.6	55.9	55.9
Effective Green, g (s)	26.7	26.7			39.8	39.8	7.6	46.1		17.6	55.9	55.9
Actuated g/C Ratio	0.18	0.18			0.27	0.27	0.05	0.31		0.12	0.37	0.37
Clearance Time (s)	5.3	5.3			5.2	5.2	4.4	4.9		4.4	5.1	5.1
Vehicle Extension (s)	2.0	2.0			3.7	3.7	2.0	3.8		2.0	3.8	3.8
Lane Grp Cap (vph)	277	279			451	389	83	991		192	643	539
v/s Ratio Prot	0.39	c0.39			0.34		0.07	0.47		c0.24	0.68	
v/s Ratio Perm						c0.34						c0.71
v/c Ratio	2.21	2.21			1.28	1.28	1.35	1.55		2.03	1.82	1.90
Uniform Delay, d1	61.6	61.6			55.1	55.1	71.2	52.0		66.2	47.0	47.0
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	554.2	556.2			141.0	143.3	217.7	250.5		479.5	373.5	413.8
Delay (s)	615.9	617.9			196.1	198.4	288.9	302.4		545.7	420.6	460.9
Level of Service	F	F			F	F	F	F		F	F	F
Approach Delay (s)		616.9			197.3			301.5			456.0	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	403.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.82		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	142.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	943	1404	352	227	10
Future Volume (Veh/h)	10	943	1404	352	227	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	11	993	1478	371	239	11
Pedestrians					1	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			1251			
pX, platoon unblocked	0.81				0.81	0.81
vC, conflicting volume	1850				2494	1479
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1933				2730	1474
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				0	91
cM capacity (veh/h)	245				17	125

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total	1004	1478	371	250
Volume Left	11	0	0	239
Volume Right	0	0	371	11
cSH	245	1700	1700	18
Volume to Capacity	0.04	0.87	0.22	13.83
Queue Length 95th (ft)	4	0	0	Err
Control Delay (s)	2.4	0.0	0.0	Err
Lane LOS	A			F
Approach Delay (s)	2.4	0.0		Err
Approach LOS				F

Intersection Summary			
Average Delay	806.4		
Intersection Capacity Utilization	93.7%	ICU Level of Service	F
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	20	240	40	616	400	262	60	45	490	207	66	20
Future Volume (vph)	20	240	40	616	400	262	60	45	490	207	66	20
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	21	253	42	648	421	276	63	47	516	218	69	21

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	316	1345	626	308
Volume Left (vph)	21	648	63	218
Volume Right (vph)	42	276	516	21
Hadj (s)	-0.03	0.01	-0.44	0.13
Departure Headway (s)	9.0	8.5	8.1	9.1
Degree Utilization, x	0.79	3.19	1.41	0.78
Capacity (veh/h)	390	435	457	385
Control Delay (s)	38.0	1008.0	218.3	38.2
Approach Delay (s)	38.0	1008.0	218.3	38.2
Approach LOS	E	F	F	E

Intersection Summary			
Delay	584.3		
Level of Service	F		
Intersection Capacity Utilization	152.7%	ICU Level of Service	H
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	275	120	40	271	600	90	360	20	440	450	170
Future Volume (vph)	190	275	120	40	271	600	90	360	20	440	450	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.88	0.97	0.95	1.00	0.97	0.91	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3183	3282	1468	3183	3282	2584	3183	3282	1468	3183	4715	2584
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3183	3282	1468	3183	3282	2584	3183	3282	1468	3183	4715	2584
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	200	289	126	42	285	632	95	379	21	463	474	179
RTOR Reduction (vph)	0	0	98	0	0	532	0	0	12	0	0	82
Lane Group Flow (vph)	200	289	28	42	285	100	95	379	9	463	474	97
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	12.8	27.7	27.7	4.7	19.6	19.6	8.3	52.7	52.7	22.9	67.3	67.3
Effective Green, g (s)	12.8	27.7	27.7	4.7	19.6	19.6	8.3	52.7	52.7	22.9	67.3	67.3
Actuated g/C Ratio	0.10	0.22	0.22	0.04	0.16	0.16	0.07	0.43	0.43	0.18	0.54	0.54
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	328	733	327	120	518	408	213	1394	623	587	2559	1402
v/s Ratio Prot	c0.06	0.09		0.01	c0.09		0.03	c0.12		c0.15	0.10	
v/s Ratio Perm			0.02			0.04			0.01			0.04
v/c Ratio	0.61	0.39	0.09	0.35	0.55	0.24	0.45	0.27	0.01	0.79	0.19	0.07
Uniform Delay, d1	53.2	41.0	38.1	58.2	48.1	45.7	55.6	23.2	20.6	48.2	14.4	13.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.2	0.4	0.1	1.8	1.3	0.3	1.5	0.5	0.0	7.0	0.2	0.1
Delay (s)	56.4	41.4	38.2	59.9	49.4	46.0	57.1	23.7	20.7	55.2	14.6	13.6
Level of Service	E	D	D	E	D	D	E	C	C	E	B	B
Approach Delay (s)		45.6			47.6			30.0			31.3	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	38.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	124.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	48.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	953	1262	152	0	16
Future Volume (Veh/h)	0	953	1262	152	0	16
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	1003	1328	160	0	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1488				2411	1408
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1488				2411	1408
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	90
cM capacity (veh/h)	452				36	170

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1003	1488	17
Volume Left	0	0	0
Volume Right	0	160	17
cSH	1700	1700	170
Volume to Capacity	0.59	0.88	0.10
Queue Length 95th (ft)	0	0	8
Control Delay (s)	0.0	0.0	28.5
Lane LOS			D
Approach Delay (s)	0.0	0.0	28.5
Approach LOS			D

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization		85.6%	ICU Level of Service E
Analysis Period (min)		15	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	90	8	0	0	140	167	20	0	195	0
Future Volume (Veh/h)	0	0	90	8	0	0	140	167	20	0	195	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	95	8	0	0	147	176	21	0	205	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	675	696	205	780	686	186	205			197		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	675	696	205	780	686	186	205			197		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	89	97	100	100	89			100		
cM capacity (veh/h)	337	326	836	254	331	856	1366			1376		

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total	95	8	0	147	197	205
Volume Left	0	8	0	147	0	0
Volume Right	95	0	0	0	21	0
cSH	836	254	1700	1366	1700	1376
Volume to Capacity	0.11	0.03	0.00	0.11	0.12	0.00
Queue Length 95th (ft)	10	2	0	9	0	0
Control Delay (s)	9.9	19.6	0.0	8.0	0.0	0.0
Lane LOS	A	C	A	A		
Approach Delay (s)	9.9	19.6		3.4		0.0
Approach LOS	A	C				

Intersection Summary				
Average Delay	3.5			
Intersection Capacity Utilization	36.9%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	25	0	110	57	0	170
Future Volume (Veh/h)	25	0	110	57	0	170
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	26	0	116	60	0	179
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	325	146			176	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	325	146			176	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	100			100	
cM capacity (veh/h)	669	901			1400	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	26	176	179
Volume Left	26	0	0
Volume Right	0	60	0
cSH	669	1700	1400
Volume to Capacity	0.04	0.10	0.00
Queue Length 95th (ft)	3	0	0
Control Delay (s)	10.6	0.0	0.0
Lane LOS	B		
Approach Delay (s)	10.6	0.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	19.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	34	0	0	0	76	16
Future Volume (Veh/h)	34	0	0	0	76	16
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	36	0	0	0	80	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			None		
Median storage veh)	2					
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			36		36	36
vC1, stage 1 conf vol					36	
vC2, stage 2 conf vol					0	
vCu, unblocked vol			36		36	36
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		92	98
cM capacity (veh/h)			1575		963	1037

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	36	0	0	97
Volume Left	0	0	0	80
Volume Right	0	0	0	17
cSH	1700	1700	1700	975
Volume to Capacity	0.02	0.00	0.00	0.10
Queue Length 95th (ft)	0	0	0	8
Control Delay (s)	0.0	0.0	0.0	9.1
Lane LOS				A
Approach Delay (s)	0.0	0.0		9.1
Approach LOS				A

Intersection Summary			
Average Delay	6.6		
Intersection Capacity Utilization	15.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	101	10	0	0	114	38	20	0	16	0
Future Volume (vph)	0	0	101	10	0	0	114	38	20	0	16	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	106	11	0	0	120	40	21	0	17	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	106	11	181	17
Volume Left (vph)	0	11	120	0
Volume Right (vph)	106	0	21	0
Hadj (s)	-0.57	0.23	0.10	0.03
Departure Headway (s)	3.8	4.7	4.3	4.4
Degree Utilization, x	0.11	0.01	0.21	0.02
Capacity (veh/h)	901	719	819	792
Control Delay (s)	7.3	7.8	8.4	7.5
Approach Delay (s)	7.3	7.8	8.4	7.5
Approach LOS	A	A	A	A

Intersection Summary				
Delay	8.0			
Level of Service	A			
Intersection Capacity Utilization	30.1%	ICU Level of Service	A	
Analysis Period (min)	15			

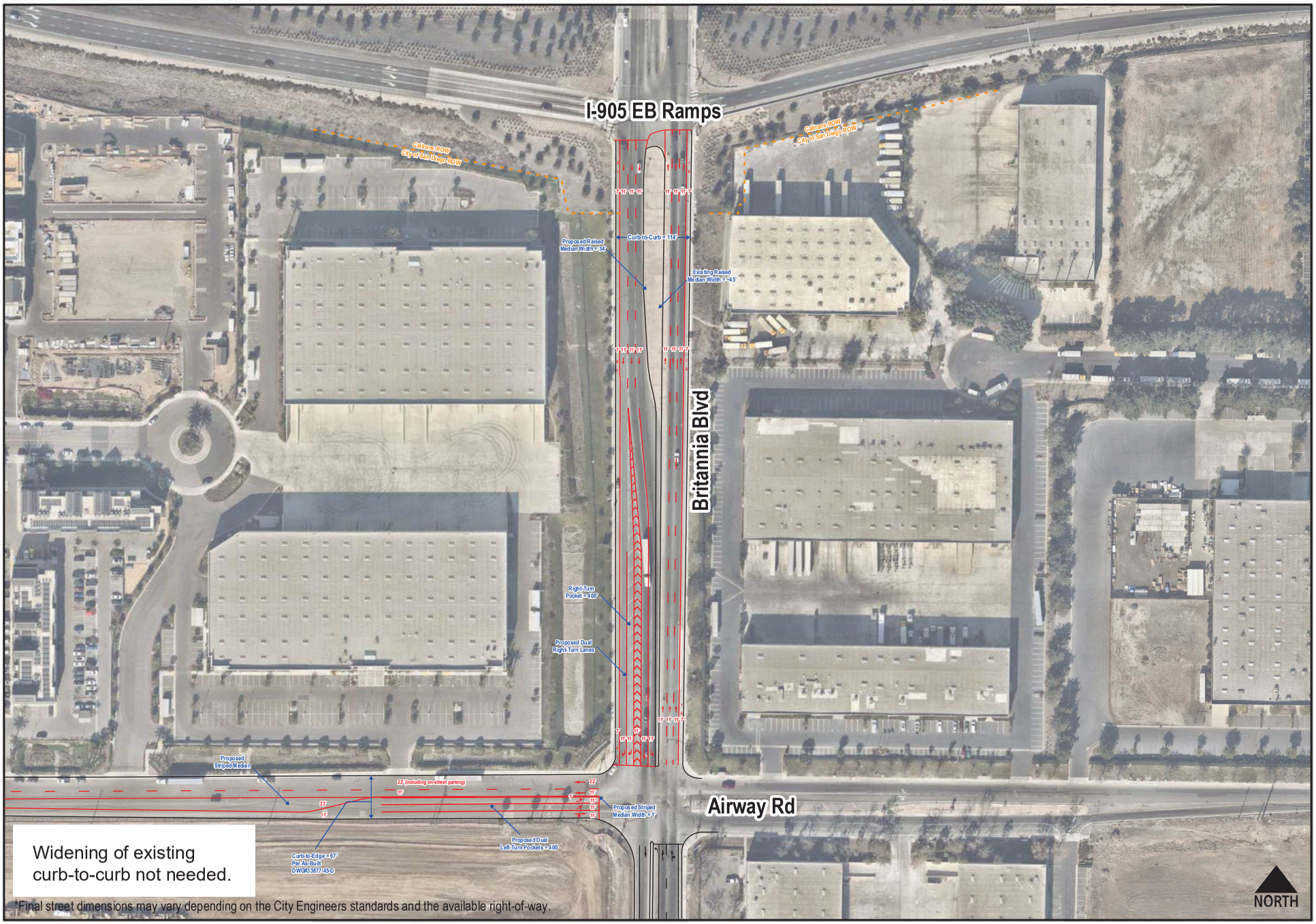


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	0	8	8	0	8	38	76	38	0	0	0
Future Volume (Veh/h)	8	0	8	8	0	8	38	76	38	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	8	0	8	8	0	8	40	80	40	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	188	200	0	188	180	100	0			120		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	188	200	0	188	180	100	0			120		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	99	99	100	99	98			100		
cM capacity (veh/h)	751	679	1085	752	696	956	1623			1468		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	16	16	160	0
Volume Left	8	8	40	0
Volume Right	8	8	40	0
cSH	888	842	1623	1700
Volume to Capacity	0.02	0.02	0.02	0.00
Queue Length 95th (ft)	1	1	2	0
Control Delay (s)	9.1	9.4	2.0	0.0
Lane LOS	A	A	A	
Approach Delay (s)	9.1	9.4	2.0	0.0
Approach LOS	A	A		

Intersection Summary				
Average Delay	3.2			
Intersection Capacity Utilization	18.4%	ICU Level of Service	A	
Analysis Period (min)	15			

Appendix S - Mitigation Measures - Conceptual Improvement Plans



The Collection at Cactus
Transportation Impact Study

C+R

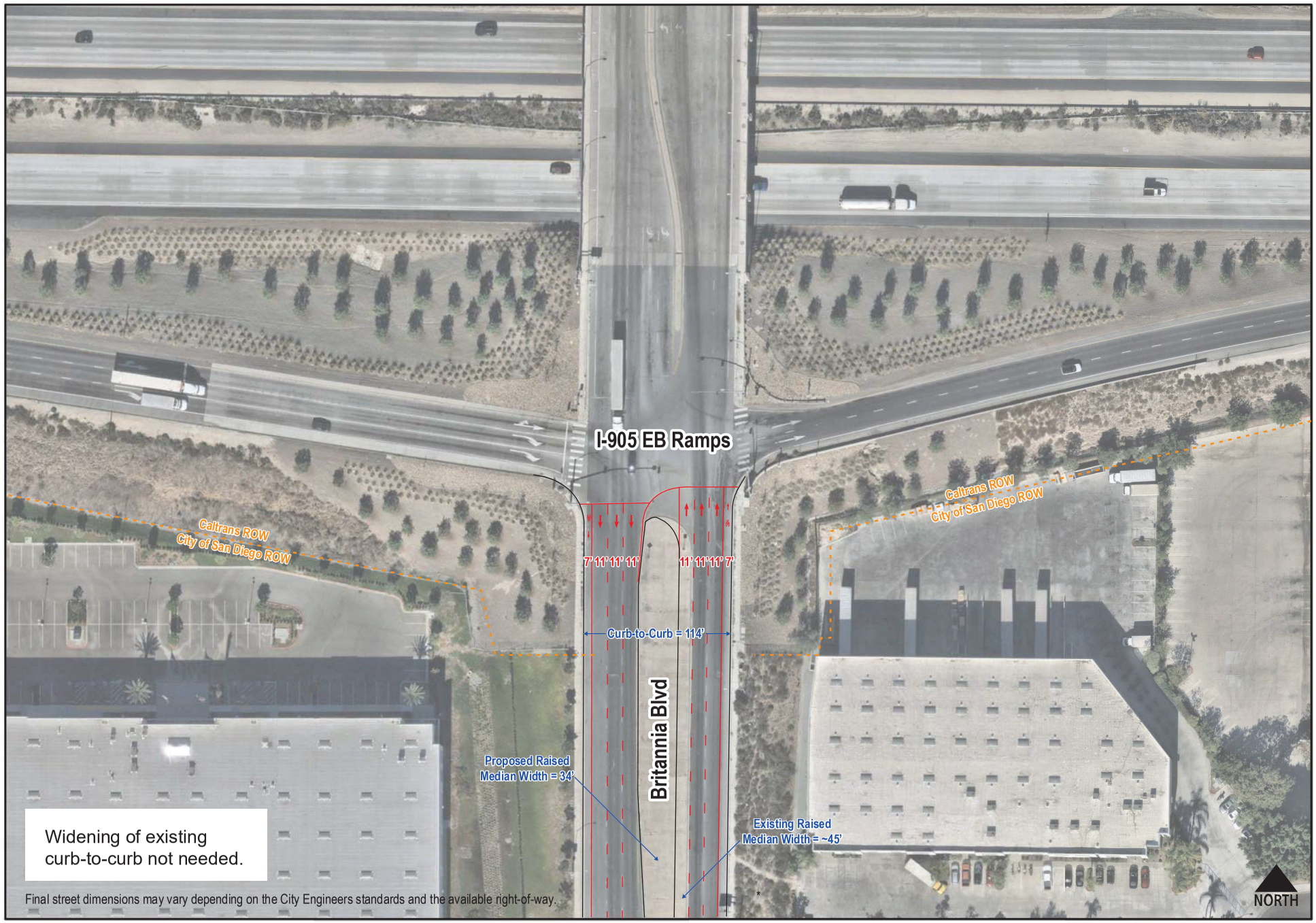
Roadway Concept Improvements
Britannia Blvd, SR-905 EB Ramps to Airway Rd



The Collection at Cactus
Transportation Impact Study

C+R

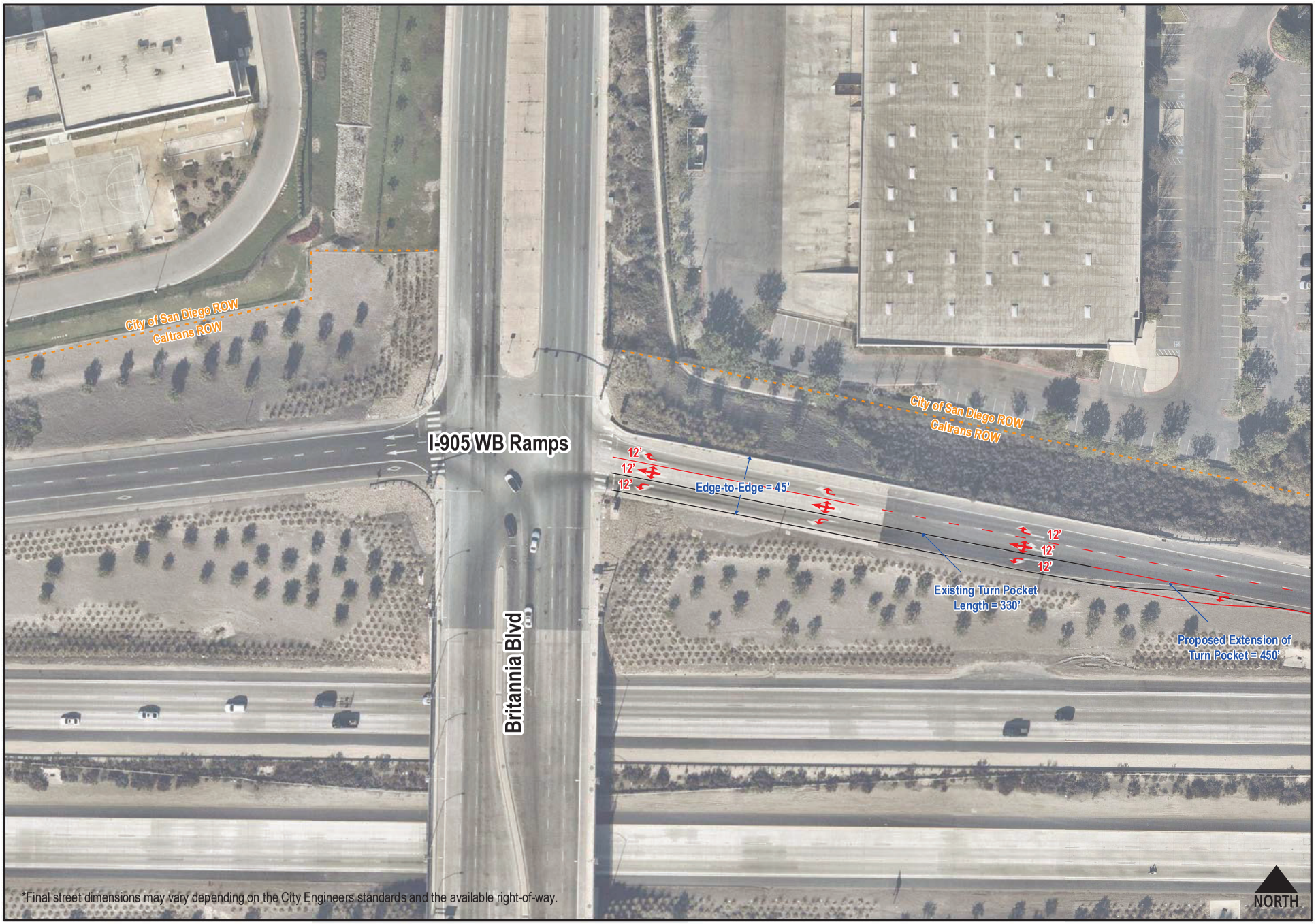
Roadway Concept Improvements
Airway Rd, Britannia Blvd to 50-ft West of La Media Rd



The Collection at Cactus
Transportation Impact Study

C+R

Intersection Concept Improvements
Britannia Boulevard & SR-905 Eastbound Ramps



The Collection at Cactus
Transportation Impact Study

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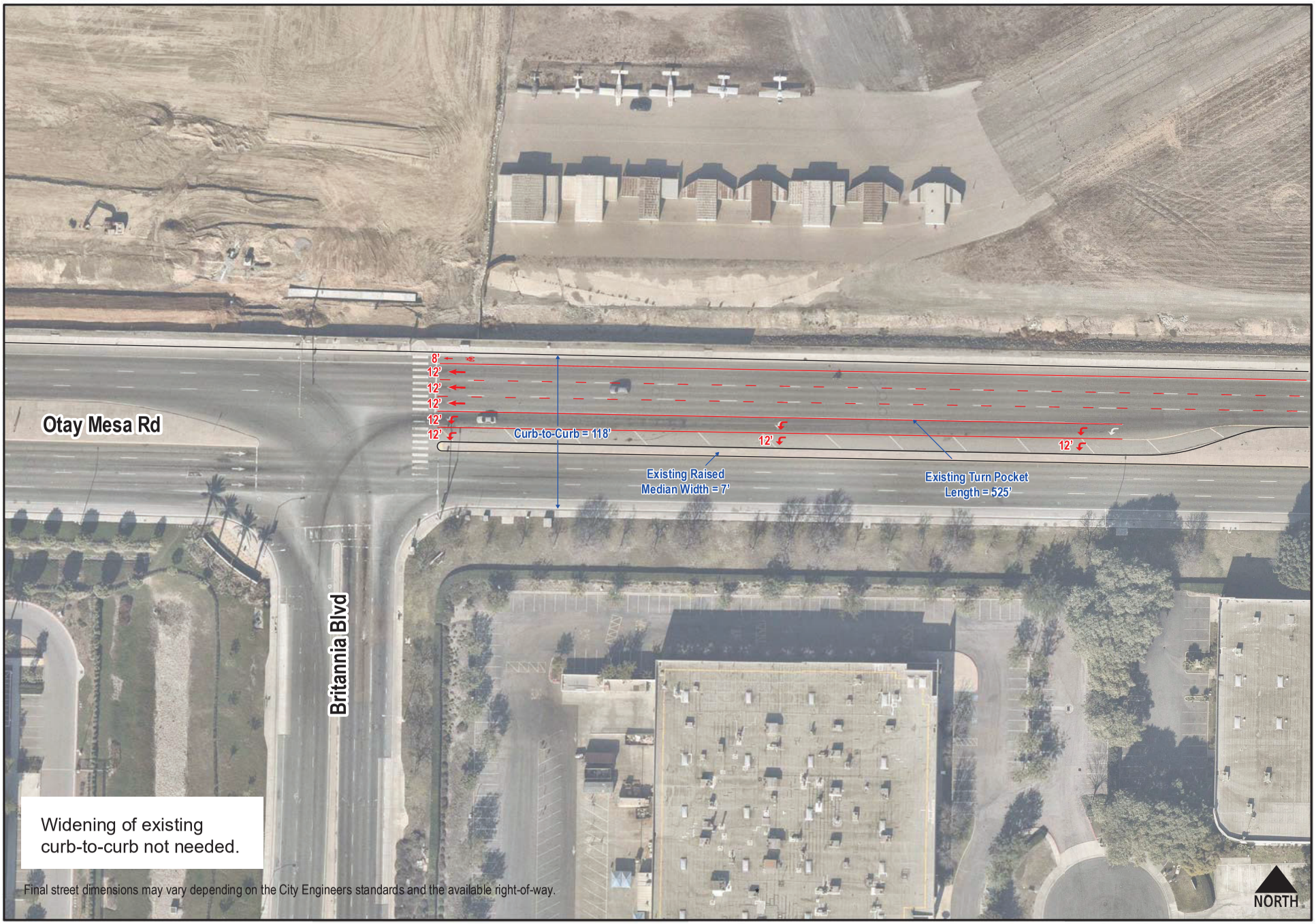
Intersection Concept Improvements
Britannia Boulevard & SR-905 Westbound Ramps



The Collection at Cactus
Transportation Impact Study

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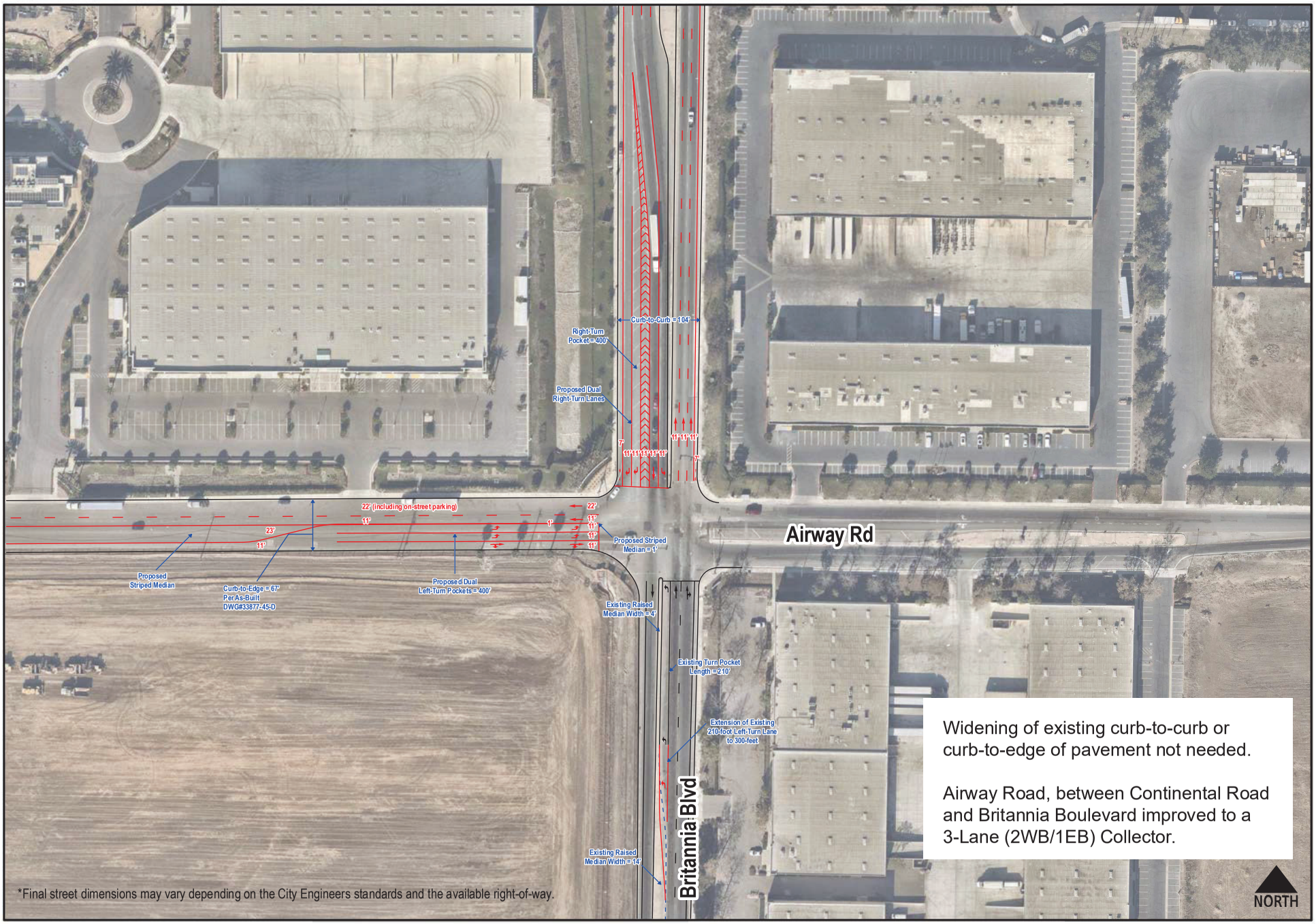
Intersection Concept Improvements
Britannia Boulevard & Otay Mesa Road



The Collection at Cactus
Transportation Impact Study

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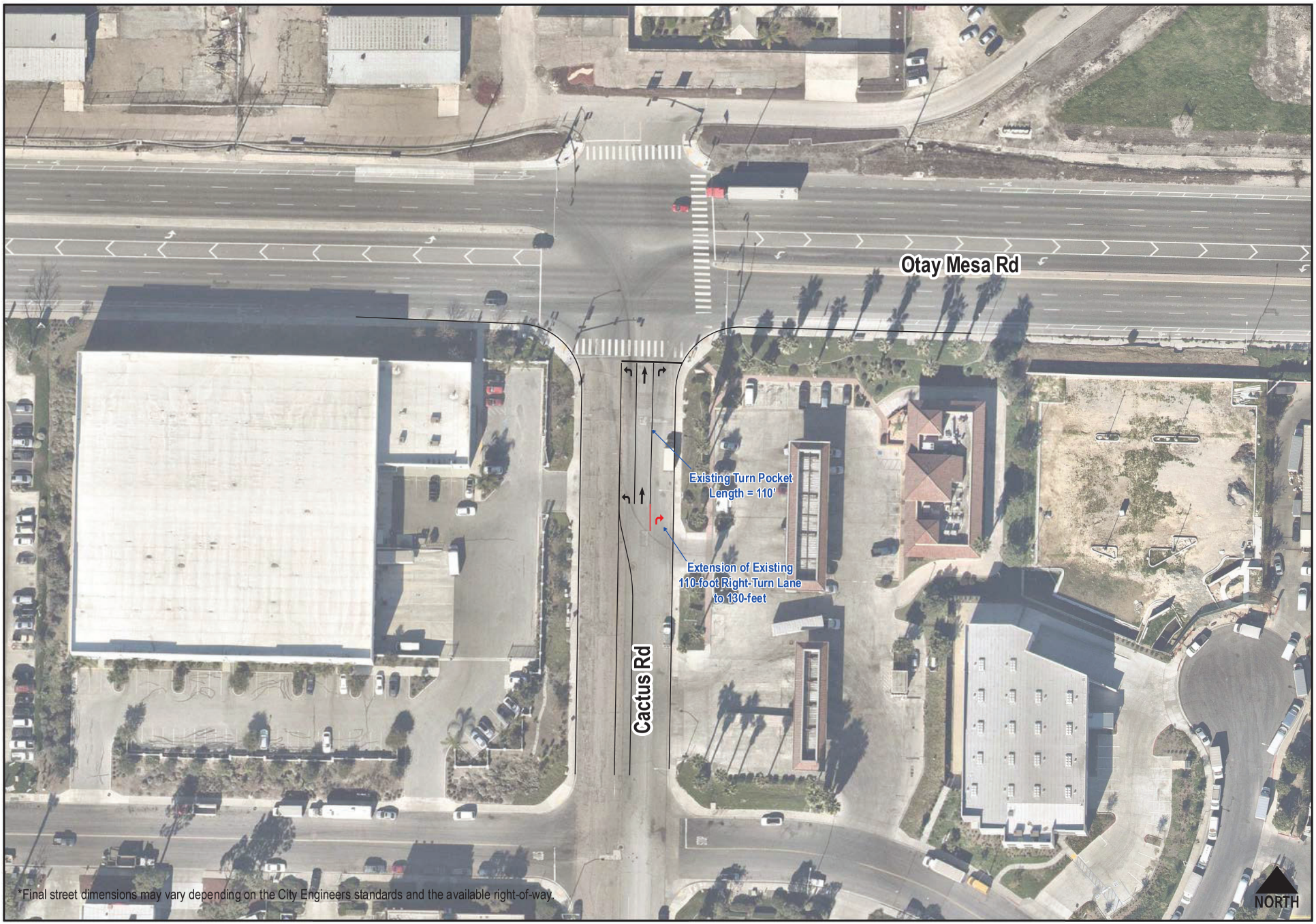
Intersection Concept Improvements
Britannia Boulevard & Airway Road



The Collection at Cactus
Transportation Impact Study

C+R

Intersection Concept Improvements
Cactus Road & Otay Mesa Road

Appendix T - LOS Calculation Worksheets – Opening Year 2027 with Project with Mitigation Conditions



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	645	461	359	349	741	572
Future Volume (vph)	645	461	359	349	741	572
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.3	4.4	6.0	5.3	5.3
Lane Util. Factor	0.91	1.00	0.97	0.91	0.97	1.00
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	4715	1458	3183	4715	3183	1447
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	4715	1458	3183	4715	3183	1447
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	701	501	390	379	805	622
RTOR Reduction (vph)	0	34	0	0	0	289
Lane Group Flow (vph)	701	467	390	379	805	333
Confl. Peds. (#/hr)		5				4
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Actuated Green, G (s)	23.4	52.2	16.2	44.0	28.8	28.8
Effective Green, g (s)	23.4	52.2	16.2	44.0	28.8	28.8
Actuated g/C Ratio	0.28	0.62	0.19	0.52	0.34	0.34
Clearance Time (s)	6.0	5.3	4.4	6.0	5.3	5.3
Vehicle Extension (s)	4.4	2.0	2.0	4.3	2.0	2.0
Lane Grp Cap (vph)	1311	904	613	2466	1090	495
v/s Ratio Prot	c0.15	0.18	c0.12	0.08	c0.25	
v/s Ratio Perm		0.14				0.23
v/c Ratio	0.53	0.52	0.64	0.15	0.74	0.67
Uniform Delay, d1	25.7	8.9	31.2	10.4	24.3	23.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	0.2	1.6	0.0	2.3	2.8
Delay (s)	26.4	9.1	32.8	10.4	26.6	26.5
Level of Service	C	A	C	B	C	C
Approach Delay (s/veh)	19.2			21.8	26.6	
Approach LOS	B			C	C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	22.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	84.1	Sum of lost time (s)	15.7
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	336	0	136	1040	1218	0	0	734	76
Future Volume (vph)	0	0	0	336	0	136	1040	1218	0	0	734	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1795	1795	1630	1630	1630
Total Lost time (s)				5.1	5.1	5.1	4.7	5.1			5.1	
Lane Util. Factor				0.95	0.91	0.95	0.97	0.91			0.91	
Frpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Frt				1.00	0.99	0.85	1.00	1.00			0.99	
Flt Protected				0.95	0.96	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1559	1485	1395	3183	4455			3983	
Flt Permitted				0.95	0.96	1.00	0.95	1.00			1.00	
Satd. Flow (perm)				1559	1485	1395	3183	4455			3983	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	365	0	148	1130	1324	0	0	789	82
RTOR Reduction (vph)	0	0	0	0	48	65	0	0	0	0	10	0
Lane Group Flow (vph)	0	0	0	190	142	68	1130	1324	0	0	861	0
Confl. Peds. (#/hr)									6			1
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8		8						
Actuated Green, G (s)				18.8	18.8	18.8	42.5	75.2			28.0	
Effective Green, g (s)				18.8	18.8	18.8	42.5	75.2			28.0	
Actuated g/C Ratio				0.18	0.18	0.18	0.41	0.72			0.27	
Clearance Time (s)				5.1	5.1	5.1	4.7	5.1			5.1	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				281	267	251	1298	3215			1070	
v/s Ratio Prot							c0.35	0.30			c0.22	
v/s Ratio Perm				c0.12	0.10	0.05						
v/c Ratio				0.68	0.53	0.27	0.87	0.41			0.81	
Uniform Delay, d1				39.9	38.7	36.8	28.3	5.7			35.6	
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2				6.3	2.0	0.6	6.6	0.1			4.5	
Delay (s)				46.2	40.7	37.4	35.0	5.8			40.1	
Level of Service				D	D	D	C	A			D	
Approach Delay (s/veh)		0.0			41.9			19.2			40.1	
Approach LOS		A			D			B			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	27.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	104.2	Sum of lost time (s)	14.9
Intersection Capacity Utilization	80.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	259	2	1297	0	0	0	0	1984	311	83	1018	0
Future Volume (vph)	259	2	1297	0	0	0	0	1984	311	83	1018	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1728	1728	1900	1781	1781
Total Lost time (s)		5.1	5.1					5.1		4.7	5.1	
Lane Util. Factor		1.00	0.88					0.91		0.97	0.91	
Frpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Frt		1.00	0.85					0.98		1.00	1.00	
Flt Protected		0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)		1646	2584					4192		3183	4420	
Flt Permitted		0.95	1.00					1.00		0.95	1.00	
Satd. Flow (perm)		1646	2584					4192		3183	4420	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94	0.92	0.92	0.92
Adj. Flow (vph)	282	2	1410	0	0	0	0	2111	331	90	1107	0
RTOR Reduction (vph)	0	0	132	0	0	0	0	14	0	0	0	0
Lane Group Flow (vph)	0	284	1278	0	0	0	0	2428	0	90	1107	0
Confl. Peds. (#/hr)									2			
Confl. Bikes (#/hr)												2
Turn Type	Perm	NA	Perm					NA		Prot	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4									
Actuated Green, G (s)		44.9	44.9					85.2		5.0	94.9	
Effective Green, g (s)		44.9	44.9					85.2		5.0	94.9	
Actuated g/C Ratio		0.30	0.30					0.57		0.03	0.63	
Clearance Time (s)		5.1	5.1					5.1		4.7	5.1	
Vehicle Extension (s)		3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)		492	773					2381		106	2796	
v/s Ratio Prot								c0.58		c0.03	0.25	
v/s Ratio Perm		0.17	c0.49									
v/c Ratio		0.58	1.65					1.02		0.85	0.40	
Uniform Delay, d1		44.5	52.5					32.4		72.1	13.5	
Progression Factor		1.00	1.00					1.00		1.00	1.00	
Incremental Delay, d2		1.6	299.5					23.6		43.4	0.1	
Delay (s)		46.2	352.1					56.0		115.5	13.6	
Level of Service		D	F					E		F	B	
Approach Delay (s/veh)		300.8			0.0			56.0			21.3	
Approach LOS		F			A			E			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	125.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.9
Intersection Capacity Utilization	80.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



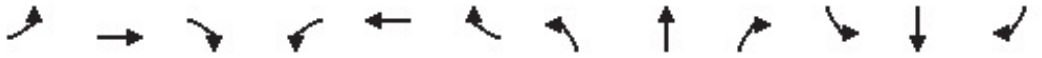
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1133	361	58	59	127	261	35	886	69	576	1175	587
Future Volume (vph)	1133	361	58	59	127	261	35	886	69	576	1175	587
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.2	5.2	4.4	4.9		4.4	5.1	5.1
Lane Util. Factor	0.97	1.00			1.00	1.00	1.00	0.95		1.00	1.00	0.88
Frpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98			1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00			0.98	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3183	1691			1700	1468	1641	3246		1641	1727	2530
Flt Permitted	0.95	1.00			0.98	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3183	1691			1700	1468	1641	3246		1641	1727	2530
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1232	392	63	64	138	284	38	963	75	626	1277	638
RTOR Reduction (vph)	0	4	0	0	0	238	0	4	0	0	0	100
Lane Group Flow (vph)	1232	451	0	0	202	46	38	1034	0	626	1277	538
Confl. Peds. (#/hr)												1
Turn Type	Split	NA		Split	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8						6
Actuated Green, G (s)	29.8	29.8			22.8	22.8	3.5	37.9		29.7	63.9	63.9
Effective Green, g (s)	29.8	29.8			22.8	22.8	3.5	37.9		29.7	63.9	63.9
Actuated g/C Ratio	0.21	0.21			0.16	0.16	0.03	0.27		0.21	0.46	0.46
Clearance Time (s)	5.3	5.3			5.2	5.2	4.4	4.9		4.4	5.1	5.1
Vehicle Extension (s)	2.0	2.0			3.7	3.7	2.0	3.8		2.0	3.8	3.8
Lane Grp Cap (vph)	677	359			276	239	41	878		348	788	1154
v/s Ratio Prot	c0.39	0.27			c0.12		0.02	0.32		c0.38	c0.74	
v/s Ratio Perm						0.03						0.21
v/c Ratio	1.82	1.26			0.73	0.19	0.93	1.18		1.80	1.62	0.47
Uniform Delay, d1	55.1	55.1			55.7	50.7	68.1	51.1		55.2	38.1	26.3
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	374.7	136.2			10.0	0.5	109.8	92.0		370.8	285.1	0.4
Delay (s)	429.8	191.3			65.7	51.2	177.9	143.0		425.9	323.1	26.7
Level of Service	F	F			E	D	F	F		F	F	C
Approach Delay (s/veh)		365.5			57.2			144.2			274.0	
Approach LOS		F			E			F			F	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	258.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.58		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	124.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	3	1057	582	92	456	6
Future Volume (vph)	3	1057	582	92	456	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9	4.9		4.9	4.9
Lane Util. Factor	1.00	1.00	0.95		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	3467		1770	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1863	3467		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	1149	633	100	496	7
RTOR Reduction (vph)	0	0	6	0	0	5
Lane Group Flow (vph)	3	1149	727	0	496	2
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases						6
Actuated Green, G (s)	0.8	58.0	52.8		30.5	30.5
Effective Green, g (s)	0.8	58.0	52.8		30.5	30.5
Actuated g/C Ratio	0.01	0.59	0.54		0.31	0.31
Clearance Time (s)	4.4	4.9	4.9		4.9	4.9
Vehicle Extension (s)	2.0	3.8	3.8		2.0	2.0
Lane Grp Cap (vph)	14	1099	1862		549	491
v/s Ratio Prot	0.00	c0.62	0.21		c0.28	
v/s Ratio Perm						0.00
v/c Ratio	0.21	1.05	0.39		0.90	0.00
Uniform Delay, d1	48.4	20.2	13.3		32.5	23.4
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.8	39.8	0.2		17.8	0.0
Delay (s)	51.2	60.0	13.5		50.3	23.4
Level of Service	D	E	B		D	C
Approach Delay (s/veh)		60.0	13.5		50.0	
Approach LOS		E	B		D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	43.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	98.3	Sum of lost time (s)	14.2
Intersection Capacity Utilization	89.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	10	330	40	318	156	93	20	49	516	210	26	10
Future Volume (vph)	10	330	40	318	156	93	20	49	516	210	26	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.80	0.80	0.92	0.92	0.92
Hourly flow rate (vph)	11	359	43	346	170	101	22	61	645	228	28	11

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	413	346	271	728	267
Volume Left (vph)	11	346	0	22	228
Volume Right (vph)	43	0	101	645	11
Hadj (s)	-0.02	0.53	-0.23	-0.49	0.18
Departure Headway (s)	8.8	9.6	8.8	8.2	9.6
Degree Utilization, x	1.01	0.92	0.67	1.66	0.71
Capacity (veh/h)	405	368	398	442	367
Control Delay (s/veh)	76.9	59.4	26.5	329.2	33.1
Approach Delay (s/veh)	76.9	44.9		329.2	33.1
Approach LOS	F	E		F	D

Intersection Summary				
Delay	152.1			
Level of Service	F			
Intersection Capacity Utilization	100.5%	ICU Level of Service	G	
Analysis Period (min)	15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	485	837	599	693	593	445
Future Volume (vph)	485	837	599	693	593	445
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.3	4.4	6.0	5.3	5.3
Lane Util. Factor	0.91	1.00	0.97	0.91	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	4715	1461	3183	4715	3183	1435
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	4715	1461	3183	4715	3183	1435
Peak-hour factor, PHF	0.94	0.94	0.92	0.92	0.92	0.92
Adj. Flow (vph)	516	890	651	753	645	484
RTOR Reduction (vph)	0	6	0	0	0	301
Lane Group Flow (vph)	516	884	651	753	645	183
Confl. Peds. (#/hr)		2				14
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Actuated Green, G (s)	21.1	60.4	27.9	53.4	39.3	39.3
Effective Green, g (s)	21.1	60.4	27.9	53.4	39.3	39.3
Actuated g/C Ratio	0.20	0.58	0.27	0.51	0.38	0.38
Clearance Time (s)	6.0	5.3	4.4	6.0	5.3	5.3
Vehicle Extension (s)	4.4	2.0	2.0	4.3	2.0	2.0
Lane Grp Cap (vph)	956	848	853	2420	1202	542
v/s Ratio Prot	0.11	c0.39	c0.20	0.16	0.20	
v/s Ratio Perm		0.21				0.13
v/c Ratio	0.54	1.04	0.76	0.31	0.54	0.34
Uniform Delay, d1	37.1	21.8	35.0	14.7	25.2	23.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9	42.4	3.7	0.1	0.2	0.1
Delay (s)	38.0	64.2	38.7	14.8	25.5	23.2
Level of Service	D	E	D	B	C	C
Approach Delay (s/veh)	54.6			25.9	24.5	
Approach LOS	D			C	C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	35.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	104.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	77.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	324	0	137	1391	930	0	0	1213	232
Future Volume (vph)	0	0	0	324	0	137	1391	930	0	0	1213	232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1795	1795	1630	1630	1630
Total Lost time (s)				5.1	5.1	5.1	4.7	5.1			5.1	
Lane Util. Factor				0.95	0.91	0.95	0.97	0.91			0.91	
Frpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Frt				1.00	0.99	0.85	1.00	1.00			0.98	
Flt Protected				0.95	0.96	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1559	1484	1395	3183	4455			3939	
Flt Permitted				0.95	0.96	1.00	0.95	1.00			1.00	
Satd. Flow (perm)				1559	1484	1395	3183	4455			3939	
Peak-hour factor, PHF	0.92	0.92	0.92	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	348	0	147	1512	1011	0	0	1318	252
RTOR Reduction (vph)	0	0	0	0	43	116	0	0	0	0	19	0
Lane Group Flow (vph)	0	0	0	181	139	16	1512	1011	0	0	1551	0
Confl. Peds. (#/hr)									6			1
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8		8						
Actuated Green, G (s)				18.7	18.7	18.7	62.3	120.9			53.9	
Effective Green, g (s)				18.7	18.7	18.7	62.3	120.9			53.9	
Actuated g/C Ratio				0.12	0.12	0.12	0.42	0.81			0.36	
Clearance Time (s)				5.1	5.1	5.1	4.7	5.1			5.1	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				194	185	174	1323	3595			1417	
v/s Ratio Prot							c0.47	0.23			c0.39	
v/s Ratio Perm				c0.12	0.09	0.01						
v/c Ratio				0.93	0.75	0.09	1.14	0.28			1.09	
Uniform Delay, d1				64.9	63.3	58.1	43.8	3.6			48.0	
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2				45.6	15.8	0.2	73.8	0.0			54.2	
Delay (s)				110.6	79.1	58.3	117.5	3.6			102.2	
Level of Service				F	E	E	F	A			F	
Approach Delay (s/veh)		0.0			85.0			71.9			102.2	
Approach LOS		A			F			E			F	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	83.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	149.8	Sum of lost time (s)	14.9
Intersection Capacity Utilization	95.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	1	1284	0	0	0	0	2173	444	168	1362	0
Future Volume (vph)	125	1	1284	0	0	0	0	2173	444	168	1362	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1728	1728	1900	1781	1781
Total Lost time (s)		5.1	5.1					5.1		4.7	5.1	
Lane Util. Factor		1.00	0.88					0.91		0.97	0.91	
Frpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Frt		1.00	0.85					0.97		1.00	1.00	
Flt Protected		0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)		1646	2584					4166		3183	4420	
Flt Permitted		0.95	1.00					1.00		0.95	1.00	
Satd. Flow (perm)		1646	2584					4166		3183	4420	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94	0.93	0.93	0.93
Adj. Flow (vph)	136	1	1396	0	0	0	0	2312	472	181	1465	0
RTOR Reduction (vph)	0	0	68	0	0	0	0	21	0	0	0	0
Lane Group Flow (vph)	0	137	1328	0	0	0	0	2763	0	181	1465	0
Confl. Peds. (#/hr)									4	2		
Confl. Bikes (#/hr)												2
Turn Type	Perm	NA	Perm					NA		Prot	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4									
Actuated Green, G (s)		41.9	41.9					86.9		6.3	97.9	
Effective Green, g (s)		41.9	41.9					86.9		6.3	97.9	
Actuated g/C Ratio		0.28	0.28					0.58		0.04	0.65	
Clearance Time (s)		5.1	5.1					5.1		4.7	5.1	
Vehicle Extension (s)		3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)		459	721					2413		133	2884	
v/s Ratio Prot								c0.66		c0.06	0.33	
v/s Ratio Perm		0.08	c0.51									
v/c Ratio		0.30	1.84					1.15		1.36	0.51	
Uniform Delay, d1		42.5	54.1					31.6		71.9	13.5	
Progression Factor		1.00	1.00					1.00		1.00	1.00	
Incremental Delay, d2		0.4	383.9					70.8		203.2	0.1	
Delay (s)		42.9	438.0					102.3		275.0	13.7	
Level of Service		D	F					F		F	B	
Approach Delay (s/veh)		402.7			0.0			102.3			42.4	
Approach LOS		F			A			F			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	163.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.9
Intersection Capacity Utilization	95.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	853	213	47	83	366	532	62	1234	53	353	1092	1238
Future Volume (vph)	853	213	47	83	366	532	62	1234	53	353	1092	1238
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.2	5.2	4.4	4.9		4.4	5.1	5.1
Lane Util. Factor	0.97	1.00			1.00	1.00	1.00	0.95		1.00	1.00	0.88
Frpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.97			1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00			0.99	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3183	1674			1711	1468	1641	3259		1641	1727	2529
Flt Permitted	0.95	1.00			0.99	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3183	1674			1711	1468	1641	3259		1641	1727	2529
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	927	232	51	90	398	578	67	1341	58	384	1187	1346
RTOR Reduction (vph)	0	5	0	0	0	143	0	2	0	0	0	245
Lane Group Flow (vph)	927	278	0	0	488	435	67	1397	0	384	1187	1101
Confl. Peds. (#/hr)			1						3			1
Turn Type	Split	NA		Split	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8						6
Actuated Green, G (s)	24.7	24.7			37.8	37.8	7.0	48.1		19.6	60.5	60.5
Effective Green, g (s)	24.7	24.7			37.8	37.8	7.0	48.1		19.6	60.5	60.5
Actuated g/C Ratio	0.16	0.16			0.25	0.25	0.05	0.32		0.13	0.40	0.40
Clearance Time (s)	5.3	5.3			5.2	5.2	4.4	4.9		4.4	5.1	5.1
Vehicle Extension (s)	2.0	2.0			3.7	3.7	2.0	3.8		2.0	3.8	3.8
Lane Grp Cap (vph)	524	275			431	369	76	1045		214	696	1020
v/s Ratio Prot	c0.29	0.17			0.29		0.04	0.43		c0.23	c0.69	
v/s Ratio Perm						c0.30						0.44
v/c Ratio	1.77	1.01			1.13	1.18	0.88	1.34		1.79	1.71	1.08
Uniform Delay, d1	62.7	62.7			56.1	56.1	71.1	51.0		65.2	44.8	44.8
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	353.8	57.1			84.7	105.2	63.2	158.1		375.6	323.6	52.1
Delay (s)	416.5	119.7			140.8	161.3	134.3	209.1		440.8	368.3	96.8
Level of Service	F	F			F	F	F	F		F	F	F
Approach Delay (s/veh)		347.1			151.9			205.6			252.6	
Approach LOS		F			F			F			F	

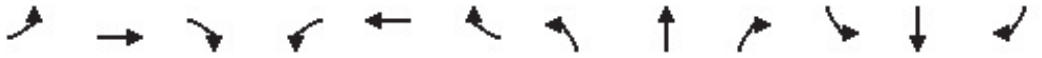
Intersection Summary			
HCM 2000 Control Delay (s/veh)	243.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.61		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	822	1282	336	200	1
Future Volume (vph)	0	822	1282	336	200	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9	4.9		4.9	4.9
Lane Util. Factor		1.00	0.95		1.00	1.00
Frpb, ped/bikes		1.00	1.00		1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00
Frt		1.00	0.97		1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		1863	3413		1770	1583
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		1863	3413		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	893	1393	365	217	1
RTOR Reduction (vph)	0	0	7	0	0	1
Lane Group Flow (vph)	0	893	1751	0	217	0
Confl. Peds. (#/hr)	1			1		
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases						6
Actuated Green, G (s)		60.8	60.8		17.6	17.6
Effective Green, g (s)		60.8	60.8		17.6	17.6
Actuated g/C Ratio		0.69	0.69		0.20	0.20
Clearance Time (s)		4.9	4.9		4.9	4.9
Vehicle Extension (s)		3.8	3.8		2.0	2.0
Lane Grp Cap (vph)		1284	2352		353	315
v/s Ratio Prot		0.48	c0.51		c0.12	
v/s Ratio Perm						0.00
v/c Ratio		0.70	0.74		0.61	0.00
Uniform Delay, d1		8.2	8.7		32.2	28.3
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		1.8	1.4		2.2	0.0
Delay (s)		9.9	10.1		34.4	28.3
Level of Service		A	B		C	C
Approach Delay (s/veh)		9.9	10.1		34.4	
Approach LOS		A	B		C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	88.2	Sum of lost time (s)	14.2
Intersection Capacity Utilization	65.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	10	228	30	557	380	221	47	30	430	138	50	10
Future Volume (vph)	10	228	30	557	380	221	47	30	430	138	50	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	248	33	605	413	240	51	33	467	150	54	11

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	292	605	653	551	215
Volume Left (vph)	11	605	0	51	150
Volume Right (vph)	33	0	240	467	11
Hadj (s)	-0.03	0.53	-0.22	-0.46	0.14
Departure Headway (s)	8.4	8.7	7.9	7.3	8.9
Degree Utilization, x	0.68	1.46	1.44	1.12	0.53
Capacity (veh/h)	418	421	466	497	387
Control Delay (s/veh)	27.7	242.5	230.9	102.0	21.5
Approach Delay (s/veh)	27.7	236.5		102.0	21.5
Approach LOS	D	F		F	C

Intersection Summary				
Delay	158.2			
Level of Service	F			
Intersection Capacity Utilization	102.8%	ICU Level of Service	G	
Analysis Period (min)	15			

Appendix U - LOS Calculation Worksheets – Horizon Year 2062 with Project with Mitigation Conditions



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	750	511	424	480	790	634
Future Volume (vph)	750	511	424	480	790	634
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.3	4.4	6.0	5.3	5.3
Lane Util. Factor	0.91	1.00	0.97	0.91	0.97	1.00
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	4715	1459	3183	4715	3183	1446
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	4715	1459	3183	4715	3183	1446
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.88
Adj. Flow (vph)	789	538	446	505	832	720
RTOR Reduction (vph)	0	21	0	0	0	250
Lane Group Flow (vph)	789	517	446	505	832	470
Confl. Peds. (#/hr)		5				4
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Actuated Green, G (s)	25.4	65.6	18.4	48.2	40.2	40.2
Effective Green, g (s)	25.4	65.6	18.4	48.2	40.2	40.2
Actuated g/C Ratio	0.25	0.66	0.18	0.48	0.40	0.40
Clearance Time (s)	6.0	5.3	4.4	6.0	5.3	5.3
Vehicle Extension (s)	4.4	2.0	2.0	4.3	2.0	2.0
Lane Grp Cap (vph)	1201	959	587	2279	1283	583
v/s Ratio Prot	c0.17	0.22	c0.14	0.11	0.26	
v/s Ratio Perm		0.14				c0.32
v/c Ratio	0.66	0.54	0.76	0.22	0.65	0.81
Uniform Delay, d1	33.3	9.0	38.6	14.9	24.0	26.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.6	0.3	5.0	0.1	0.9	7.6
Delay (s)	34.8	9.3	43.6	15.0	24.9	33.9
Level of Service	C	A	D	B	C	C
Approach Delay (s/veh)	24.5			28.4	29.1	
Approach LOS	C			C	C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	27.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	99.7	Sum of lost time (s)	15.7
Intersection Capacity Utilization	66.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	354	10	160	1116	1264	0	0	825	110
Future Volume (vph)	0	0	0	354	10	160	1116	1264	0	0	825	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1795	1795	1630	1630	1630
Total Lost time (s)				5.1	5.1	5.1	4.7	5.1			5.1	
Lane Util. Factor				0.95	0.91	0.95	0.97	0.91			0.91	
Frpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Frt				1.00	0.99	0.85	1.00	1.00			0.98	
Flt Protected				0.95	0.96	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1559	1488	1395	3183	4455			3968	
Flt Permitted				0.95	0.96	1.00	0.95	1.00			1.00	
Satd. Flow (perm)				1559	1488	1395	3183	4455			3968	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	373	11	168	1175	1331	0	0	868	116
RTOR Reduction (vph)	0	0	0	0	3	64	0	0	0	0	13	0
Lane Group Flow (vph)	0	0	0	201	197	87	1175	1331	0	0	971	0
Confl. Peds. (#/hr)									6			1
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8		8						
Actuated Green, G (s)				20.4	20.4	20.4	45.3	80.4			30.4	
Effective Green, g (s)				20.4	20.4	20.4	45.3	80.4			30.4	
Actuated g/C Ratio				0.18	0.18	0.18	0.41	0.72			0.27	
Clearance Time (s)				5.1	5.1	5.1	4.7	5.1			5.1	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				286	273	256	1299	3226			1086	
v/s Ratio Prot							c0.37	0.30			c0.24	
v/s Ratio Perm				0.13	0.13	0.06						
v/c Ratio				0.70	0.72	0.34	0.90	0.41			0.89	
Uniform Delay, d1				42.5	42.6	39.4	30.8	6.0			38.8	
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2				7.6	9.0	0.8	9.1	0.1			9.6	
Delay (s)				50.1	51.6	40.2	39.9	6.1			48.3	
Level of Service				D	D	D	D	A			D	
Approach Delay (s/veh)		0.0			47.9			22.0			48.3	
Approach LOS		A			D			C			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	31.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	111.0	Sum of lost time (s)	14.9
Intersection Capacity Utilization	90.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	320	60	1373	0	0	0	0	2060	380	110	1069	0
Future Volume (vph)	320	60	1373	0	0	0	0	2060	380	110	1069	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1728	1728	1900	1781	1781
Total Lost time (s)		5.1	5.1					5.1		4.7	5.1	
Lane Util. Factor		1.00	0.88					0.91		0.97	0.91	
Frpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Frt		1.00	0.85					0.98		1.00	1.00	
Flt Protected		0.96	1.00					1.00		0.95	1.00	
Satd. Flow (prot)		1657	2584					4178		3183	4420	
Flt Permitted		0.96	1.00					1.00		0.95	1.00	
Satd. Flow (perm)		1657	2584					4178		3183	4420	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	337	63	1445	0	0	0	0	2168	400	116	1125	0
RTOR Reduction (vph)	0	0	132	0	0	0	0	18	0	0	0	0
Lane Group Flow (vph)	0	400	1313	0	0	0	0	2550	0	116	1125	0
Confl. Peds. (#/hr)									2			
Confl. Bikes (#/hr)												2
Turn Type	Perm	NA	Perm					NA		Prot	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4									
Actuated Green, G (s)		43.9	43.9					85.9		5.3	95.9	
Effective Green, g (s)		43.9	43.9					85.9		5.3	95.9	
Actuated g/C Ratio		0.29	0.29					0.57		0.04	0.64	
Clearance Time (s)		5.1	5.1					5.1		4.7	5.1	
Vehicle Extension (s)		3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)		484	756					2392		112	2825	
v/s Ratio Prot								c0.61		c0.04	0.25	
v/s Ratio Perm		0.24	c0.51									
v/c Ratio		0.83	1.74					1.07		1.04	0.40	
Uniform Delay, d1		49.5	53.1					32.1		72.4	13.1	
Progression Factor		1.00	1.00					1.00		1.00	1.00	
Incremental Delay, d2		11.0	336.9					39.0		95.0	0.1	
Delay (s)		60.5	390.0					71.0		167.3	13.2	
Level of Service		E	F					E		F	B	
Approach Delay (s/veh)		318.5			0.0			71.0			27.6	
Approach LOS		F			A			E			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	142.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.28		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.9
Intersection Capacity Utilization	90.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



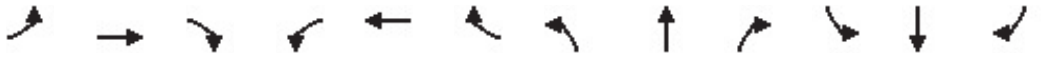
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1160	378	75	110	140	310	44	970	130	620	1220	592
Future Volume (vph)	1160	378	75	110	140	310	44	970	130	620	1220	592
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.2	5.2	4.4	4.9		4.4	5.1	5.1
Lane Util. Factor	0.97	1.00			1.00	1.00	1.00	0.95		1.00	1.00	0.88
Frpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98			1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00			0.98	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3183	1684			1690	1468	1641	3224		1641	1727	2529
Flt Permitted	0.95	1.00			0.98	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3183	1684			1690	1468	1641	3224		1641	1727	2529
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1221	398	79	116	147	326	46	1021	137	653	1284	623
RTOR Reduction (vph)	0	5	0	0	0	236	0	6	0	0	0	101
Lane Group Flow (vph)	1221	472	0	0	263	90	46	1152	0	653	1284	522
Confl. Peds. (#/hr)												1
Turn Type	Split	NA		Split	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8						6
Actuated Green, G (s)	27.7	27.7			27.2	27.2	5.1	40.0		28.6	63.3	63.3
Effective Green, g (s)	27.7	27.7			27.2	27.2	5.1	40.0		28.6	63.3	63.3
Actuated g/C Ratio	0.19	0.19			0.19	0.19	0.04	0.28		0.20	0.44	0.44
Clearance Time (s)	5.3	5.3			5.2	5.2	4.4	4.9		4.4	5.1	5.1
Vehicle Extension (s)	2.0	2.0			3.7	3.7	2.0	3.8		2.0	3.8	3.8
Lane Grp Cap (vph)	615	325			320	278	58	899		327	762	1117
v/s Ratio Prot	c0.38	0.28			c0.16		0.03	0.36		c0.40	c0.74	
v/s Ratio Perm						0.06						0.21
v/c Ratio	1.99	1.45			0.82	0.32	0.79	1.28		2.00	1.69	0.47
Uniform Delay, d1	57.8	57.8			55.7	50.1	68.6	51.7		57.4	40.0	28.1
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	449.2	220.2			16.0	0.9	48.5	134.9		459.4	314.0	0.4
Delay (s)	507.0	278.0			71.7	51.0	117.1	186.6		516.7	354.0	28.5
Level of Service	F	F			E	D	F	F		F	F	C
Approach Delay (s/veh)		442.7			60.2			183.9			316.3	
Approach LOS		F			E			F			F	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	300.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.67		
Actuated Cycle Length (s)	143.3	Sum of lost time (s)	20.0
Intersection Capacity Utilization	130.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	10	1088	606	110	468	10
Future Volume (vph)	10	1088	606	110	468	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9	4.9		4.9	4.9
Lane Util. Factor	1.00	1.00	0.95		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	3458		1770	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1863	3458		1770	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	11	1145	638	116	493	11
RTOR Reduction (vph)	0	0	8	0	0	8
Lane Group Flow (vph)	11	1145	746	0	493	3
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases						6
Actuated Green, G (s)	0.7	77.5	72.4		37.8	37.8
Effective Green, g (s)	0.7	77.5	72.4		37.8	37.8
Actuated g/C Ratio	0.01	0.62	0.58		0.30	0.30
Clearance Time (s)	4.4	4.9	4.9		4.9	4.9
Vehicle Extension (s)	2.0	3.8	3.8		2.0	2.0
Lane Grp Cap (vph)	9	1154	2001		534	478
v/s Ratio Prot	0.01	c0.61	0.22		c0.28	
v/s Ratio Perm						0.00
v/c Ratio	1.22	0.99	0.37		0.92	0.01
Uniform Delay, d1	62.2	23.5	14.2		42.2	30.5
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	385.4	24.5	0.2		21.4	0.0
Delay (s)	447.6	48.0	14.3		63.7	30.5
Level of Service	F	D	B		E	C
Approach Delay (s/veh)		51.8	14.3		62.9	
Approach LOS		D	B		E	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	42.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	125.1	Sum of lost time (s)	14.2
Intersection Capacity Utilization	91.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	20	340	50	338	170	106	30	64	540	230	35	20
Future Volume (vph)	20	340	50	338	170	106	30	64	540	230	35	20
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	21	358	53	356	179	112	32	67	568	242	37	21

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	432	356	291	667	300
Volume Left (vph)	21	356	0	32	242
Volume Right (vph)	53	0	112	568	21
Hadj (s)	-0.03	0.53	-0.24	-0.47	0.15
Departure Headway (s)	9.1	9.8	9.0	8.5	9.6
Degree Utilization, x	1.09	0.97	0.73	1.58	0.80
Capacity (veh/h)	390	356	393	426	369
Control Delay (s/veh)	101.1	70.0	31.6	293.9	42.0
Approach Delay (s/veh)	101.1	52.7		293.9	42.0
Approach LOS	F	F		F	E

Intersection Summary				
Delay	140.0			
Level of Service	F			
Intersection Capacity Utilization	108.2%	ICU Level of Service	G	
Analysis Period (min)	15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	710	890	664	990	655	473
Future Volume (vph)	710	890	664	990	655	473
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.3	4.4	6.0	5.3	5.3
Lane Util. Factor	0.91	1.00	0.97	0.91	0.97	1.00
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	4715	1460	3183	4715	3183	1434
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	4715	1460	3183	4715	3183	1434
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	747	937	699	1042	689	498
RTOR Reduction (vph)	0	22	0	0	0	314
Lane Group Flow (vph)	747	915	699	1042	689	184
Confl. Peds. (#/hr)		2				14
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Actuated Green, G (s)	26.1	67.8	29.4	59.9	41.7	41.7
Effective Green, g (s)	26.1	67.8	29.4	59.9	41.7	41.7
Actuated g/C Ratio	0.23	0.60	0.26	0.53	0.37	0.37
Clearance Time (s)	6.0	5.3	4.4	6.0	5.3	5.3
Vehicle Extension (s)	4.4	2.0	2.0	4.3	2.0	2.0
Lane Grp Cap (vph)	1090	876	828	2501	1175	529
v/s Ratio Prot	0.16	c0.39	c0.22	0.22	0.22	
v/s Ratio Perm		0.24				0.13
v/c Ratio	0.69	1.04	0.84	0.42	0.59	0.35
Uniform Delay, d1	39.6	22.6	39.6	16.0	28.7	25.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.1	42.7	7.6	0.2	0.5	0.1
Delay (s)	41.7	65.2	47.1	16.1	29.1	25.9
Level of Service	D	E	D	B	C	C
Approach Delay (s/veh)	54.8			28.6	27.8	
Approach LOS	D			C	C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	38.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	112.9	Sum of lost time (s)	15.7
Intersection Capacity Utilization	82.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	340	10	150	1425	978	0	0	1274	280
Future Volume (vph)	0	0	0	340	10	150	1425	978	0	0	1274	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1795	1795	1630	1630	1630
Total Lost time (s)				5.1	5.1	5.1	4.7	5.1			5.1	
Lane Util. Factor				0.95	0.91	0.95	0.97	0.91			0.91	
Frpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Frt				1.00	0.99	0.85	1.00	1.00			0.97	
Flt Protected				0.95	0.96	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1559	1488	1395	3183	4455			3926	
Flt Permitted				0.95	0.96	1.00	0.95	1.00			1.00	
Satd. Flow (perm)				1559	1488	1395	3183	4455			3926	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	358	11	158	1500	1029	0	0	1341	295
RTOR Reduction (vph)	0	0	0	0	2	126	0	0	0	0	23	0
Lane Group Flow (vph)	0	0	0	193	190	16	1500	1029	0	0	1613	0
Confl. Peds. (#/hr)									6			1
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8		8						
Actuated Green, G (s)				16.9	16.9	16.9	62.3	122.9			55.9	
Effective Green, g (s)				16.9	16.9	16.9	62.3	122.9			55.9	
Actuated g/C Ratio				0.11	0.11	0.11	0.42	0.82			0.37	
Clearance Time (s)				5.1	5.1	5.1	4.7	5.1			5.1	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				175	167	157	1322	3650			1463	
v/s Ratio Prot							c0.47	0.23			c0.41	
v/s Ratio Perm				0.12	0.13	0.01						
v/c Ratio				1.10	1.14	0.10	1.13	0.28			1.10	
Uniform Delay, d1				66.6	66.6	59.7	43.9	3.2			47.1	
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2				98.2	111.9	0.3	70.5	0.0			56.8	
Delay (s)				164.8	178.5	60.0	114.3	3.2			103.9	
Level of Service				F	F	E	F	A			F	
Approach Delay (s/veh)		0.0			141.6			69.1			103.9	
Approach LOS		A			F			E			F	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	89.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.9
Intersection Capacity Utilization	100.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	10	1335	0	0	0	0	2253	513	210	1404	0
Future Volume (vph)	150	10	1335	0	0	0	0	2253	513	210	1404	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1728	1728	1900	1781	1781
Total Lost time (s)		5.1	5.1					5.1		4.7	5.1	
Lane Util. Factor		1.00	0.88					0.91		0.97	0.91	
Frpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Frt		1.00	0.85					0.97		1.00	1.00	
Flt Protected		0.96	1.00					1.00		0.95	1.00	
Satd. Flow (prot)		1650	2584					4154		3183	4420	
Flt Permitted		0.96	1.00					1.00		0.95	1.00	
Satd. Flow (perm)		1650	2584					4154		3183	4420	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	158	11	1405	0	0	0	0	2372	540	221	1478	0
RTOR Reduction (vph)	0	0	75	0	0	0	0	24	0	0	0	0
Lane Group Flow (vph)	0	169	1330	0	0	0	0	2888	0	221	1478	0
Confl. Peds. (#/hr)									4	2		
Confl. Bikes (#/hr)												2
Turn Type	Perm	NA	Perm					NA		Prot	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4									
Actuated Green, G (s)		38.9	38.9					87.9		8.3	100.9	
Effective Green, g (s)		38.9	38.9					87.9		8.3	100.9	
Actuated g/C Ratio		0.26	0.26					0.59		0.06	0.67	
Clearance Time (s)		5.1	5.1					5.1		4.7	5.1	
Vehicle Extension (s)		3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)		427	670					2434		176	2973	
v/s Ratio Prot								c0.70		c0.07	0.33	
v/s Ratio Perm		0.10	c0.51									
v/c Ratio		0.40	1.99					1.19		1.26	0.50	
Uniform Delay, d1		45.9	55.6					31.1		70.9	12.1	
Progression Factor		1.00	1.00					1.00		1.00	1.00	
Incremental Delay, d2		0.6	448.8					88.3		152.9	0.1	
Delay (s)		46.5	504.3					119.4		223.7	12.2	
Level of Service		D	F					F		F	B	
Approach Delay (s/veh)		455.2			0.0			119.4			39.7	
Approach LOS		F			A			F			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	182.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.42		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.9
Intersection Capacity Utilization	100.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	866	236	67	160	388	590	106	1310	150	370	1110	1259
Future Volume (vph)	866	236	67	160	388	590	106	1310	150	370	1110	1259
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.2	5.2	4.4	4.9		4.4	5.1	5.1
Lane Util. Factor	0.97	1.00			1.00	1.00	1.00	0.95		1.00	1.00	0.88
Frpb, ped/bikes	1.00	0.99			1.00	1.00	1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.97			1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00			0.99	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3183	1661			1702	1468	1641	3226		1641	1727	2529
Flt Permitted	0.95	1.00			0.99	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3183	1661			1702	1468	1641	3226		1641	1727	2529
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	912	248	71	168	408	621	112	1379	158	389	1168	1325
RTOR Reduction (vph)	0	7	0	0	0	134	0	6	0	0	0	245
Lane Group Flow (vph)	912	312	0	0	576	487	112	1531	0	389	1168	1080
Confl. Peds. (#/hr)			1						3			1
Turn Type	Split	NA		Split	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8						6
Actuated Green, G (s)	22.7	22.7			39.8	39.8	10.6	49.1		18.6	56.9	56.9
Effective Green, g (s)	22.7	22.7			39.8	39.8	10.6	49.1		18.6	56.9	56.9
Actuated g/C Ratio	0.15	0.15			0.27	0.27	0.07	0.33		0.12	0.38	0.38
Clearance Time (s)	5.3	5.3			5.2	5.2	4.4	4.9		4.4	5.1	5.1
Vehicle Extension (s)	2.0	2.0			3.7	3.7	2.0	3.8		2.0	3.8	3.8
Lane Grp Cap (vph)	481	251			451	389	115	1055		203	655	959
v/s Ratio Prot	c0.29	0.19			c0.34		0.07	0.47		c0.24	c0.68	
v/s Ratio Perm						0.33						0.43
v/c Ratio	1.90	1.24			1.28	1.25	0.97	1.45		1.92	1.78	1.13
Uniform Delay, d1	63.7	63.7			55.1	55.1	69.6	50.4		65.7	46.6	46.6
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	411.0	138.7			141.0	133.3	74.9	208.4		430.1	358.6	70.2
Delay (s)	474.6	202.3			196.1	188.4	144.5	258.8		495.8	405.1	116.8
Level of Service	F	F			F	F	F	F		F	F	F
Approach Delay (s/veh)		404.1			192.1			251.0			284.8	
Approach LOS		F			F			F			F	

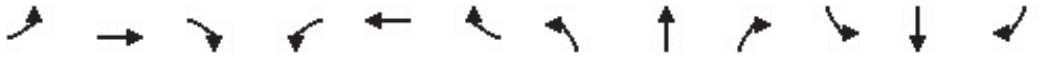
Intersection Summary			
HCM 2000 Control Delay (s/veh)	282.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.70		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	134.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	10	943	1404	352	227	10
Future Volume (vph)	10	943	1404	352	227	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9	4.9		4.9	4.9
Lane Util. Factor	1.00	1.00	0.95		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.97		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1769	1863	3418		1770	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1769	1863	3418		1770	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	11	993	1478	371	239	11
RTOR Reduction (vph)	0	0	16	0	0	9
Lane Group Flow (vph)	11	993	1833	0	239	2
Confl. Peds. (#/hr)	1			1		
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases						6
Actuated Green, G (s)	0.5	58.9	54.0		19.5	19.5
Effective Green, g (s)	0.5	58.9	54.0		19.5	19.5
Actuated g/C Ratio	0.01	0.67	0.61		0.22	0.22
Clearance Time (s)	4.4	4.9	4.9		4.9	4.9
Vehicle Extension (s)	2.0	3.8	3.8		2.0	2.0
Lane Grp Cap (vph)	10	1244	2092		391	349
v/s Ratio Prot	0.01	c0.53	c0.54		c0.14	
v/s Ratio Perm						0.00
v/c Ratio	1.10	0.80	0.88		0.61	0.01
Uniform Delay, d1	43.9	10.4	14.3		30.9	26.8
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	321.8	3.8	4.6		2.0	0.0
Delay (s)	365.7	14.3	18.9		32.9	26.8
Level of Service	F	B	B		C	C
Approach Delay (s/veh)		18.1	18.9		32.7	
Approach LOS		B	B		C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	19.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	88.2	Sum of lost time (s)	14.2
Intersection Capacity Utilization	70.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	20	240	40	616	400	262	60	45	490	207	66	20
Future Volume (vph)	20	240	40	616	400	262	60	45	490	207	66	20
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	21	253	42	648	421	276	63	47	516	218	69	21

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	316	648	697	626	308
Volume Left (vph)	21	648	0	63	218
Volume Right (vph)	42	0	276	516	21
Hadj (s)	-0.03	0.53	-0.24	-0.44	0.13
Departure Headway (s)	9.1	9.4	8.6	8.1	9.2
Degree Utilization, x	0.80	1.69	1.66	1.41	0.78
Capacity (veh/h)	385	397	423	456	384
Control Delay (s/veh)	39.4	341.8	329.4	220.2	38.5
Approach Delay (s/veh)	39.4	335.4		220.2	38.5
Approach LOS	E	F		F	E

Intersection Summary				
Delay	236.3			
Level of Service	F			
Intersection Capacity Utilization	118.6%	ICU Level of Service	H	
Analysis Period (min)	15			

Appendix V - SimTraffic Queue Reports

Intersection: 1: Cactus Rd & Otay Mesa Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	R	L
Maximum Queue (ft)	17	87	19	105	157	86	102	82	86	31	71	52
Average Queue (ft)	3	22	3	31	50	11	17	8	34	1	30	8
95th Queue (ft)	14	60	13	76	104	42	55	38	66	11	63	33
Link Distance (ft)		1166	1166	1166		1265	1265	1265		759		101
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	525				495				110		110	
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 1: Cactus Rd & Otay Mesa Rd

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	31	49
Average Queue (ft)	1	10
95th Queue (ft)	11	37
Link Distance (ft)	101	101
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Continental St & Otay Mesa Rd

Movement	EB	EB	EB	WB	NB
Directions Served	T	T	TR	L	R
Maximum Queue (ft)	31	27	94	65	66
Average Queue (ft)	3	1	13	19	13
95th Queue (ft)	16	9	55	47	42
Link Distance (ft)	1265	1265	1265		
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				540	270
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 3: Britannia Blvd & Otay Mesa Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	T	R	L	T	T	T	L	L	R
Maximum Queue (ft)	113	80	65	79	137	78	32	28	98	83	103
Average Queue (ft)	32	24	14	24	51	31	4	1	34	37	55
95th Queue (ft)	78	62	44	62	101	72	22	9	77	73	93
Link Distance (ft)	1192	1192	1192	1192		1319	1319	1319	1001	1001	1001
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)					525						
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 4: Britannia Blvd & SR-905 WB Ramps

Movement	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	R	L	L	T	T	T	T	T	TR
Maximum Queue (ft)	304	56	54	132	142	242	116	115	100	113	91
Average Queue (ft)	144	17	20	72	93	36	22	39	44	33	36
95th Queue (ft)	270	39	48	143	138	113	68	92	81	78	70
Link Distance (ft)		752	752			438	438	438	1001	1001	1001
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	330			120	120						
Storage Blk Time (%)				1	4						
Queuing Penalty (veh)				1	4						

Intersection: 5: Britannia Blvd & SR-905 EB Ramps

Movement	EB	EB	EB	NB	NB	SB	SB	SB	SB	SB
Directions Served	LT	R	R	T	TR	L	L	T	T	T
Maximum Queue (ft)	238	316	277	255	226	80	109	169	159	90
Average Queue (ft)	94	128	43	109	100	16	40	75	59	30
95th Queue (ft)	171	252	129	188	180	49	78	152	119	71
Link Distance (ft)	990	990		997	997			438	438	438
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)			930			120	120			
Storage Blk Time (%)							0	2		
Queuing Penalty (veh)							0	2		

Intersection: 6: Britannia Blvd & Airway Rd

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	LTR	LT	R	L	T	TR	L	T	R
Maximum Queue (ft)	94	124	66	114	53	228	245	297	386	89
Average Queue (ft)	24	40	8	56	4	109	101	171	120	30
95th Queue (ft)	64	84	34	96	22	196	186	275	281	68
Link Distance (ft)		1171	2638			946	946	997	997	997
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	245			580	210					
Storage Blk Time (%)						1				
Queuing Penalty (veh)						0				

Intersection: 7: Airway Rd & Continental Rd

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	30	60
Average Queue (ft)	1	13
95th Queue (ft)	10	37
Link Distance (ft)	1338	487
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Cactus Rd & Airway Rd

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	67	68	30
Average Queue (ft)	38	34	4
95th Queue (ft)	58	54	21
Link Distance (ft)	1338	1246	771
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 14: Continental Rd & Colchester Ct

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	33	33	33
Average Queue (ft)	7	16	11
95th Queue (ft)	28	42	37
Link Distance (ft)	477	487	92
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 7

Intersection: 1: Cactus Rd & Otay Mesa Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	R	L
Maximum Queue (ft)	57	64	135	221	139	88	97	81	131	283	126	107
Average Queue (ft)	3	25	8	85	32	19	22	10	44	10	41	15
95th Queue (ft)	20	57	50	185	75	54	58	42	98	97	72	56
Link Distance (ft)		1166	1166	1166		1265	1265	1265		759		101
Upstream Blk Time (%)												0
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	525				495				110		110	
Storage Blk Time (%)									2		0	
Queuing Penalty (veh)									2		0	

Intersection: 1: Cactus Rd & Otay Mesa Rd

Movement	SB
Directions Served	R
Maximum Queue (ft)	32
Average Queue (ft)	10
95th Queue (ft)	34
Link Distance (ft)	101
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Continental St & Otay Mesa Rd

Movement	EB	EB	EB	WB	WB	NB	NB
Directions Served	T	T	TR	L	T	L	R
Maximum Queue (ft)	55	31	114	66	61	26	31
Average Queue (ft)	9	4	31	25	3	1	12
95th Queue (ft)	33	21	95	55	23	9	36
Link Distance (ft)	1265	1265	1265		1192	390	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)				540			270
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 3: Britannia Blvd & Otay Mesa Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	T	R	L	T	T	T	L	L	R
Maximum Queue (ft)	112	91	112	144	235	135	55	28	105	141	102
Average Queue (ft)	35	40	29	63	116	37	14	2	36	65	45
95th Queue (ft)	81	82	81	126	207	94	43	14	83	119	76
Link Distance (ft)	1192	1192	1192	1192		1319	1319	1319	1001	1001	1001
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)					525						
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 4: Britannia Blvd & SR-905 WB Ramps

Movement	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	R	L	L	T	T	T	T	T	TR
Maximum Queue (ft)	341	108	56	132	144	453	279	90	247	186	277
Average Queue (ft)	140	36	20	118	133	249	31	25	111	48	105
95th Queue (ft)	253	72	46	155	167	547	122	68	193	106	208
Link Distance (ft)		752	752			438	438	438	1001	1001	1001
Upstream Blk Time (%)						2					
Queuing Penalty (veh)						5					
Storage Bay Dist (ft)	330			120	120						
Storage Blk Time (%)	0			2	18	0					
Queuing Penalty (veh)	0			2	16	1					

Intersection: 5: Britannia Blvd & SR-905 EB Ramps

Movement	EB	EB	EB	NB	NB	SB	SB	SB	SB	SB
Directions Served	LT	R	R	T	TR	L	L	T	T	T
Maximum Queue (ft)	156	191	93	640	353	129	141	268	208	124
Average Queue (ft)	67	89	34	356	170	62	77	24	33	22
95th Queue (ft)	134	145	66	626	332	123	132	108	111	80
Link Distance (ft)	990	990		997	997			438	438	438
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)			930			120	120			
Storage Blk Time (%)						2	5			
Queuing Penalty (veh)						2	5			

Intersection: 6: Britannia Blvd & Airway Rd

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	LTR	LT	R	T	TR	L	T	R
Maximum Queue (ft)	130	146	46	406	803	751	265	295	67
Average Queue (ft)	57	48	8	151	299	223	113	133	33
95th Queue (ft)	108	100	32	299	613	522	210	242	66
Link Distance (ft)		1171	2638		946	946	997	997	997
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	245			580					
Storage Blk Time (%)					27				
Queuing Penalty (veh)					0				

Intersection: 7: Airway Rd & Continental Rd

Movement	SB
Directions Served	LR
Maximum Queue (ft)	24
Average Queue (ft)	7
95th Queue (ft)	24
Link Distance (ft)	487
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Cactus Rd & Airway Rd

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	58	65	33
Average Queue (ft)	34	34	10
95th Queue (ft)	47	54	34
Link Distance (ft)	1338	1246	771
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 14: Continental Rd & Colchester Ct

Movement	WB	NB
Directions Served	LR	TR
Maximum Queue (ft)	33	33
Average Queue (ft)	8	12
95th Queue (ft)	30	38
Link Distance (ft)	477	487
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 34

Intersection: 1: Cactus Rd & Otay Mesa Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	R	L	R
Maximum Queue (ft)	18	121	53	83	127	56	52	97	99	67	30	49
Average Queue (ft)	1	32	4	30	57	9	16	19	39	29	5	4
95th Queue (ft)	9	83	23	72	105	36	47	64	84	63	22	23
Link Distance (ft)		1166	1166	1166		1265	1265	1265			101	101
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	525				495				110	110		
Storage Blk Time (%)									0			
Queuing Penalty (veh)									0			

Intersection: 2: Continental St & Otay Mesa Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	T	TR	L	T	T	L	R
Maximum Queue (ft)	92	56	108	52	68	52	26	66
Average Queue (ft)	11	3	12	13	3	3	1	25
95th Queue (ft)	47	21	55	38	25	21	10	55
Link Distance (ft)	1265	1265	1265		1192	1192	390	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)				540				270
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 3: Britannia Blvd & Otay Mesa Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	T	R	L	T	T	T	L	L	R
Maximum Queue (ft)	92	89	76	58	170	103	50	27	155	128	192
Average Queue (ft)	37	30	22	26	77	34	7	3	56	59	61
95th Queue (ft)	76	72	61	53	147	86	31	17	109	106	134
Link Distance (ft)	1192	1192	1192	1192		1262	1262	1262	1002	1002	1002
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)					525						
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 4: Britannia Blvd & SR-905 WB Ramps

Movement	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	R	L	L	T	T	T	T	T	TR
Maximum Queue (ft)	259	60	61	132	144	446	430	137	200	70	115
Average Queue (ft)	122	22	20	90	103	96	43	40	56	21	50
95th Queue (ft)	194	52	43	166	165	302	173	93	134	59	101
Link Distance (ft)		761	761			437	437	437	1002	1002	1002
Upstream Blk Time (%)						0	0				
Queuing Penalty (veh)						1	0				
Storage Bay Dist (ft)	330			120	120						
Storage Blk Time (%)				1	5	0					
Queuing Penalty (veh)				1	8	0					

Intersection: 5: Britannia Blvd & SR-905 EB Ramps

Movement	EB	EB	EB	B20	NB	NB	SB	SB	SB	SB	SB
Directions Served	LT	R	R	T	T	TR	L	L	T	T	T
Maximum Queue (ft)	249	151	144	28	318	284	126	132	141	113	113
Average Queue (ft)	103	85	81	1	152	138	17	51	34	54	34
95th Queue (ft)	194	132	133	10	285	228	61	97	95	102	79
Link Distance (ft)	1004	1004		365	989	989			437	437	437
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)			930				120	120			
Storage Blk Time (%)							0	0	1		
Queuing Penalty (veh)							0	1	0		

Intersection: 6: Britannia Blvd & Airway Rd

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	TR	LT	R	L	T	TR	L	T	T	R
Maximum Queue (ft)	257	270	962	92	96	32	345	301	225	350	175	94
Average Queue (ft)	124	134	243	24	53	6	115	93	159	115	77	35
95th Queue (ft)	272	289	852	65	93	24	212	192	260	291	142	71
Link Distance (ft)			1147	2646			940	940		989	989	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	245	245			580	210			200			200
Storage Blk Time (%)	1	10	2				3		10	0		
Queuing Penalty (veh)	1	11	17				0		28	0		

Intersection: 6: Britannia Blvd & Airway Rd

Movement	SB
Directions Served	R
Maximum Queue (ft)	66
Average Queue (ft)	24
95th Queue (ft)	57
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	200
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 7: Airway Rd & Continental Rd

Movement	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	R	L	R
Maximum Queue (ft)	32	99	110	31	75	144
Average Queue (ft)	4	41	42	12	49	20
95th Queue (ft)	22	88	89	36	76	85
Link Distance (ft)		544	1147	1147		470
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	125				50	
Storage Blk Time (%)					11	0
Queuing Penalty (veh)					1	0

Intersection: 8: Cactus Rd & Airway Rd

Movement	WB	WB	WB	WB	NB	SB
Directions Served	L	L	R	R	LTR	LTR
Maximum Queue (ft)	43	58	65	29	75	35
Average Queue (ft)	10	32	15	5	41	8
95th Queue (ft)	31	58	43	22	73	31
Link Distance (ft)					1240	443
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	240	240	240	240		
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 10: Airway Rd & Park Wy

Movement	SB
Directions Served	R
Maximum Queue (ft)	33
Average Queue (ft)	20
95th Queue (ft)	46
Link Distance (ft)	193
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: Cactus Rd & Street D

Movement	WB
Directions Served	L
Maximum Queue (ft)	32
Average Queue (ft)	14
95th Queue (ft)	40
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	100
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 12: Cactus Rd & PA-11 Secondary Dwy

Movement	WB
Directions Served	LR
Maximum Queue (ft)	67
Average Queue (ft)	30
95th Queue (ft)	52
Link Distance (ft)	201
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 13: Park Wy & Street D

Movement	EB	NB
Directions Served	TR	LR
Maximum Queue (ft)	68	66
Average Queue (ft)	33	27
95th Queue (ft)	54	51
Link Distance (ft)	669	218
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 14: Continental Rd/PA-12 Secondary Dwy & Street D/Colchester Ct

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	96	32	56	33
Average Queue (ft)	48	8	30	20
95th Queue (ft)	75	30	49	45
Link Distance (ft)	565	472	470	116
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 15: Park Wy & PA-10 Primary Dwy/PA-13 Primary Dwy

Movement	EB	WB
Directions Served	LTR	LTR
Maximum Queue (ft)	56	33
Average Queue (ft)	24	18
95th Queue (ft)	49	44
Link Distance (ft)	255	230
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 70

Intersection: 1: Cactus Rd & Otay Mesa Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	R	L	T
Maximum Queue (ft)	53	172	97	179	132	90	99	121	120	73	69	31
Average Queue (ft)	4	35	16	70	34	19	23	19	53	41	22	4
95th Queue (ft)	21	99	59	148	80	59	68	66	106	65	56	20
Link Distance (ft)		1166	1166	1166		1265	1265	1265			101	101
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	525				495				110	110		
Storage Blk Time (%)									2			
Queuing Penalty (veh)									2			

Intersection: 1: Cactus Rd & Otay Mesa Rd

Movement	SB
Directions Served	R
Maximum Queue (ft)	67
Average Queue (ft)	16
95th Queue (ft)	47
Link Distance (ft)	101
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Continental St & Otay Mesa Rd

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	TR	L	T	T	T	L	L	R
Maximum Queue (ft)	33	50	140	111	32	47	67	24	27	66
Average Queue (ft)	11	7	32	29	4	2	2	1	2	15
95th Queue (ft)	34	30	87	72	21	16	23	8	15	43
Link Distance (ft)	1265	1265	1265		1192	1192	1192		390	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)				540				105		270
Storage Blk Time (%)										
Queuing Penalty (veh)										

Intersection: 3: Britannia Blvd & Otay Mesa Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	T	R	L	T	T	T	L	L	R
Maximum Queue (ft)	76	91	68	268	317	132	121	32	156	105	129
Average Queue (ft)	43	42	26	98	146	41	20	4	44	61	50
95th Queue (ft)	75	81	61	195	252	96	63	21	96	104	101
Link Distance (ft)	1192	1192	1192	1192		1262	1262	1262	1002	1002	1002
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)					525						
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 4: Britannia Blvd & SR-905 WB Ramps

Movement	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	R	L	L	T	T	T	T	T	TR
Maximum Queue (ft)	312	114	52	132	145	452	436	128	353	182	188
Average Queue (ft)	191	36	16	124	137	358	62	35	138	88	106
95th Queue (ft)	296	75	35	155	166	569	213	92	244	158	172
Link Distance (ft)		761	761			437	437	437	1002	1002	1002
Upstream Blk Time (%)						3	0				
Queuing Penalty (veh)						11	0				
Storage Bay Dist (ft)	330			120	120						
Storage Blk Time (%)	0			7	27	0					
Queuing Penalty (veh)	0			7	29	1					

Intersection: 5: Britannia Blvd & SR-905 EB Ramps

Movement	EB	EB	EB	NB	NB	SB	SB	SB	SB	SB
Directions Served	LT	R	R	T	TR	L	L	T	T	T
Maximum Queue (ft)	174	189	151	806	560	132	142	185	206	174
Average Queue (ft)	59	80	78	456	234	68	82	38	80	35
95th Queue (ft)	120	160	135	752	456	125	138	108	171	102
Link Distance (ft)	1004	1004		989	989			437	437	437
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)			930			120	120			
Storage Blk Time (%)						0	4	0		
Queuing Penalty (veh)						0	7	0		

Intersection: 6: Britannia Blvd & Airway Rd

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	TR	LT	R	L	T	TR	L	T	T	R
Maximum Queue (ft)	245	246	57	107	597	95	715	636	224	260	156	111
Average Queue (ft)	98	76	11	32	188	29	298	216	130	87	98	57
95th Queue (ft)	180	148	38	80	440	67	583	470	202	163	152	93
Link Distance (ft)			1147	2646			940	940		989	989	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	245	245			580	210			200			200
Storage Blk Time (%)	0	0			0		28		3			
Queuing Penalty (veh)	0	0			0		5		6			

Intersection: 6: Britannia Blvd & Airway Rd

Movement	SB
Directions Served	R
Maximum Queue (ft)	90
Average Queue (ft)	51
95th Queue (ft)	83
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	200
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 7: Airway Rd & Continental Rd

Movement	EB	WB	WB	SB	SB
Directions Served	T	T	R	L	R
Maximum Queue (ft)	112	140	84	72	87
Average Queue (ft)	36	51	31	33	3
95th Queue (ft)	77	108	70	60	30
Link Distance (ft)	544	1147	1147		470
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				50	
Storage Blk Time (%)	0			2	0
Queuing Penalty (veh)	0			0	0

Intersection: 8: Cactus Rd & Airway Rd

Movement	WB	WB	WB	WB	NB	SB
Directions Served	L	L	R	R	LTR	LTR
Maximum Queue (ft)	20	58	65	32	83	35
Average Queue (ft)	8	30	29	6	42	2
95th Queue (ft)	23	55	56	25	71	13
Link Distance (ft)					1240	443
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	240	240	240	240		
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 10: Airway Rd & Park Wy

Movement	SB
Directions Served	R
Maximum Queue (ft)	33
Average Queue (ft)	7
95th Queue (ft)	28
Link Distance (ft)	193
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: Cactus Rd & Street D

Movement	WB
Directions Served	L
Maximum Queue (ft)	32
Average Queue (ft)	5
95th Queue (ft)	23
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	100
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 12: Cactus Rd & PA-11 Secondary Dwy

Movement	WB
Directions Served	LR
Maximum Queue (ft)	33
Average Queue (ft)	19
95th Queue (ft)	44
Link Distance (ft)	201
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 13: Park Wy & Street D

Movement	EB	NB
Directions Served	TR	LR
Maximum Queue (ft)	68	58
Average Queue (ft)	16	30
95th Queue (ft)	47	46
Link Distance (ft)	669	218
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 14: Continental Rd/PA-12 Secondary Dwy & Street D/Colchester Ct

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	68	32	68	32
Average Queue (ft)	36	3	39	13
95th Queue (ft)	61	19	59	39
Link Distance (ft)	565	472	470	116
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 15: Park Wy & PA-10 Primary Dwy/PA-13 Primary Dwy

Movement	EB	WB
Directions Served	LTR	LTR
Maximum Queue (ft)	32	32
Average Queue (ft)	14	9
95th Queue (ft)	40	32
Link Distance (ft)	255	230
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 69

Intersection: 1: Cactus Rd & Otay Mesa Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	R	L
Maximum Queue (ft)	182	314	253	397	142	139	206	221	133	228	125	118
Average Queue (ft)	72	134	110	178	56	54	65	89	66	35	46	33
95th Queue (ft)	144	240	228	349	112	120	143	180	123	126	89	73
Link Distance (ft)		1166	1166	1166		1265	1265	1265		759		101
Upstream Blk Time (%)												1
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	525				495				110		110	
Storage Blk Time (%)									3		0	
Queuing Penalty (veh)									3		0	

Intersection: 1: Cactus Rd & Otay Mesa Rd

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	48	132
Average Queue (ft)	10	48
95th Queue (ft)	34	89
Link Distance (ft)	101	101
Upstream Blk Time (%)		1
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Continental St & Otay Mesa Rd

Movement	EB	EB	EB	WB	WB	WB	WB	NB
Directions Served	T	T	TR	L	T	T	T	R
Maximum Queue (ft)	135	134	158	66	56	89	93	66
Average Queue (ft)	17	18	36	15	7	8	7	19
95th Queue (ft)	69	77	115	44	35	43	43	55
Link Distance (ft)	1265	1265	1265		1192	1192	1192	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)				540				270
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 3: Britannia Blvd & Otay Mesa Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	T	R	L	T	T	T	L	L	R
Maximum Queue (ft)	210	257	250	201	363	146	126	64	236	225	226
Average Queue (ft)	120	132	122	117	186	57	37	17	87	111	83
95th Queue (ft)	191	199	193	207	303	123	84	53	180	201	173
Link Distance (ft)	1192	1192	1192	1192		1319	1319	1319	1005	1005	1005
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)					525						
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 4: Britannia Blvd & SR-905 WB Ramps

Movement	WB	WB	WB	B20	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	R	T	L	L	T	T	T	T	T	TR
Maximum Queue (ft)	355	833	725	710	132	144	446	306	244	411	398	390
Average Queue (ft)	353	773	523	406	85	106	184	72	60	219	220	216
95th Queue (ft)	360	900	1022	852	171	177	440	189	147	357	358	334
Link Distance (ft)		725	725	658			435	435	435	1005	1005	1005
Upstream Blk Time (%)		69	1	24			1					
Queuing Penalty (veh)		0	0	0			7					
Storage Bay Dist (ft)	330				120	120						
Storage Blk Time (%)	83	6			2	19	0					
Queuing Penalty (veh)	57	19			7	70	0					

Intersection: 5: Britannia Blvd & SR-905 EB Ramps

Movement	EB	EB	EB	B22	B22	B23	B23	NB	NB	SB	SB	SB
Directions Served	LT	R	R	T	T	T	T	T	TR	L	L	T
Maximum Queue (ft)	1032	1092	955	444	552	621	621	577	482	123	145	461
Average Queue (ft)	694	1078	954	55	539	603	605	310	282	44	99	412
95th Queue (ft)	1235	1106	962	261	567	632	635	511	474	112	176	522
Link Distance (ft)	982	982		445	445	569	569	990	990			435
Upstream Blk Time (%)	8	84		0	90	98	97					15
Queuing Penalty (veh)	0	0		0	0	0	0					50
Storage Bay Dist (ft)			930							120	120	
Storage Blk Time (%)		85	17							3	5	49
Queuing Penalty (veh)		537	106							12	17	41

Intersection: 5: Britannia Blvd & SR-905 EB Ramps

Movement	SB	SB
Directions Served	T	T
Maximum Queue (ft)	489	460
Average Queue (ft)	429	403
95th Queue (ft)	540	526
Link Distance (ft)	435	435
Upstream Blk Time (%)	19	6
Queuing Penalty (veh)	64	21
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Britannia Blvd & Airway Rd

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	LTR	LT	R	L	T	TR	L	T	R
Maximum Queue (ft)	270	1183	330	273	234	979	979	1033	1059	1040
Average Queue (ft)	266	1176	170	125	64	958	968	949	1008	759
95th Queue (ft)	294	1183	289	225	226	983	993	1130	1037	1232
Link Distance (ft)		1171	5220			927	927	990	990	990
Upstream Blk Time (%)		39				96	93	14	30	15
Queuing Penalty (veh)		450				0	0	106	219	118
Storage Bay Dist (ft)	245			580	210					
Storage Blk Time (%)	20	72			0	81				
Queuing Penalty (veh)	149	295			0	25				

Intersection: 7: Airway Rd & Continental Rd

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	1354	350
Average Queue (ft)	1343	291
95th Queue (ft)	1352	332
Link Distance (ft)	1338	487
Upstream Blk Time (%)	24	
Queuing Penalty (veh)	242	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Cactus Rd & Airway Rd

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	352	539	1303	317
Average Queue (ft)	319	182	1271	115
95th Queue (ft)	331	458	1287	254
Link Distance (ft)	300	1338	1251	765
Upstream Blk Time (%)	93		100	
Queuing Penalty (veh)	0		0	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: La Media Rd & Airway Rd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	R	L	T	T	R	R	L	L
Maximum Queue (ft)	27	80	86	93	92	28	188	174	103	23	28	154
Average Queue (ft)	3	27	30	36	16	9	87	25	50	4	1	51
95th Queue (ft)	17	58	69	77	47	29	156	94	89	17	9	105
Link Distance (ft)			5220	5220			602	602				
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			400	230			330	330	220	220
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 9: La Media Rd & Airway Rd

Movement	NB	NB	NB	SB	SB	SB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	141	68	22	232	245	640	426	40	42
Average Queue (ft)	74	17	4	210	238	289	105	4	5
95th Queue (ft)	136	52	18	256	256	606	333	19	22
Link Distance (ft)	455	455				608	608	608	
Upstream Blk Time (%)						1			
Queuing Penalty (veh)						0			
Storage Bay Dist (ft)			220	220	220				130
Storage Blk Time (%)				1	23	0			
Queuing Penalty (veh)				1	30	2			

Intersection: 14: Continental Rd & Colchester Ct

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	33	33	32
Average Queue (ft)	10	10	7
95th Queue (ft)	33	35	28
Link Distance (ft)	477	487	92
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 2647

Intersection: 1: Cactus Rd & Otay Mesa Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	R	L
Maximum Queue (ft)	450	1166	1218	1218	180	315	285	329	134	194	135	118
Average Queue (ft)	91	776	1177	1199	72	110	127	155	66	34	65	60
95th Queue (ft)	224	1365	1275	1241	137	251	247	300	112	128	114	103
Link Distance (ft)		1166	1166	1166		1265	1265	1265		759		101
Upstream Blk Time (%)		0	79	86								5
Queuing Penalty (veh)		0	0	0								0
Storage Bay Dist (ft)	525				495				110		110	
Storage Blk Time (%)		2							2	0	2	
Queuing Penalty (veh)		2							4	0	2	

Intersection: 1: Cactus Rd & Otay Mesa Rd

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	66	116
Average Queue (ft)	18	47
95th Queue (ft)	57	90
Link Distance (ft)	101	101
Upstream Blk Time (%)		1
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Continental St & Otay Mesa Rd

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB
Directions Served	T	T	TR	L	T	T	T	L	R
Maximum Queue (ft)	137	110	207	57	31	67	78	62	66
Average Queue (ft)	20	27	74	25	1	8	8	4	15
95th Queue (ft)	73	78	175	49	11	34	37	31	51
Link Distance (ft)	1265	1265	1265		1192	1192	1192	390	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)				540					270
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 3: Britannia Blvd & Otay Mesa Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	T	R	L	T	T	T	L	L	R
Maximum Queue (ft)	181	207	221	789	550	1371	1318	254	211	271	150
Average Queue (ft)	105	111	100	393	530	1088	445	76	75	94	58
95th Queue (ft)	168	183	173	703	626	1844	1271	179	156	188	128
Link Distance (ft)	1192	1192	1192	1192		1319	1319	1319	1005	1005	1005
Upstream Blk Time (%)						61	0				
Queuing Penalty (veh)						0	0				
Storage Bay Dist (ft)					525						
Storage Blk Time (%)					60	8					
Queuing Penalty (veh)					138	42					

Intersection: 4: Britannia Blvd & SR-905 WB Ramps

Movement	WB	WB	WB	B20	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	R	T	L	L	T	T	T	T	T	TR
Maximum Queue (ft)	355	833	798	710	132	145	468	415	138	874	1004	1018
Average Queue (ft)	350	804	491	666	124	141	395	104	48	628	745	798
95th Queue (ft)	363	838	1040	824	153	147	542	316	121	928	1084	1176
Link Distance (ft)		725	725	658			435	435	435	1005	1005	1005
Upstream Blk Time (%)		92	1	87			10	0			0	5
Queuing Penalty (veh)		0	0	0			71	0			0	22
Storage Bay Dist (ft)	330				120	120						
Storage Blk Time (%)	91	7			17	33	0					
Queuing Penalty (veh)	62	20			50	97	1					

Intersection: 5: Britannia Blvd & SR-905 EB Ramps

Movement	EB	EB	EB	B22	B22	B23	B23	NB	NB	SB	SB	SB
Directions Served	LT	R	R	T	T	T	T	T	TR	L	L	T
Maximum Queue (ft)	1056	1092	955	176	552	621	621	1006	962	132	145	482
Average Queue (ft)	510	1069	943	47	534	594	606	821	362	92	126	420
95th Queue (ft)	1123	1101	996	151	565	628	641	1148	692	156	183	538
Link Distance (ft)	982	982		445	445	569	569	990	990			435
Upstream Blk Time (%)	3	86			91	100	98	6				26
Queuing Penalty (veh)	0	0			0	0	0	76				117
Storage Bay Dist (ft)			930							120	120	
Storage Blk Time (%)		84	43							15	31	27
Queuing Penalty (veh)		489	253							58	120	45

Intersection: 5: Britannia Blvd & SR-905 EB Ramps

Movement	SB	SB
Directions Served	T	T
Maximum Queue (ft)	491	485
Average Queue (ft)	410	353
95th Queue (ft)	585	599
Link Distance (ft)	435	435
Upstream Blk Time (%)	14	14
Queuing Penalty (veh)	66	63
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Britannia Blvd & Airway Rd

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	LTR	LT	R	L	T	TR	L	T	R
Maximum Queue (ft)	270	1185	2707	605	234	979	979	1036	1031	1048
Average Queue (ft)	266	1177	1844	605	76	956	961	955	1000	856
95th Queue (ft)	282	1183	2665	606	238	980	989	1095	1033	1262
Link Distance (ft)		1171	5220			927	927	990	990	990
Upstream Blk Time (%)		49				98	96	19	42	20
Queuing Penalty (veh)		416				0	0	150	332	157
Storage Bay Dist (ft)	245			580	210					
Storage Blk Time (%)	40	75	10	44	0	88				
Queuing Penalty (veh)	235	267	54	182	1	41				

Intersection: 7: Airway Rd & Continental Rd

Movement	EB	WB	WB	SB
Directions Served	LT	T	R	LR
Maximum Queue (ft)	1353	862	718	420
Average Queue (ft)	1345	301	59	336
95th Queue (ft)	1353	715	323	434
Link Distance (ft)	1338	1171	1171	487
Upstream Blk Time (%)	30			
Queuing Penalty (veh)	230			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: Cactus Rd & Airway Rd

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	352	1342	1303	258
Average Queue (ft)	272	1271	1271	96
95th Queue (ft)	400	1586	1287	186
Link Distance (ft)	300	1338	1251	765
Upstream Blk Time (%)	57	8	100	
Queuing Penalty (veh)	0	81	0	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: La Media Rd & Airway Rd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	R	L
Maximum Queue (ft)	46	70	100	136	46	28	83	243	185	275	242	164
Average Queue (ft)	2	23	24	29	9	1	24	110	43	164	97	17
95th Queue (ft)	16	60	68	77	28	9	59	197	129	254	224	91
Link Distance (ft)			5220	5220				602	602			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			400	230	230			330	330	220
Storage Blk Time (%)								1				
Queuing Penalty (veh)								0				

Intersection: 9: La Media Rd & Airway Rd

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	238	242	215	19	231	244	376	171	65	59
Average Queue (ft)	65	137	92	1	158	192	97	58	8	13
95th Queue (ft)	156	214	189	7	234	262	246	137	31	41
Link Distance (ft)		455	455				608	608	608	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	220			220	220	220				130
Storage Blk Time (%)		1	0		0	6				
Queuing Penalty (veh)		1	0		0	7				

Intersection: 14: Continental Rd & Colchester Ct

Movement	WB	NB
Directions Served	LR	TR
Maximum Queue (ft)	33	33
Average Queue (ft)	7	5
95th Queue (ft)	28	23
Link Distance (ft)	477	487
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 3954

Intersection: 1: Cactus Rd & Otay Mesa Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	R	L
Maximum Queue (ft)	149	349	333	388	198	146	157	180	131	77	100	146
Average Queue (ft)	74	138	130	185	80	54	72	92	53	19	42	35
95th Queue (ft)	137	259	285	332	158	120	146	179	112	58	77	93
Link Distance (ft)		1166	1166	1166		1265	1265	1265		759		101
Upstream Blk Time (%)												0
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	525				495				110		110	
Storage Blk Time (%)									4		0	
Queuing Penalty (veh)									5		0	

Intersection: 1: Cactus Rd & Otay Mesa Rd

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	31	118
Average Queue (ft)	10	50
95th Queue (ft)	33	89
Link Distance (ft)	101	101
Upstream Blk Time (%)		1
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Continental St & Otay Mesa Rd

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB
Directions Served	T	T	TR	L	T	T	T	L	R
Maximum Queue (ft)	127	107	148	66	60	53	33	28	66
Average Queue (ft)	19	19	38	17	2	3	1	1	16
95th Queue (ft)	71	70	113	47	15	20	11	11	43
Link Distance (ft)	1265	1265	1265		1192	1192	1192	390	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)				540					270
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 3: Britannia Blvd & Otay Mesa Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	T	R	L	L	T	T	T	L	L	R
Maximum Queue (ft)	189	226	212	372	192	223	195	181	57	214	188	336
Average Queue (ft)	97	113	104	121	83	113	58	27	15	102	110	108
95th Queue (ft)	160	195	181	246	163	202	127	87	45	186	173	223
Link Distance (ft)	1192	1192	1192	1192			1262	1262	1262	997	997	997
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)					525	525						
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 4: Britannia Blvd & SR-905 WB Ramps

Movement	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	
Directions Served	L	LTR	R	L	L	T	T	T	T	T	TR	
Maximum Queue (ft)	269	321	268	132	145	453	261	187	315	291	256	
Average Queue (ft)	139	180	45	116	127	258	79	72	166	160	155	
95th Queue (ft)	240	290	134	173	176	535	206	170	263	243	248	
Link Distance (ft)		699	699			436	436	436	997	997	997	
Upstream Blk Time (%)						3						
Queuing Penalty (veh)						26						
Storage Bay Dist (ft)	330			120	120							
Storage Blk Time (%)		0		8	19	0						
Queuing Penalty (veh)		0		33	77	3						

Intersection: 5: Britannia Blvd & SR-905 EB Ramps

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB	SB	SB	
Directions Served	LT	R	R	T	T	TR	L	L	T	T	T	
Maximum Queue (ft)	1350	1418	1080	985	912	301	114	145	470	437	429	
Average Queue (ft)	933	1075	974	673	270	189	19	73	449	308	149	
95th Queue (ft)	1410	1392	1190	972	585	310	63	184	464	512	350	
Link Distance (ft)	1565	1565		990	990	990			433	433	433	
Upstream Blk Time (%)				0					53	2	0	
Queuing Penalty (veh)				1					187	8	0	
Storage Bay Dist (ft)			930				120	120				
Storage Blk Time (%)		58	42				0	0	83			
Queuing Penalty (veh)		373	272				0	0	68			

Intersection: 6: Britannia Blvd & Airway Rd

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	TR	LT	R	L	T	TR	L	T	R	R
Maximum Queue (ft)	312	325	1175	371	344	234	979	979	1007	1029	883	298
Average Queue (ft)	308	324	1136	173	141	62	960	913	711	980	124	64
95th Queue (ft)	328	327	1273	314	253	207	991	1037	1144	1083	498	157
Link Distance (ft)			1158	5239			927	927	990	990	990	
Upstream Blk Time (%)			19				77	33	4	17	0	
Queuing Penalty (veh)			275				0	0	29	129	2	
Storage Bay Dist (ft)	300	300			580	210						400
Storage Blk Time (%)	18	56	2			0	79				0	0
Queuing Penalty (veh)	72	230	19			0	27				1	0

Intersection: 7: Airway Rd & Continental Rd

Movement	EB	EB	WB	WB	WB	SB	SB
Directions Served	L	T	T	T	R	L	R
Maximum Queue (ft)	40	652	239	244	147	75	409
Average Queue (ft)	2	622	102	103	31	74	197
95th Queue (ft)	28	642	202	205	96	78	400
Link Distance (ft)		544	1158	1158			470
Upstream Blk Time (%)		95					0
Queuing Penalty (veh)		987					1
Storage Bay Dist (ft)	125				200	50	
Storage Blk Time (%)		85		2	0	52	0
Queuing Penalty (veh)		3		1	0	3	2

Intersection: 8: Cactus Rd & Airway Rd

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (ft)	307	216	189	1288	516
Average Queue (ft)	276	99	77	1261	466
95th Queue (ft)	300	183	142	1295	640
Link Distance (ft)	259	707	707	1246	500
Upstream Blk Time (%)	96			98	57
Queuing Penalty (veh)	0			0	199
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 9: La Media Rd & Airway Rd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	R	L
Maximum Queue (ft)	57	83	106	116	48	14	72	166	139	99	58	74
Average Queue (ft)	7	26	33	41	10	1	14	79	31	43	11	6
95th Queue (ft)	29	62	76	92	34	7	47	143	97	81	37	34
Link Distance (ft)			5239	5239				983	983			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			400	230	230			330	330	220
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 9: La Media Rd & Airway Rd

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB	SB	SB	
Directions Served	L	T	T	R	L	L	T	T	T	R	R	
Maximum Queue (ft)	146	170	150	41	232	245	606	428	52	51	1	
Average Queue (ft)	52	71	33	5	196	227	228	84	6	7	0	
95th Queue (ft)	112	138	98	23	280	278	551	270	28	30	1	
Link Distance (ft)		837	837				883	883	883			
Upstream Blk Time (%)							0					
Queuing Penalty (veh)							0					
Storage Bay Dist (ft)	220			220	220	220				130	130	
Storage Blk Time (%)		0			2	16	0		0			
Queuing Penalty (veh)		0			2	20	1		0			

Intersection: 10: Airway Rd & Park Wy

Movement	EB	WB	WB	SB
Directions Served	T	T	TR	R
Maximum Queue (ft)	735	4	25	66
Average Queue (ft)	720	0	1	24
95th Queue (ft)	781	4	11	54
Link Distance (ft)	707	544	544	212
Upstream Blk Time (%)	56			
Queuing Penalty (veh)	563			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Cactus Rd & Street D

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	L	LTR
Maximum Queue (ft)	207	101	19	32	197
Average Queue (ft)	145	36	4	4	145
95th Queue (ft)	231	97	44	23	265
Link Distance (ft)	173		670		182
Upstream Blk Time (%)	72				51
Queuing Penalty (veh)	0				103
Storage Bay Dist (ft)		100		60	
Storage Blk Time (%)		17			
Queuing Penalty (veh)		0			

Intersection: 12: Cactus Rd & PA-11 Secondary Dwy

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	217	247
Average Queue (ft)	101	116
95th Queue (ft)	234	281
Link Distance (ft)	213	219
Upstream Blk Time (%)	18	34
Queuing Penalty (veh)	0	0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: Park Wy & Street D

Movement	NB
Directions Served	LR
Maximum Queue (ft)	59
Average Queue (ft)	27
95th Queue (ft)	51
Link Distance (ft)	218
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 14: Continental Rd/PA-12 Secondary Dwy & Street D/Colchester Ct

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	98	34	45	64
Average Queue (ft)	49	9	24	28
95th Queue (ft)	78	33	49	55
Link Distance (ft)	565	472	470	116
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 15: Park Wy & PA-10 Primary Dwy/PA-13 Primary Dwy

Movement	EB	WB
Directions Served	LTR	LTR
Maximum Queue (ft)	49	44
Average Queue (ft)	24	21
95th Queue (ft)	48	47
Link Distance (ft)	255	230
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 3502

Intersection: 1: Cactus Rd & Otay Mesa Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	R	L
Maximum Queue (ft)	550	1182	1218	1218	156	240	327	359	132	244	132	136
Average Queue (ft)	141	728	1190	1206	74	121	142	161	53	31	62	71
95th Queue (ft)	460	1440	1219	1232	140	220	266	288	113	125	110	127
Link Distance (ft)		1166	1166	1166		1265	1265	1265		759		101
Upstream Blk Time (%)		1	98	98								7
Queuing Penalty (veh)		0	0	0								0
Storage Bay Dist (ft)	525				495				110		110	
Storage Blk Time (%)	0	18							1		1	
Queuing Penalty (veh)	0	20							1		1	

Intersection: 1: Cactus Rd & Otay Mesa Rd

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	66	91
Average Queue (ft)	15	52
95th Queue (ft)	47	86
Link Distance (ft)	101	101
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Continental St & Otay Mesa Rd

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB
Directions Served	T	T	TR	L	T	T	T	L	R
Maximum Queue (ft)	110	94	207	64	54	89	76	26	65
Average Queue (ft)	14	10	45	19	8	13	11	1	16
95th Queue (ft)	54	50	130	51	36	56	45	9	46
Link Distance (ft)	1265	1265	1265		1192	1192	1192	390	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)				540					270
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 3: Britannia Blvd & Otay Mesa Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	T	R	L	L	T	T	T	L	L	R
Maximum Queue (ft)	164	183	167	524	288	378	295	265	229	214	196	305
Average Queue (ft)	85	94	72	275	184	250	96	88	46	74	94	84
95th Queue (ft)	152	148	144	463	291	372	198	184	122	137	165	177
Link Distance (ft)	1192	1192	1192	1192			1262	1262	1262	997	997	997
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)					525	525						
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 4: Britannia Blvd & SR-905 WB Ramps

Movement	WB	WB	WB	B30	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	LTR	R	T	L	L	T	T	T	T	T	TR
Maximum Queue (ft)	355	807	782	720	132	145	449	328	191	758	755	737
Average Queue (ft)	336	767	515	498	122	141	405	61	53	434	449	517
95th Queue (ft)	402	868	948	932	155	148	466	212	151	653	624	682
Link Distance (ft)		699	699	668			436	436	436	997	997	997
Upstream Blk Time (%)		72	4	46			2					
Queuing Penalty (veh)		0	0	0			15					
Storage Bay Dist (ft)	330				120	120						
Storage Blk Time (%)	23	90			20	32	1					
Queuing Penalty (veh)	52	146			59	99	19					

Intersection: 5: Britannia Blvd & SR-905 EB Ramps

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	LT	R	R	T	T	TR	L	L	T	T	T
Maximum Queue (ft)	1280	1346	1064	1004	988	350	117	145	464	450	416
Average Queue (ft)	380	706	654	938	364	154	49	106	445	254	193
95th Queue (ft)	1076	1339	1176	1072	880	288	108	192	481	421	373
Link Distance (ft)	1566	1566		990	990	990			433	433	433
Upstream Blk Time (%)	0	2		5	0				43	2	1
Queuing Penalty (veh)	1	13		47	1				221	11	8
Storage Bay Dist (ft)			930				120	120			
Storage Blk Time (%)		19	17				0	2	80		
Queuing Penalty (veh)		121	110				0	9	134		

Intersection: 6: Britannia Blvd & Airway Rd

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	TR	LT	R	L	T	TR	L	T	R	R
Maximum Queue (ft)	312	325	1178	2801	605	234	1519	1472	512	1012	231	226
Average Queue (ft)	307	324	1164	2063	588	78	1503	606	217	992	110	116
95th Queue (ft)	334	329	1188	3516	690	238	1530	1410	460	1047	200	202
Link Distance (ft)			1158	5239			1467	1467	990	990	990	
Upstream Blk Time (%)			44	0			94	0		32		
Queuing Penalty (veh)			444	0			0	0		274		
Storage Bay Dist (ft)	300	300			580	210						400
Storage Blk Time (%)	32	75	0	15	35	0	84					
Queuing Penalty (veh)	80	192	2	77	153	0	51					

Intersection: 7: Airway Rd & Continental Rd

Movement	EB	WB	WB	WB	SB	SB
Directions Served	T	T	T	R	L	R
Maximum Queue (ft)	652	569	598	225	225	281
Average Queue (ft)	620	210	234	104	130	47
95th Queue (ft)	639	456	498	247	236	239
Link Distance (ft)	544	1158	1158			470
Upstream Blk Time (%)	96					0
Queuing Penalty (veh)	776					0
Storage Bay Dist (ft)				200	200	
Storage Blk Time (%)	90		16	0	14	0
Queuing Penalty (veh)	0		53	1	0	0

Intersection: 8: Cactus Rd & Airway Rd

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (ft)	307	384	433	1291	514
Average Queue (ft)	269	183	169	1221	398
95th Queue (ft)	325	331	329	1493	648
Link Distance (ft)	259	707	707	1246	500
Upstream Blk Time (%)	93			90	38
Queuing Penalty (veh)	0			0	88
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 9: La Media Rd & Airway Rd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	R	L
Maximum Queue (ft)	40	73	82	100	62	31	93	230	189	244	192	129
Average Queue (ft)	4	20	27	32	9	2	24	120	69	123	67	19
95th Queue (ft)	22	54	64	79	33	17	63	197	160	210	163	71
Link Distance (ft)			5239	5239				983	983			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			400	230	230			330	330	220
Storage Blk Time (%)								0				
Queuing Penalty (veh)								0				

Intersection: 9: La Media Rd & Airway Rd

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB	SB	SB	
Directions Served	L	T	T	R	L	L	T	T	T	R	R	
Maximum Queue (ft)	168	256	229	28	232	245	391	276	130	74	16	
Average Queue (ft)	59	130	87	2	157	191	109	69	14	14	1	
95th Queue (ft)	127	217	184	15	260	270	288	175	68	47	13	
Link Distance (ft)		837	837				883	883	883			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	220			220	220	220				130	130	
Storage Blk Time (%)	0	1	0		1	5	0		0	0	0	
Queuing Penalty (veh)	0	1	0		1	6	0		0	0	0	

Intersection: 10: Airway Rd & Park Wy

Movement	EB	WB	WB	SB
Directions Served	T	T	TR	R
Maximum Queue (ft)	736	17	31	41
Average Queue (ft)	721	1	2	15
95th Queue (ft)	768	13	23	42
Link Distance (ft)	707	544	544	212
Upstream Blk Time (%)	64			
Queuing Penalty (veh)	501			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Cactus Rd & Street D

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	L	L	T	LTR
Maximum Queue (ft)	182	45	45	9	181
Average Queue (ft)	95	11	10	0	77
95th Queue (ft)	206	42	37	9	216
Link Distance (ft)	173			500	182
Upstream Blk Time (%)	35				23
Queuing Penalty (veh)	0				30
Storage Bay Dist (ft)		100	60		
Storage Blk Time (%)		0	0	0	
Queuing Penalty (veh)		0	0	0	

Intersection: 12: Cactus Rd & PA-11 Secondary Dwy

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	125	165
Average Queue (ft)	38	41
95th Queue (ft)	119	168
Link Distance (ft)	213	219
Upstream Blk Time (%)	2	9
Queuing Penalty (veh)	0	0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: Park Wy & Street D

Movement	NB
Directions Served	LR
Maximum Queue (ft)	65
Average Queue (ft)	30
95th Queue (ft)	51
Link Distance (ft)	218
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 14: Continental Rd/PA-12 Secondary Dwy & Street D/Colchester Ct

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	66	34	67	40
Average Queue (ft)	34	5	36	15
95th Queue (ft)	56	25	54	41
Link Distance (ft)	565	472	470	116
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 15: Park Wy & PA-10 Primary Dwy/PA-13 Primary Dwy

Movement	EB	WB
Directions Served	LTR	LTR
Maximum Queue (ft)	37	35
Average Queue (ft)	15	13
95th Queue (ft)	41	38
Link Distance (ft)	255	230
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 4049

Intersection: 1: Cactus Rd & Otay Mesa Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	R	L
Maximum Queue (ft)	204	358	528	579	231	240	221	264	132	197	129	128
Average Queue (ft)	77	189	242	350	104	75	99	117	66	30	47	57
95th Queue (ft)	152	334	460	576	196	152	181	210	116	93	91	115
Link Distance (ft)		1166	1166	1166		1265	1265	1265		759		101
Upstream Blk Time (%)												2
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	525				495				110		110	
Storage Blk Time (%)									2		0	
Queuing Penalty (veh)									3		0	

Intersection: 1: Cactus Rd & Otay Mesa Rd

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	54	112
Average Queue (ft)	12	45
95th Queue (ft)	38	77
Link Distance (ft)	101	101
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Continental St & Otay Mesa Rd

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB
Directions Served	T	T	TR	L	T	T	T	L	R
Maximum Queue (ft)	96	160	290	65	33	54	55	44	66
Average Queue (ft)	26	37	79	24	9	8	7	13	26
95th Queue (ft)	77	100	198	54	31	32	33	37	54
Link Distance (ft)	1265	1265	1265		1192	1192	1192	390	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)				540					270
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 3: Britannia Blvd & Otay Mesa Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	T	R	L	T	T	T	L	L	R
Maximum Queue (ft)	262	339	286	272	550	1014	924	90	203	224	372
Average Queue (ft)	142	163	165	112	283	207	141	26	93	103	136
95th Queue (ft)	236	274	257	208	508	720	573	72	164	186	283
Link Distance (ft)	1192	1192	1192	1192		1319	1319	1319	1007	1007	1007
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)					525						
Storage Blk Time (%)					8	0					
Queuing Penalty (veh)					13	1					

Intersection: 4: Britannia Blvd & SR-905 WB Ramps

Movement	WB	WB	WB	B20	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	R	T	L	L	T	T	T	T	T	TR
Maximum Queue (ft)	355	836	728	704	132	145	446	403	196	835	885	988
Average Queue (ft)	318	455	213	228	106	124	301	129	88	349	350	352
95th Queue (ft)	411	987	715	737	162	180	561	313	180	691	735	738
Link Distance (ft)		728	728	652			431	431	431	1007	1007	1007
Upstream Blk Time (%)		33	0	21			5					0
Queuing Penalty (veh)		0	0	0			32					0
Storage Bay Dist (ft)	330				120	120						
Storage Blk Time (%)	50	0			6	22	0					
Queuing Penalty (veh)	44	0			24	83	2					

Intersection: 5: Britannia Blvd & SR-905 EB Ramps

Movement	EB	EB	EB	B22	B22	B23	B23	NB	NB	SB	SB	SB
Directions Served	LT	R	R	T	T	T	T	T	TR	L	L	T
Maximum Queue (ft)	1036	1110	955	404	512	390	390	684	680	132	145	474
Average Queue (ft)	649	1095	954	58	496	369	374	399	318	83	106	389
95th Queue (ft)	1231	1121	962	252	524	397	401	634	549	147	174	558
Link Distance (ft)	1001	1001		405	405	338	338	992	992			431
Upstream Blk Time (%)	4	84		0	88	99	94					20
Queuing Penalty (veh)	0	0		0	0	0	0					74
Storage Bay Dist (ft)			930							120	120	
Storage Blk Time (%)		83	29							0	13	28
Queuing Penalty (veh)		556	191							1	45	31

Intersection: 5: Britannia Blvd & SR-905 EB Ramps

Movement	SB	SB
Directions Served	T	T
Maximum Queue (ft)	513	460
Average Queue (ft)	406	335
95th Queue (ft)	547	569
Link Distance (ft)	431	431
Upstream Blk Time (%)	16	5
Queuing Penalty (veh)	58	19
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Britannia Blvd & Airway Rd

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	LTR	LT	R	L	T	TR	L	T	R
Maximum Queue (ft)	270	1187	478	323	235	979	979	1057	1050	1025
Average Queue (ft)	267	1178	218	149	68	957	964	934	1003	702
95th Queue (ft)	281	1188	404	258	228	984	991	1153	1029	1336
Link Distance (ft)		1171	5233			927	927	992	992	992
Upstream Blk Time (%)		39				97	86	12	29	9
Queuing Penalty (veh)		462				0	0	97	227	73
Storage Bay Dist (ft)	245			580	210					
Storage Blk Time (%)	22	71			0	76				
Queuing Penalty (veh)	177	302			0	30				

Intersection: 7: Airway Rd & Continental Rd

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	1359	395
Average Queue (ft)	1309	319
95th Queue (ft)	1486	392
Link Distance (ft)	1338	487
Upstream Blk Time (%)	24	
Queuing Penalty (veh)	248	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Cactus Rd & Airway Rd

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	156	360	1303	199
Average Queue (ft)	128	149	1279	106
95th Queue (ft)	149	295	1303	173
Link Distance (ft)	104	1338	1251	765
Upstream Blk Time (%)	100		100	
Queuing Penalty (veh)	0		0	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: La Media Rd & Airway Rd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	R	L
Maximum Queue (ft)	91	106	86	114	71	26	89	173	157	149	56	26
Average Queue (ft)	17	46	30	42	16	1	32	94	21	61	3	3
95th Queue (ft)	50	83	71	93	45	9	75	164	84	113	21	15
Link Distance (ft)			5233	5233				522	522			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			400	230	230			330	330	220
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 9: La Media Rd & Airway Rd

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	103	195	123	55	232	245	717	460	88	49
Average Queue (ft)	48	91	35	15	213	233	306	131	8	10
95th Queue (ft)	99	154	94	40	270	268	645	381	37	36
Link Distance (ft)		673	673				748	748	748	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	220			220	220	220				130
Storage Blk Time (%)					3	20	0			
Queuing Penalty (veh)					4	30	0			

Intersection: 14: Continental Rd & Colchester Ct

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	33	33	32
Average Queue (ft)	17	12	15
95th Queue (ft)	43	38	41
Link Distance (ft)	477	487	92
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 2828

Intersection: 1: Cactus Rd & Otay Mesa Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	R	L
Maximum Queue (ft)	549	1184	1218	1218	195	240	308	329	134	280	135	136
Average Queue (ft)	130	808	1185	1202	112	100	139	166	72	44	72	72
95th Queue (ft)	373	1331	1211	1229	175	214	259	300	122	163	125	136
Link Distance (ft)		1166	1166	1166		1265	1265	1265		759		101
Upstream Blk Time (%)		0	99	95								6
Queuing Penalty (veh)		0	0	0								0
Storage Bay Dist (ft)	525				495				110		110	
Storage Blk Time (%)	0	5							2	1	3	
Queuing Penalty (veh)	0	8							5	2	4	

Intersection: 1: Cactus Rd & Otay Mesa Rd

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	87	153
Average Queue (ft)	35	58
95th Queue (ft)	75	107
Link Distance (ft)	101	101
Upstream Blk Time (%)	0	2
Queuing Penalty (veh)	0	0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Continental St & Otay Mesa Rd

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	TR	L	T	T	T	L	L	R
Maximum Queue (ft)	161	627	847	89	93	144	78	46	63	67
Average Queue (ft)	41	78	264	40	19	25	21	5	12	19
95th Queue (ft)	111	276	619	77	60	81	62	24	38	51
Link Distance (ft)	1265	1265	1265		1192	1192	1192		390	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)				540				105		270
Storage Blk Time (%)										
Queuing Penalty (veh)										

Intersection: 3: Britannia Blvd & Otay Mesa Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	T	R	L	T	T	T	L	L	R
Maximum Queue (ft)	280	293	1191	1204	550	1371	1289	292	207	196	258
Average Queue (ft)	154	161	189	536	544	1057	805	97	100	98	68
95th Queue (ft)	256	265	521	1128	589	1538	1410	212	176	185	161
Link Distance (ft)	1192	1192	1192	1192		1319	1319	1319	1007	1007	1007
Upstream Blk Time (%)			0	4		29					
Queuing Penalty (veh)			0	14		0					
Storage Bay Dist (ft)					525						
Storage Blk Time (%)					57	1					
Queuing Penalty (veh)					187	4					

Intersection: 4: Britannia Blvd & SR-905 WB Ramps

Movement	WB	WB	WB	B20	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	R	T	L	L	T	T	T	T	T	TR
Maximum Queue (ft)	355	836	733	704	132	144	467	347	147	944	1006	1017
Average Queue (ft)	353	800	551	615	122	140	366	40	38	508	610	708
95th Queue (ft)	360	865	1030	946	153	163	553	149	102	835	969	1046
Link Distance (ft)		728	728	652			431	431	431	1007	1007	1007
Upstream Blk Time (%)		84	1	80			6				0	6
Queuing Penalty (veh)		0	0	0			45				0	28
Storage Bay Dist (ft)	330				120	120						
Storage Blk Time (%)	93	1			17	33						
Queuing Penalty (veh)	79	3			52	101						

Intersection: 5: Britannia Blvd & SR-905 EB Ramps

Movement	EB	EB	EB	B22	B22	B23	B23	NB	NB	SB	SB	SB
Directions Served	LT	R	R	T	T	T	T	T	TR	L	L	T
Maximum Queue (ft)	1109	1110	955	436	512	390	390	978	824	132	145	501
Average Queue (ft)	885	1085	938	200	490	363	369	581	295	105	128	442
95th Queue (ft)	1357	1111	993	418	519	393	402	945	595	163	181	483
Link Distance (ft)	1001	1001		405	405	338	338	992	992			431
Upstream Blk Time (%)	55	84		8	89	99	96	0				23
Queuing Penalty (veh)	0	0		0	0	0	0	0				109
Storage Bay Dist (ft)			930							120	120	
Storage Blk Time (%)		85	30							16	42	26
Queuing Penalty (veh)		513	179							68	174	55

Intersection: 5: Britannia Blvd & SR-905 EB Ramps

Movement	SB	SB
Directions Served	T	T
Maximum Queue (ft)	492	463
Average Queue (ft)	441	414
95th Queue (ft)	502	502
Link Distance (ft)	431	431
Upstream Blk Time (%)	21	14
Queuing Penalty (veh)	98	66
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Britannia Blvd & Airway Rd

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	LTR	LT	R	L	T	TR	L	T	R
Maximum Queue (ft)	270	1188	4097	605	234	979	979	1010	1038	1017
Average Queue (ft)	264	1177	2894	595	113	968	968	873	963	944
95th Queue (ft)	289	1186	3619	681	255	994	992	1184	1236	1112
Link Distance (ft)		1171	5233			927	927	992	992	992
Upstream Blk Time (%)		46				96	88	13	41	22
Queuing Penalty (veh)		466				0	0	106	330	177
Storage Bay Dist (ft)	245			580	210					
Storage Blk Time (%)	36	76	65	3	0	73				
Queuing Penalty (veh)	235	276	386	15	0	66				

Intersection: 7: Airway Rd & Continental Rd

Movement	EB	WB	WB	SB
Directions Served	LT	T	R	LR
Maximum Queue (ft)	1358	1203	1214	317
Average Queue (ft)	1344	1089	1077	269
95th Queue (ft)	1356	1333	1400	308
Link Distance (ft)	1338	1171	1171	487
Upstream Blk Time (%)	30	6	27	
Queuing Penalty (veh)	269	41	192	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: Cactus Rd & Airway Rd

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	156	1346	1303	755
Average Queue (ft)	128	1340	1278	532
95th Queue (ft)	150	1344	1302	738
Link Distance (ft)	104	1338	1251	765
Upstream Blk Time (%)	100	17	100	0
Queuing Penalty (veh)	0	198	0	0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: La Media Rd & Airway Rd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	R	L
Maximum Queue (ft)	92	106	90	120	114	169	131	283	498	355	296	123
Average Queue (ft)	30	60	33	38	19	11	43	153	119	193	137	12
95th Queue (ft)	63	104	75	88	58	73	96	240	279	294	255	63
Link Distance (ft)			5233	5233				522	522			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			400	230	230			330	330	220
Storage Blk Time (%)								2		1		
Queuing Penalty (veh)								1		1		

Intersection: 9: La Media Rd & Airway Rd

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB	SB	SB	
Directions Served	L	T	T	R	L	L	T	T	T	R	R	
Maximum Queue (ft)	244	350	264	57	232	244	656	463	166	122	125	
Average Queue (ft)	86	169	131	10	174	202	234	145	43	33	12	
95th Queue (ft)	170	272	240	34	275	282	500	310	129	85	67	
Link Distance (ft)		673	673				748	748	748			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	220			220	220	220				130	130	
Storage Blk Time (%)		4	1		1	11	0		0	0	0	
Queuing Penalty (veh)		3	0		1	17	0		0	0	0	

Intersection: 14: Continental Rd & Colchester Ct

Movement	WB	NB
Directions Served	LR	TR
Maximum Queue (ft)	33	57
Average Queue (ft)	5	10
95th Queue (ft)	23	37
Link Distance (ft)	477	487
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 4572

Intersection: 1: Cactus Rd & Otay Mesa Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	R	L
Maximum Queue (ft)	220	522	725	760	217	162	218	250	131	93	120	118
Average Queue (ft)	109	221	315	370	105	70	97	125	70	33	53	56
95th Queue (ft)	194	442	584	656	181	138	175	218	120	76	103	107
Link Distance (ft)		1166	1166	1166		1265	1265	1265		759		101
Upstream Blk Time (%)												5
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	525				495				110		110	
Storage Blk Time (%)		0							1	0	0	
Queuing Penalty (veh)		0							1	0	1	

Intersection: 1: Cactus Rd & Otay Mesa Rd

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	79	116
Average Queue (ft)	13	47
95th Queue (ft)	46	86
Link Distance (ft)	101	101
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Continental St & Otay Mesa Rd

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB
Directions Served	T	T	TR	L	T	T	T	L	R
Maximum Queue (ft)	78	220	235	109	98	55	81	52	66
Average Queue (ft)	24	44	103	31	23	10	14	14	21
95th Queue (ft)	68	124	207	77	75	35	48	39	52
Link Distance (ft)	1265	1265	1265		1192	1192	1192	390	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)				540					270
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 3: Britannia Blvd & Otay Mesa Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	T	R	L	L	T	T	T	L	L	R
Maximum Queue (ft)	277	316	274	311	308	288	161	100	110	190	231	312
Average Queue (ft)	146	163	152	158	123	150	75	48	24	86	107	125
95th Queue (ft)	227	254	242	264	255	257	137	96	76	187	193	250
Link Distance (ft)	1192	1192	1192	1192			1262	1262	1262	1000	1000	1000
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)					525	525						
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 4: Britannia Blvd & SR-905 WB Ramps

Movement	WB	WB	WB	B30	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	LTR	R	T	L	L	T	T	T	T	T	TR
Maximum Queue (ft)	355	827	720	753	132	144	448	441	432	1026	1006	794
Average Queue (ft)	271	545	335	193	107	129	254	103	97	740	467	329
95th Queue (ft)	447	975	815	669	169	167	541	292	235	1136	841	566
Link Distance (ft)		720	720	701			432	432	432	1000	1000	1000
Upstream Blk Time (%)		26	1	5			3	0	0	13	0	
Queuing Penalty (veh)		0	0	0			27	1	0	41	0	
Storage Bay Dist (ft)	330				120	120						
Storage Blk Time (%)	16	46			7	22	0					
Queuing Penalty (veh)	43	81			31	93	2					

Intersection: 5: Britannia Blvd & SR-905 EB Ramps

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB	SB	SB	
Directions Served	LT	R	R	T	T	TR	L	L	T	T	T	
Maximum Queue (ft)	1261	1391	1080	819	626	552	124	145	486	438	375	
Average Queue (ft)	546	832	721	460	202	173	32	98	449	257	97	
95th Queue (ft)	1316	1475	1217	759	443	387	84	189	539	463	267	
Link Distance (ft)	1575	1575		992	992	992			444	444	444	
Upstream Blk Time (%)	1	5				0			38	1	0	
Queuing Penalty (veh)	11	42				0			150	2	0	
Storage Bay Dist (ft)			930				120	120				
Storage Blk Time (%)		29	23				0	2	77			
Queuing Penalty (veh)		201	160				0	7	85			

Intersection: 6: Britannia Blvd & Airway Rd

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	TR	LT	R	L	T	TR	L	T	R	R
Maximum Queue (ft)	312	325	1176	551	455	235	979	979	994	1018	788	327
Average Queue (ft)	296	314	1079	251	192	70	898	858	720	887	115	67
95th Queue (ft)	375	391	1510	464	367	217	1191	1154	1156	1259	465	174
Link Distance (ft)			1158	5239			927	927	991	991	991	
Upstream Blk Time (%)			23				62	29	8	15	0	
Queuing Penalty (veh)			363				0	0	64	119	2	
Storage Bay Dist (ft)	300	300			580	210						400
Storage Blk Time (%)	18	54	3	0	0	0	75				0	0
Queuing Penalty (veh)	82	245	36	1	0	0	33				0	0

Intersection: 7: Airway Rd & Continental Rd

Movement	EB	EB	WB	WB	WB	SB	SB
Directions Served	L	T	T	T	R	L	R
Maximum Queue (ft)	149	560	177	190	80	75	348
Average Queue (ft)	18	522	69	71	23	72	122
95th Queue (ft)	94	677	139	142	52	85	299
Link Distance (ft)		544	1158	1158			470
Upstream Blk Time (%)		37					
Queuing Penalty (veh)		406					
Storage Bay Dist (ft)	125				200	50	
Storage Blk Time (%)		74		0		39	0
Queuing Penalty (veh)		7		0		4	2

Intersection: 8: Cactus Rd & Airway Rd

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (ft)	305	268	234	1292	511
Average Queue (ft)	258	90	77	1164	340
95th Queue (ft)	344	201	180	1616	634
Link Distance (ft)	259	707	707	1246	500
Upstream Blk Time (%)	82	0	0	82	28
Queuing Penalty (veh)	0	1	1	0	80
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 9: La Media Rd & Airway Rd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	R	L
Maximum Queue (ft)	76	112	106	126	69	46	95	192	166	136	87	102
Average Queue (ft)	14	42	38	46	14	3	28	91	42	52	15	10
95th Queue (ft)	46	88	85	101	44	22	72	159	120	100	49	50
Link Distance (ft)			5239	5239				983	983			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			400	230	230			330	330	220
Storage Blk Time (%)								0				
Queuing Penalty (veh)								0				

Intersection: 9: La Media Rd & Airway Rd

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB	SB	SB	
Directions Served	L	T	T	R	L	L	T	T	T	R	R	
Maximum Queue (ft)	146	201	179	83	232	245	754	582	100	81	24	
Average Queue (ft)	58	82	36	17	209	235	315	126	11	15	1	
95th Queue (ft)	117	158	111	50	268	269	659	377	48	50	12	
Link Distance (ft)		837	837				883	883	883			
Upstream Blk Time (%)							0					
Queuing Penalty (veh)							0					
Storage Bay Dist (ft)	220			220	220	220				130	130	
Storage Blk Time (%)		0	0		3	20	0		0	0	0	
Queuing Penalty (veh)		0	0		4	29	3		0	0	0	

Intersection: 10: Airway Rd & Park Wy

Movement	EB	WB	WB	SB
Directions Served	T	T	TR	R
Maximum Queue (ft)	735	9	22	61
Average Queue (ft)	626	0	1	24
95th Queue (ft)	1019	6	11	51
Link Distance (ft)	707	544	544	212
Upstream Blk Time (%)	55			
Queuing Penalty (veh)	614			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Cactus Rd & Street D

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	L	LTR
Maximum Queue (ft)	203	90	44	32	194
Average Queue (ft)	137	30	8	3	119
95th Queue (ft)	236	85	71	20	254
Link Distance (ft)	173		670		182
Upstream Blk Time (%)	68				44
Queuing Penalty (veh)	0				58
Storage Bay Dist (ft)		100		60	
Storage Blk Time (%)		11			
Queuing Penalty (veh)		0			

Intersection: 12: Cactus Rd & PA-11 Secondary Dwy

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	197	195
Average Queue (ft)	83	74
95th Queue (ft)	209	227
Link Distance (ft)	213	219
Upstream Blk Time (%)	18	25
Queuing Penalty (veh)	0	0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: Park Wy & Street D

Movement	NB
Directions Served	LR
Maximum Queue (ft)	62
Average Queue (ft)	28
95th Queue (ft)	52
Link Distance (ft)	218
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 14: Continental Rd/PA-12 Secondary Dwy & Street D/Colchester Ct

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	138	39	50	77
Average Queue (ft)	54	16	25	31
95th Queue (ft)	100	42	49	59
Link Distance (ft)	565	472	470	116
Upstream Blk Time (%)				0
Queuing Penalty (veh)				0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 15: Park Wy & PA-10 Primary Dwy/PA-13 Primary Dwy

Movement	EB	WB
Directions Served	LTR	LTR
Maximum Queue (ft)	44	50
Average Queue (ft)	24	23
95th Queue (ft)	47	48
Link Distance (ft)	255	230
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 3743

Intersection: 1: Cactus Rd & Otay Mesa Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	R	L
Maximum Queue (ft)	549	1182	1218	1218	212	326	344	328	109	190	135	136
Average Queue (ft)	160	848	1193	1205	99	126	157	177	47	34	75	82
95th Queue (ft)	463	1324	1225	1229	177	250	298	327	93	93	127	132
Link Distance (ft)		1166	1166	1166		1265	1265	1265		759		101
Upstream Blk Time (%)		0	99	97								7
Queuing Penalty (veh)		0	0	0								0
Storage Bay Dist (ft)	525				495				110		110	
Storage Blk Time (%)	0	15							0		3	
Queuing Penalty (veh)	0	24							0		4	

Intersection: 1: Cactus Rd & Otay Mesa Rd

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	66	114
Average Queue (ft)	22	52
95th Queue (ft)	52	96
Link Distance (ft)	101	101
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Continental St & Otay Mesa Rd

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	TR	L	T	T	T	L	L	R
Maximum Queue (ft)	102	137	376	115	153	95	153	22	70	88
Average Queue (ft)	43	51	179	45	36	25	52	1	22	29
95th Queue (ft)	90	116	335	80	97	72	114	8	56	71
Link Distance (ft)	1265	1265	1265		1192	1192	1192		390	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)				540				105		270
Storage Blk Time (%)										
Queuing Penalty (veh)										

Intersection: 3: Britannia Blvd & Otay Mesa Rd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	T	R	L	L	T	T	T	L	L	R
Maximum Queue (ft)	258	289	285	481	446	479	269	223	194	215	226	289
Average Queue (ft)	122	123	116	293	202	266	122	113	81	103	109	86
95th Queue (ft)	215	227	207	488	353	399	210	201	155	180	195	197
Link Distance (ft)	1192	1192	1192	1192			1262	1262	1262	1000	1000	1000
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)					525	525						
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 4: Britannia Blvd & SR-905 WB Ramps

Movement	WB	WB	WB	B30	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	LTR	R	T	L	L	T	T	T	T	T	TR
Maximum Queue (ft)	355	827	728	753	132	145	460	157	104	695	631	674
Average Queue (ft)	347	802	602	730	114	125	180	37	41	462	446	510
95th Queue (ft)	378	826	947	791	156	177	435	113	95	644	591	671
Link Distance (ft)		720	720	701			432	432	432	1000	1000	1000
Upstream Blk Time (%)		88	1	88			0					
Queuing Penalty (veh)		0	0	0			3					
Storage Bay Dist (ft)	330				120	120						
Storage Blk Time (%)	12	89			13	16	0					
Queuing Penalty (veh)	33	151			42	52	3					

Intersection: 5: Britannia Blvd & SR-905 EB Ramps

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB	SB	SB	
Directions Served	LT	R	R	T	T	TR	L	L	T	T	T	
Maximum Queue (ft)	1270	1404	914	1003	959	476	132	145	483	461	413	
Average Queue (ft)	391	726	598	889	311	174	68	121	444	281	168	
95th Queue (ft)	1253	1466	1081	1142	764	363	136	194	547	491	368	
Link Distance (ft)	1556	1556		991	991	991			443	443	443	
Upstream Blk Time (%)	2	7		4	0				38	2	1	
Queuing Penalty (veh)	12	52		39	0				203	10	6	
Storage Bay Dist (ft)			930				120	120				
Storage Blk Time (%)		18	10				5	12	69			
Queuing Penalty (veh)		120	67				25	54	146			

Intersection: 6: Britannia Blvd & Airway Rd

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	TR	LT	R	L	T	TR	L	T	R	R
Maximum Queue (ft)	312	325	1177	3601	605	235	979	963	964	1017	454	256
Average Queue (ft)	298	313	1068	2284	561	124	936	691	301	940	120	115
95th Queue (ft)	373	391	1538	3744	769	282	1143	1086	655	1248	284	216
Link Distance (ft)			1158	5239			927	927	991	991	991	
Upstream Blk Time (%)			39	0			76	6	1	27	0	
Queuing Penalty (veh)			462	0			0	0	5	246	1	
Storage Bay Dist (ft)	300	300			580	210						400
Storage Blk Time (%)	29	69	1	22	30	0	77				0	0
Queuing Penalty (veh)	88	210	8	130	167	2	81				0	0

Intersection: 7: Airway Rd & Continental Rd

Movement	EB	EB	WB	WB	WB	SB	SB
Directions Served	L	T	T	T	R	L	R
Maximum Queue (ft)	136	651	290	296	223	125	395
Average Queue (ft)	10	547	124	140	55	104	161
95th Queue (ft)	66	831	234	249	145	156	406
Link Distance (ft)		544	1158	1158			470
Upstream Blk Time (%)		82					1
Queuing Penalty (veh)		780					1
Storage Bay Dist (ft)	125				200	100	
Storage Blk Time (%)		82		2	0	45	0
Queuing Penalty (veh)		8		6	0	4	1

Intersection: 8: Cactus Rd & Airway Rd

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (ft)	307	560	491	1297	514
Average Queue (ft)	243	203	170	1143	396
95th Queue (ft)	354	465	364	1626	682
Link Distance (ft)	259	707	707	1246	500
Upstream Blk Time (%)	75	1	0	80	52
Queuing Penalty (veh)	0	4	0	0	152
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 9: La Media Rd & Airway Rd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	R	L
Maximum Queue (ft)	117	135	100	123	66	52	112	251	218	273	246	186
Average Queue (ft)	31	55	31	39	12	5	38	147	98	154	99	55
95th Queue (ft)	83	107	76	90	41	26	86	226	200	247	215	160
Link Distance (ft)			5239	5239				983	983			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			400	230	230			330	330	220
Storage Blk Time (%)								1		0	0	0
Queuing Penalty (veh)								0		0	0	0

Intersection: 9: La Media Rd & Airway Rd

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB	SB	SB	
Directions Served	L	T	T	R	L	L	T	T	T	R	R	
Maximum Queue (ft)	233	291	234	64	232	245	564	456	146	130	116	
Average Queue (ft)	109	158	116	13	184	215	189	120	27	36	8	
95th Queue (ft)	206	250	212	41	275	279	429	291	93	92	50	
Link Distance (ft)		837	837				883	883	883			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	220			220	220	220				130	130	
Storage Blk Time (%)	0	2	0		1	11	1		0	0	0	
Queuing Penalty (veh)	1	2	0		2	17	3		0	0	0	

Intersection: 10: Airway Rd & Park Wy

Movement	EB	WB	WB	SB
Directions Served	T	T	TR	R
Maximum Queue (ft)	735	94	91	37
Average Queue (ft)	588	7	5	13
95th Queue (ft)	1046	63	43	39
Link Distance (ft)	707	544	544	212
Upstream Blk Time (%)	52			
Queuing Penalty (veh)	491			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Cactus Rd & Street D

Movement	EB	WB	NB	SB
Directions Served	LTR	L	L	LTR
Maximum Queue (ft)	196	53	40	196
Average Queue (ft)	118	11	8	122
95th Queue (ft)	219	42	32	268
Link Distance (ft)	173			182
Upstream Blk Time (%)	56			52
Queuing Penalty (veh)	0			101
Storage Bay Dist (ft)		100	60	
Storage Blk Time (%)		0	0	
Queuing Penalty (veh)		0	0	

Intersection: 12: Cactus Rd & PA-11 Secondary Dwy

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	214	259
Average Queue (ft)	84	131
95th Queue (ft)	222	312
Link Distance (ft)	213	219
Upstream Blk Time (%)	17	50
Queuing Penalty (veh)	0	0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: Park Wy & Street D

Movement	NB
Directions Served	LR
Maximum Queue (ft)	71
Average Queue (ft)	30
95th Queue (ft)	55
Link Distance (ft)	218
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 14: Continental Rd/PA-12 Secondary Dwy & Street D/Colchester Ct

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	67	32	64	38
Average Queue (ft)	33	8	33	13
95th Queue (ft)	56	29	54	39
Link Distance (ft)	565	472	470	116
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 15: Park Wy & PA-10 Primary Dwy/PA-13 Primary Dwy

Movement	EB	WB
Directions Served	LTR	LTR
Maximum Queue (ft)	35	35
Average Queue (ft)	13	13
95th Queue (ft)	38	38
Link Distance (ft)	255	230
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 4216