UNIVERSITY COMMUNITY PLAN AMENDMENT

Existing Conditions Summary

DECEMBER 2015 | VERSION 4

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EXECUTIVE SUMMARY

This study documents analysis and observations of the existing mobility network in the University community.

Active Transportation

Pedestrian facilities are provided for most of the community, but distances between points of interest can be long. Specifically, Rose Canyon, I-805, I-5, and SR-52 act as barriers for pedestrian connectivity through the community. There are pedestrian bridges at certain locations that provide important pedestrian connections, but otherwise the community's pedestrian travel is challenging with the current street configurations. A 0.25-mile walkshed was calculated from each transit stop, allowing the simulated pedestrian to only utilize available sidewalks and crossings. It was found that the northern and central areas within the community provide good pedestrian access to transit, however, the southern area is not well served.

Due to high vehicle speeds and a lack of protected bicycle facilities, bicycling in the University community is not comfortable for most people. Between 2008 and 2012, there were a total of 57 reported collisions involving bicycles within the University community. Routes that are separated from cars need to be provided in order to attract more users. Bicycle facilities on busy streets need to provide more separation between modes of travel.

Public Transit

South of Rose Canyon has low transit ridership, this result is not surprising given the limited transit service and long walking distances to bus stops in this area. Areas that are well served by transit have transit use similar to or better than the City-wide average. The success of the SuperLoop demonstrates how connecting high-density residential with employment, retail, commercial, and educational uses with frequent transit service can attract riders who otherwise may have used a car. Over time, with future planned transit service, people may choose to live where they can take transit and thereby own fewer cars.

Through transit travelshed calculations, it was found that access can be provided within a 30 minute transit commute to the neighboring communities of La Jolla, Kearny Mesa, Torrey Pines, Encinitas, Mira Mesa, Pacific Beach, Clairemont, Clairemont Mesa, Old Town and Downtown. However, there are some choke points throughout the community that cause heavy delays for buses. Travel time information was obtained from using Google Maps directions to compare automobile and transit travel. It was found that transit can offer competitive travel times during peak periods when roadways and freeways are congested. Buses are able to use HOV lanes (where available) to by-pass long queues, which can afford time savings.

Street Network

A total of 79 intersections throughout the community were analyzed to determine the operations during morning and afternoon peak periods. Roadway segment travel times and midday intersection analyses were performed for intersections along Genesee Avenue, La Jolla Village Drive, Nobel Drive, and Regents Road. The following represents a summary of the intersection operations within the community.

- *Genesee Avenue has 20 signalized intersections between North Torrey Pines Road and Appleton Street/Lehrer Drive. All intersections operate at an acceptable level of service (LOS) except for the following locations:*

- *Genesee Avenue at I-5 Southbound Ramps (AM, PM)*
- *Genesee Avenue at I-5 Northbound Ramps (MID, PM)*
- *Genesee Avenue at La Jolla Village Drive (AM, MID)*
- *Genesee Avenue at Decoro Street (PM)*
- *Genesee Avenue at Centurion Square (AM)*
- *Genesee Avenue at Governor Drive (AM, PM)*
- *Genesee Avenue at SR-52 WB Ramps (PM)*
- *Genesee Avenue at SR-52 EB Ramps (AM, PM)*
- *Genesee Avenue at Appleton Street/Lehrer Drive (AM)*

- *La Jolla Village Drive/Miramar Road have 19 signalized intersections between North Torrey Pines Road and Camino Santa Fe. All intersections operate at an acceptable LOS except for the following locations:*
  - *La Jolla Village Drive at Torrey Pines Road (PM)*
  - *La Jolla Village Drive at Villa La Jolla Drive (AM, MID, PM)*
  - *La Jolla Village Drive at Regents Road (PM)*
  - *La Jolla Village Drive at Genesee Avenue (AM, MID)*
  - *La Jolla Village Drive at Executive Way (PM)*
  - *La Jolla Village Drive at Towne Centre Drive (AM, PM)*
  - *La Jolla Village Drive at I-805 Southbound Ramps (AM)*
  - *Miramar Road at Eastgate Mall (PM)*
  - *Miramar Road at Camino Santa Fe (PM)*

- *Nobel Drive has 17 signalized intersections between Villa La Jolla Drive and Miramar Road. All intersections operate at an acceptable LOS.*

- *Regents Road has 9 signalized intersections between Genesee Avenue and Arriba Street and 4 signalized intersections between Governor Drive and Luna Avenue. All intersections operate at an acceptable LOS except for the following locations:*
  - *Regents Road at La Jolla Village Drive (PM)*
  - *Regents Road at SR-52 Eastbound Ramps (AM, PM)*
  - *Regents Road at Luna Avenue (PM)*

- *North Torrey Pines Road has 5 signalized intersections between UCSD Northpoint Driveway and Genesee Avenue. All intersections operate at an acceptable LOS except for the following location:*
  - *North Torrey Pines Road at La Jolla Shores Drive (PM)*

- *Gilman Drive has 4 signalized intersections between Genesee Avenue and Interstate 5 Ramps. All intersections operate at an acceptable LOS except for the following location:*
  - *Gilman Drive at I-5 Southbound Ramps (PM)*

- *Governor Drive has 2 signalized intersections and 2 unsignalized intersections between Regents Road and Interstate 805 Ramps. All intersections operate at an acceptable LOS except for the following locations:*
  - *Governor Drive at Genesee Avenue (AM, PM)*
  - *Governor Drive at I-805 Northbound Ramps (AM, PM)*

Freeways

Freeway operations for the adjacent Interstate 5, Interstate 805, and State Route 52 facilities were analyzed to determine the operations and capacity of the mainline and ramp connections.

- *There are 17 intersections that provide a connection to the adjacent freeway facilities.*
  - *9 of the 17 intersections experience poor operations during at least one peak period, and*
  - *5 of the 17 intersections experience poor operations during more than one peak period.*

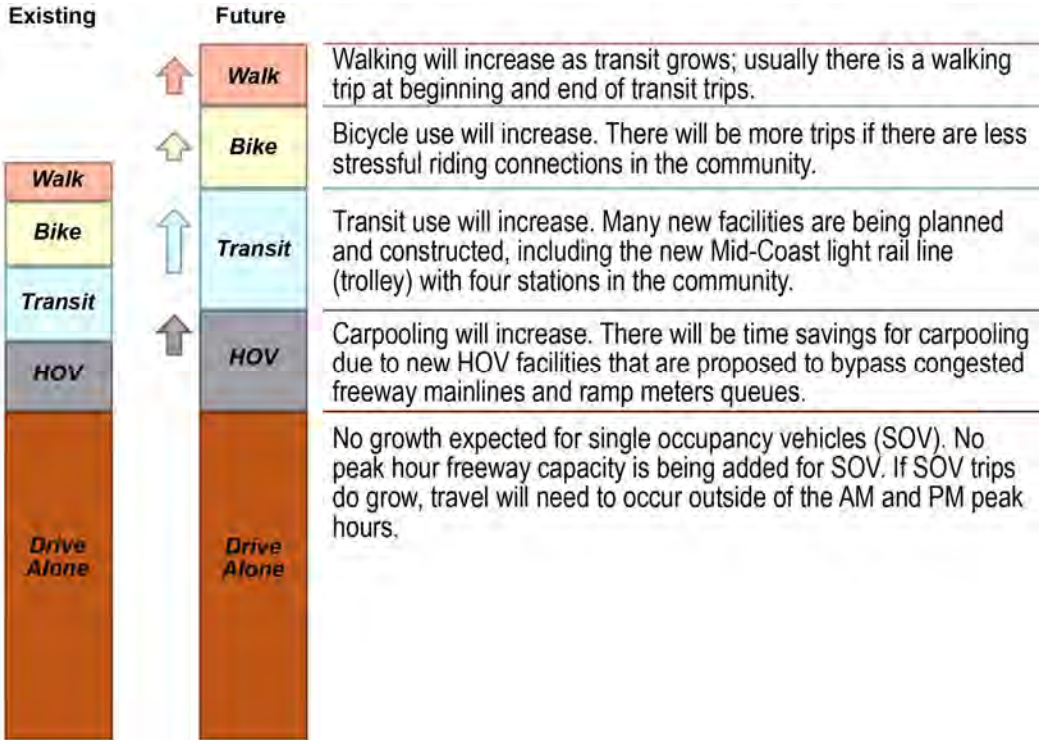
- *The freeway mainlines adjacent to the community area are currently operating at capacity during the peak hours. As a result, the ramp connections from the community to get on the freeway are not able to allow more vehicles onto the freeway. With the current capacity restraints, vehicles will either wait longer, spread into a longer peak period, or choose other modes of travel.*

- *High-occupancy vehicle lanes are under construction on Interstate 805 and are planned for future implementation along Interstate 5. Direct access ramps will be provided to Voigt Drive (via Interstate 5) and Nobel Drive (via Interstate 805). These lanes should encourage more carpool, vanpool, and transit use.*

Overall, access points to the freeways are at or above capacity and many of the major corridors in the community experience congestion.

How will travel in the University community grow?

Based on the information gathered in this report, growth in the University community is contingent on providing opportunities for modes of travel other than single occupancy vehicles. The following graphic summarizes the vision of the community growth by mode of travel:



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Appendices

1 INTRODUCTION

The following section provides an introduction to the Existing Conditions Report of the University Community Plan Amendment.

BACKGROUND

The University community is located at the northern border of the City of San Diego, encompassing the University Town Center, Torrey Pines, and the University of California San Diego (UCSD). The area commonly referred to as the "golden triangle", bounded by I-5, I-805, and SR-52, is within the University community. **Figure 1-1** depicts the location of the University community in a regional context and **Figure 1-2** shows the community boundary in a localized context.

REPORT PURPOSE AND APPLICABILITY

The purpose of the Community Plan Existing Conditions Mobility Report is to summarize the existing conditions within the community for all modes of transportation and to identify potential deficiencies and conflicts that could be addressed through future changes in the transportation network. The existing conditions report is a critical building block in the preparation of the land use plan and future mobility network. Key purposes of the existing conditions report include:

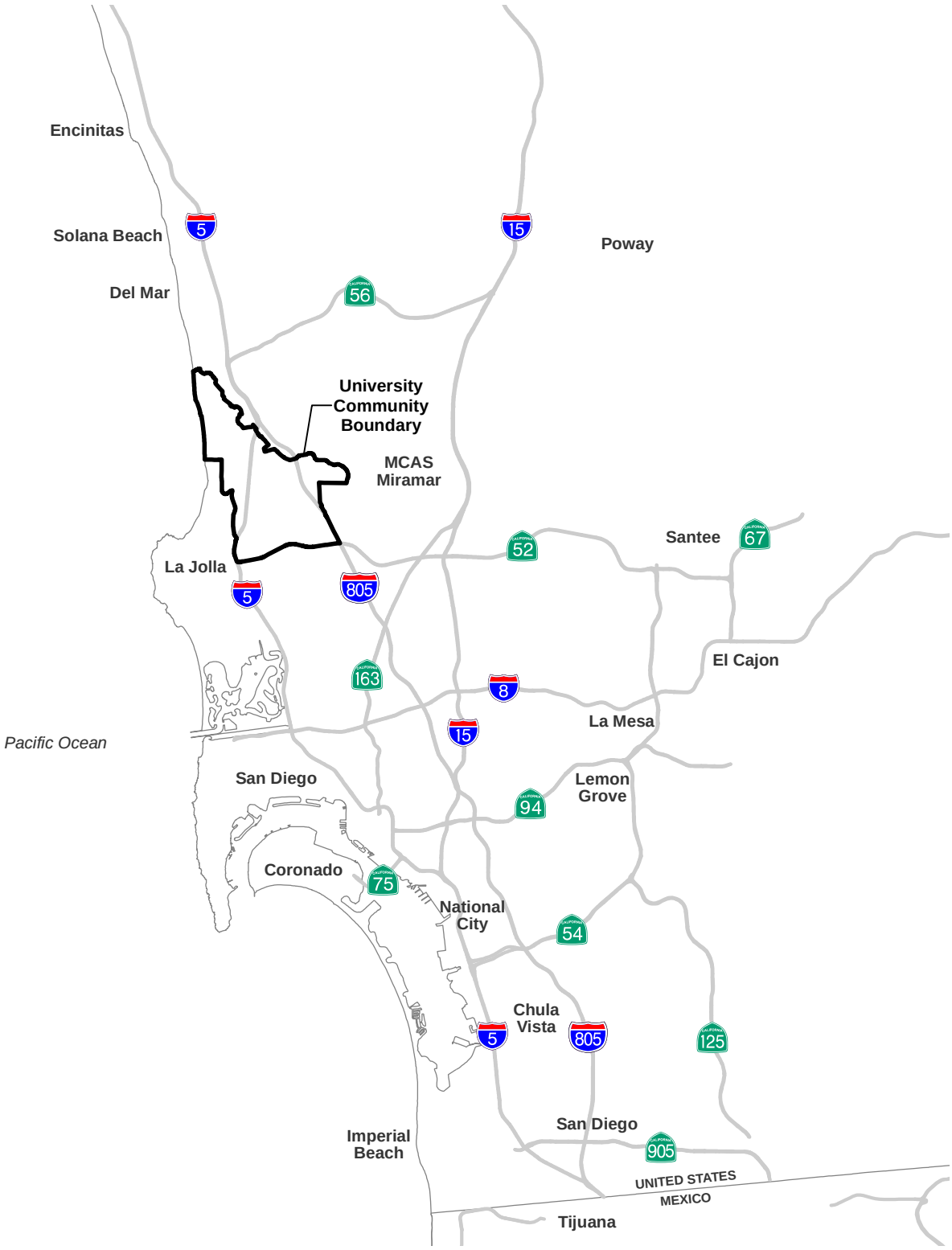
- Summarizing traffic volume and accident data collected,
- Describing the analysis methods and techniques,
- Evaluating existing mobility conditions,
- Establishing a baseline condition for the environmental documents, and
- Educating the stakeholders and plan preparers of current conditions.

SUPPORTING INFORMATION

During preparation of this report, several references were utilized to supplement the data collected specifically for this project. These documents include:

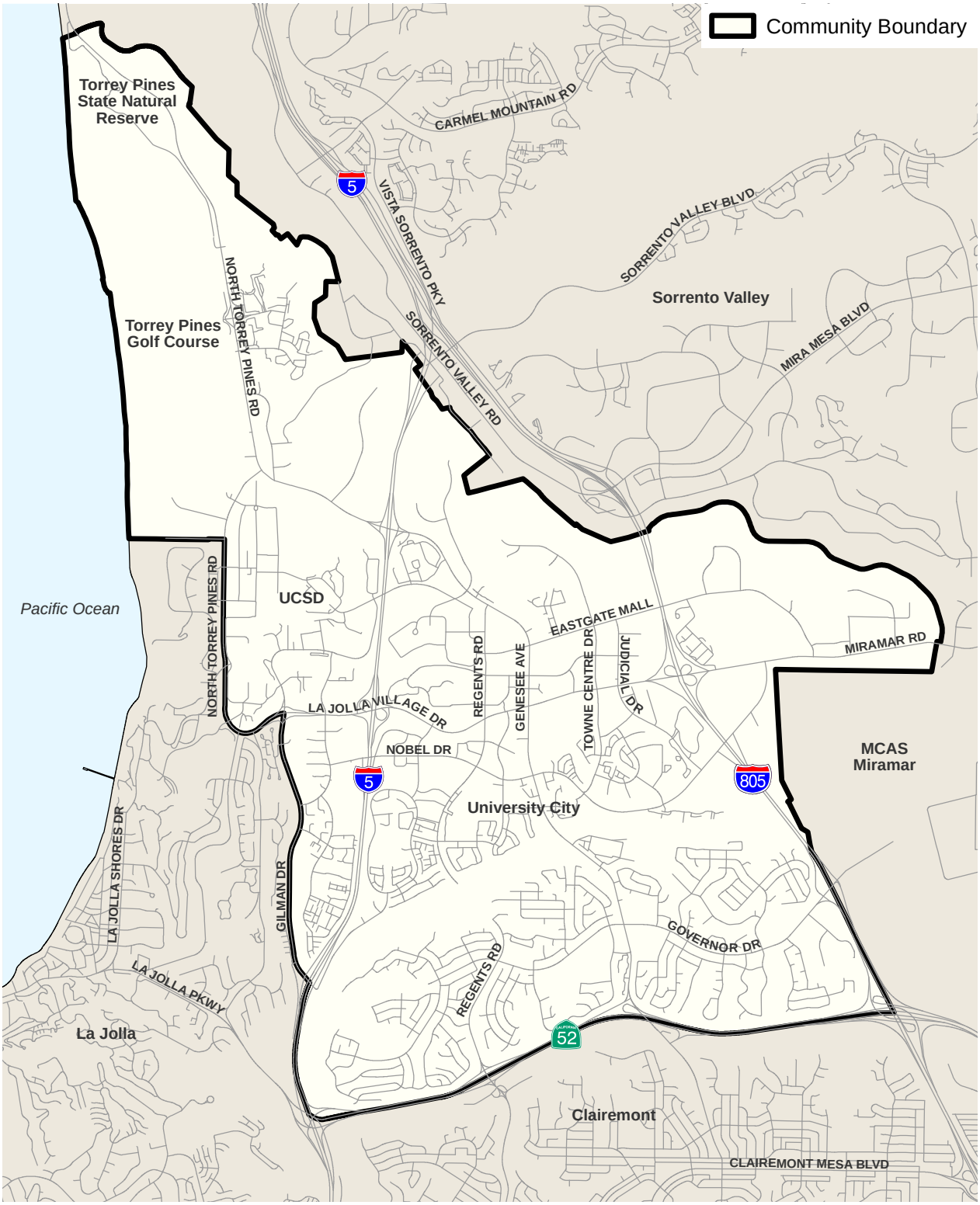
- San Diego Association of Governments (SANDAG) 2050 Regional Transportation Plan
- SANDAG's 2050 San Diego Regional Bike Plan
- City of San Diego Bicycle Master Plan
- City of San Diego Pedestrian Planning Effort
- Low Stress Bicycling and Network Connectivity, Mineta Transportation Institute
- University Community Plan, October 2014

FIGURE 1-1



Regional Vicinity Map

FIGURE 1-2



Community Boundary

2 ANALYSIS STUDY AREA AND METHODOLOGY

The following section describes the methodology used to determine the study area and evaluate existing conditions of the mobility network within the University community.

STUDY AREA

INTERSECTIONS

Intersections to be studied were selected based on several factors, which included the following:

- Existing Circulation Element roadways intersecting with other existing Circulation Element roadways where both roadways function or are classified as a collector or higher
- Anticipated Circulation Element roadways intersecting with other existing and/or anticipated Circulation Element roadways where both roadways function or are classified as a collector or higher
- Key intersections where both intersecting streets meet one of the following conditions:
    - 4-lanes (or greater)
    - 3-lanes and carries over 15,000 Average Daily Traffic (ADT)
    - 2-lanes and carries over 10,000 ADT
- Intersections that provide access to/from freeways located within the University community
- Signalized intersections along corridors where travel time analysis is performed

It should be noted that some intersections selected for the study area fall just outside the University community boundary. However, these intersections were included in the analysis because they may influence or impact the flow of transportation within the community.

Based on the criteria listed above, a total of 79 intersections were selected for inclusion in the analysis study area. **Table 2-1** provides a list of the intersections, identifies the type of control currently present at each location, and assigns an identification number to each intersection for use in this study. **Figure 2-1** graphically displays the location of each of the study intersections.

As shown in the table, 76 of the 79 intersections evaluated in the University community are signalized. The other 3 intersections are unsignalized with vehicles required to stop on two legs of the intersection. The majority of the intersections include at least one of the major corridors within the community, which are Genesee Avenue, La Jolla Village Drive, Nobel Drive, and Regents Road.

ROADWAY SEGMENTS AND CORRIDORS

Roadway segments to be studied were selected based on several factors, which included the following:

- Existing Circulation Element roadways functioning or classified as a collector or higher
- Anticipated Circulation Element roadways functioning or classified as a collector or higher
- Roadways providing access to/from freeways

Based on the criteria listed above, a total of 68 roadway segments were selected for analyses. **Figure 2-2** graphically displays the location of each of the roadway segments in the community selected for analyses.

Four corridors were selected to have travel time analysis performed to understand the flow of traffic through the community: La Jolla Village Drive, Genesee Avenue, Nobel Drive, and Regents Road.

FREEWAY SEGMENTS AND RAMPS

Freeway segments adjacent to the community and freeway entrance ramps that are controlled by ramp meters are included in the study area. **Figure 2-3** graphically displays the location of each of the freeway segments and entrance ramps included in the analysis study area. This includes facilities along I-5, I-805, and SR-52.

Table 2-1 Study Intersections

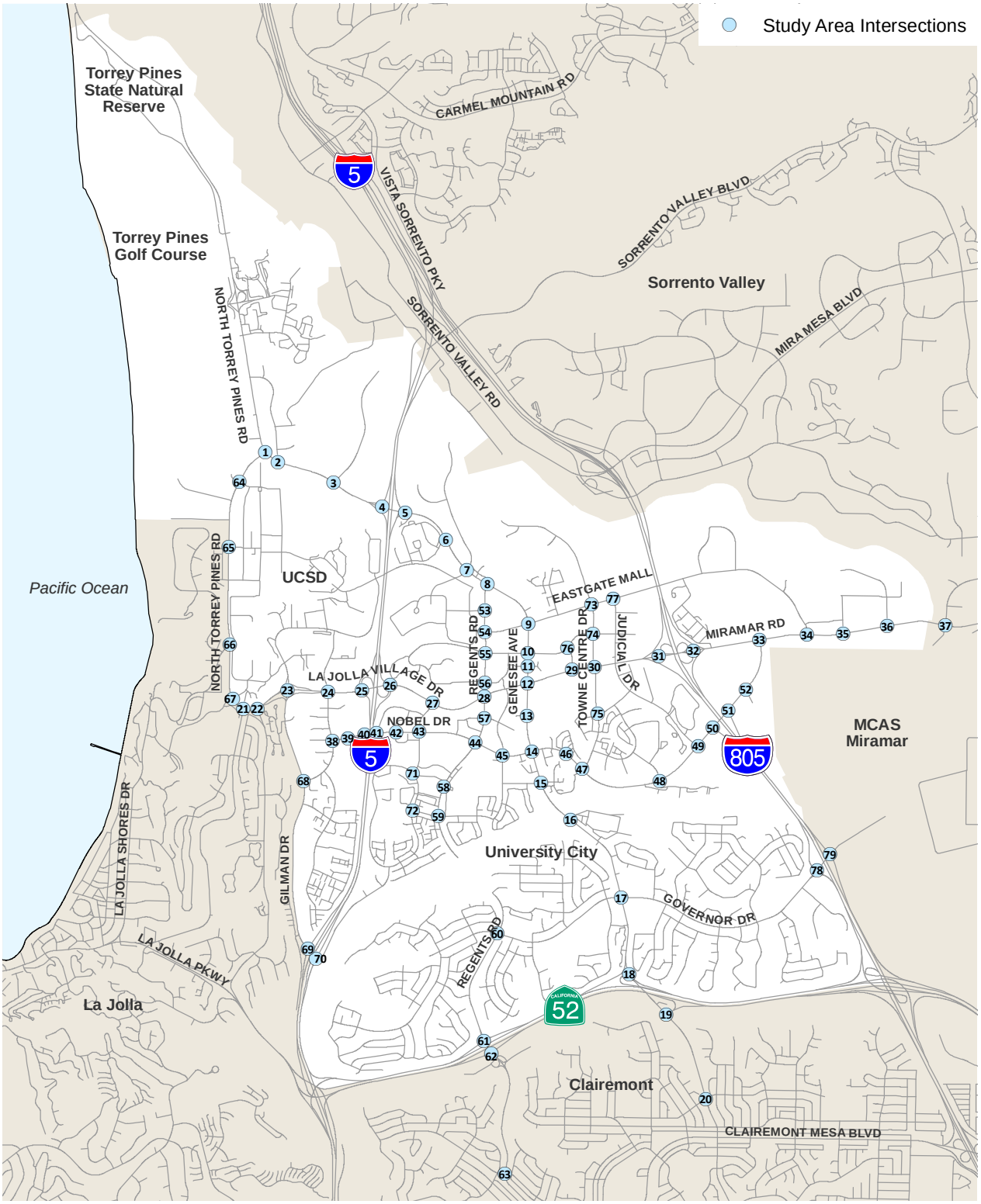
ID	Intersection
1	Genesee Ave & N. Torrey Pines Rd
2	Genesee Ave & John Hopkins Dr (S)
3	Genesee Ave & Science Center Dr
4	Genesee Ave & I-5 SB Ramps
5	Genesee Ave & I-5 NB Ramps
6	Genesee Ave & Scripps Hospital
7	Genesee Ave & Campus Point Dr
8	Genesee Ave & Regents Rd
9	Genesee Ave & Eastgate Mall
10	Genesee Ave & Executive Dr
11	Genesee Ave & Executive Square
12	Genesee Ave & La Jolla Village Dr
13	Genesee Ave & Esplanade Ct
14	Genesee Ave & Nobel Dr
15	Genesee Ave & Decoro St
16	Genesee Ave & Centurion Square
17	Genesee Ave & Governor Dr
18	Genesee Ave & SR-52 WB Ramps
19	Genesee Ave & SR-52 EB Ramps
20	Genesee Ave & Appleton St/Lehrer Dr
21	La Jolla Village Dr & Torrey Pines Rd
22	La Jolla Village Dr & La Jolla Scenic Dr
23a	La Jolla Village Dr WB & Gilman Dr
23b	La Jolla Village Dr EB & Gilman Dr (unsignalized; side-street stop controlled)
24	La Jolla Village Dr & Villa La Jolla Dr
25	La Jolla Village Dr & I-5 SB Off-Ramps
26	La Jolla Village Dr & I-5 NB Off-Ramps
27	La Jolla Village Dr & Lebon Dr

ID	Intersection
28	La Jolla Village Dr & Regents Rd
29	La Jolla Village Dr & Executive Way
30	La Jolla Village Dr & Towne Centre Dr
31	La Jolla Village Dr & I-805 SB Ramps
32	La Jolla Village Dr & I-805 NB Ramps
33	Miramar Rd & Nobel Dr
34	Miramar Rd & Eastgate Mall
35	Miramar Rd & Miramar Mall
36	Miramar Rd & Miramar Place
37	Miramar Rd & Camino Santa Fe
38	Nobel Dr & Villa La Jolla Dr
39	Nobel Dr & La Jolla Village Square Dwy
40	Nobel Dr & I-5 SB On Ramp
41	Nobel Dr & I-5 NB Off-Ramp/University Center Ln
42	Nobel Dr & Caminito Plaza Centro
43	Nobel Dr & Lebon Dr
44	Nobel Dr & Regents Rd
45	Nobel Dr & Costa Verde Blvd/Cargill Ave
46	Nobel Dr & Lombard Place
47	Nobel Dr & Towne Centre Dr
48	Nobel Dr & Shoreline Dr
49	Nobel Dr & Judicial Dr
50	Nobel Dr & I-805 SB On-Ramp
51	Nobel Dr & I-805 NB Off-Ramp
52	Nobel Dr & Avenue of Flags
53	Regents Rd & County Day Ln/ Health Science Dr
54	Regents Rd & Eastgate Mall
55	Regents Rd & Executive Dr

Table 2-1 Study Intersections (continued)

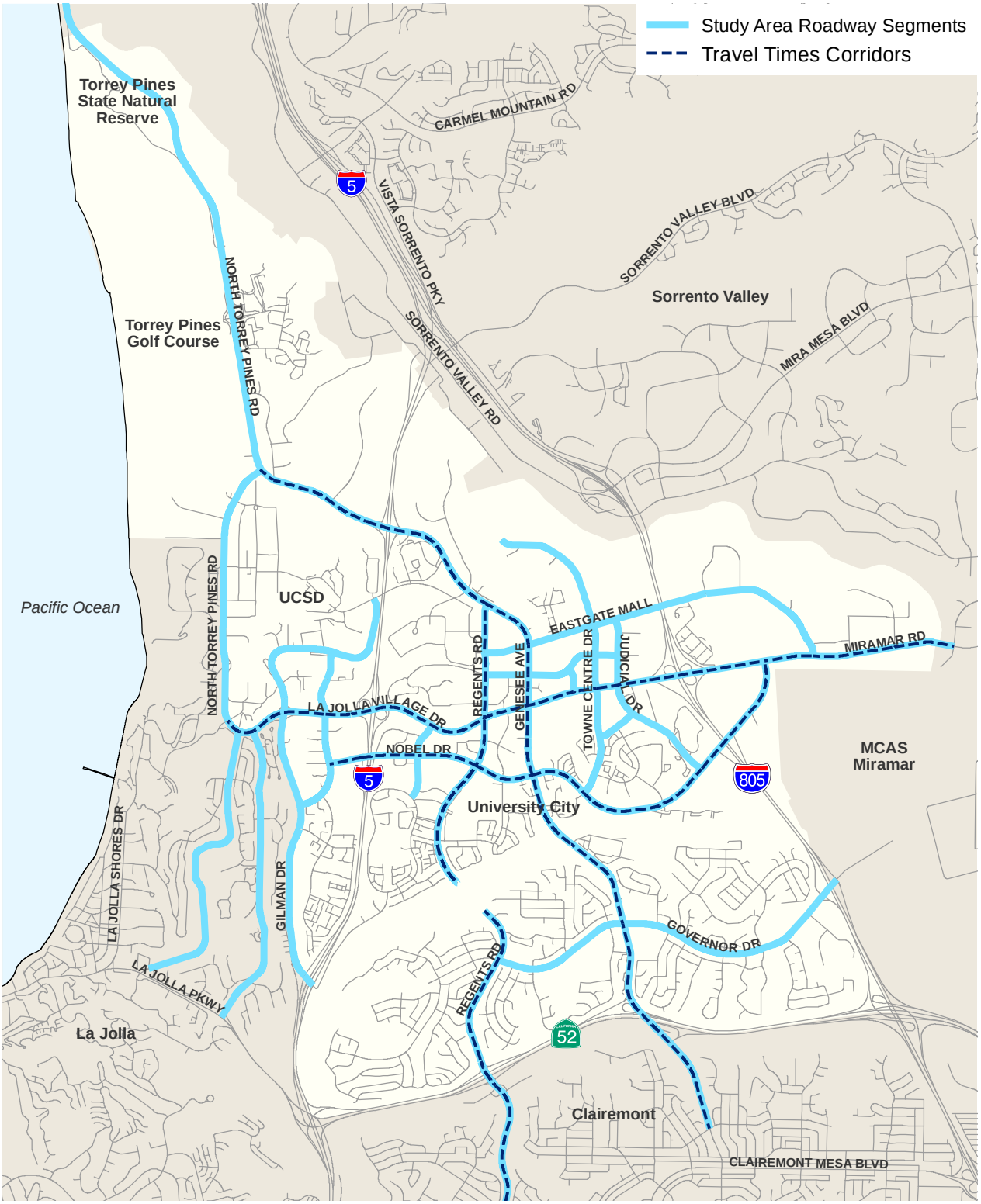
ID	Intersection
56	Regents Rd & Regents Park Row
57	Regents Rd & Plaza De Palmas
58	Regents Rd & Berino Ct
59	Regents Rd & Arriba St
60	Regents Rd & Governor Dr
61	Regents Rd & SR-52 WB Ramps
62	Regents Rd & SR-52 EB Ramps
63	Regents Rd & Luna Ave
64	N. Torrey Pines Rd & UCSD Northpoint Dwy
65	N. Torrey Pines Rd & Pangea Dr
66	N. Torrey Pines Rd & La Jolla Shores Dr
67	N. Torrey Pines Rd & Revelle College Dr
68	Gilman Dr & Villa La Jolla Dr
69	Gilman Dr & I-5 SB Ramps
70	Gilman Dr & I-5 NB Ramps
71	Palmilla Dr & Lebon Dr
72	Palmilla Dr & Ariba St
73	Towne Centre Dr & Eastgate Mall
74	Towne Centre Dr & Executive Dr
75	Towne Centre Dr & Golden Haven Dr
76	Executive Way & Executive Dr
77	Judicial Dr & Eastgate Mall
78	Governor Dr & I-805 SB Ramps *(unsignalized; side-street stop controlled)*
79	Governor Dr & I-805 NB Ramps *(unsignalized; side-street stop controlled)*

FIGURE 2-1



Study Area: Intersections

FIGURE 2-2



Study Area: Roadways

FIGURE 2-3

Study Area: Freeways and Ramps

ANALYSIS METHODOLOGY

The existing conditions evaluation process includes the following analyses:

- Collision history along the circulation element roads
- Pedestrian network connectivity and barriers
- Determination of walkable area within 1/4-mile distance to each transit stop within the community
- Bicycle level of traffic stress
- Distance a transit rider can travel from key locations within the community (transit travelshed)
- Transit travel time comparison to automobile travel time
- Levels of service at all study intersections for the AM and PM peak-hours during a typical weekday
- Levels of service for the majority of study intersections along Genesee Avenue, La Jolla Village Drive, Nobel Drive, and Regents Road during the midday peak-hour during a typical weekday
- Levels of service for roadway segments within the community based on average daily traffic and theoretical capacity based on the roadway classification
- Levels of service along corridors within the community based on average speed
- Levels of service along freeway segments adjacent to the community based on density
- Length of queues and delays at freeway entrance ramps that have ramp meter operations

COLLISION HISTORY

Collision data was obtained from the Transportation Injury Mapping System (TIMS) database for the most recent five years of data. The TIMS database was established by the Safe Transportation Research and Education Center at the University of California, Berkeley, and gathers data from state and local agencies using the Statewide Integrated Traffic Records System (SWITRS). The collision data for this study includes data from January 2008 through December 2012. Data is organized to show if the collision includes a bicycle, pedestrian, or only automobiles. Bicycle collisions are further categorized by the type of collision. Pedestrian collisions are categorized by the severity of the collision (injury or fatality).

PEDESTRIAN NETWORK CONNECTIVITY AND BARRIERS

An existing sidewalk inventory was provided by SANDAG in Geographic Information System (GIS) format of the study area for review and analysis in the ArcGIS software. This information was used to provide an overview of where pedestrian connections currently are provided, areas that have missing pedestrian facilities, and barriers that may impede pedestrian connectivity.

PEDESTRIAN TO TRANSIT STATION WALKSHED

Each transit stop within the University community was evaluated for its accessibility through the sidewalk network. Using the existing sidewalk inventory and the ArcGIS Network Analyst tool, a 0.25-mile walkshed was calculated from each transit stop, allowing the simulated pedestrian to only utilize available sidewalks and crossings. The resulting evaluation provides an idea of how much of the community is within a reasonable walking distance of a transit stop. The evaluation is purely distance based and does not have any factors related to time.

BICYCLE LEVEL OF TRAFFIC STRESS

The Mineta Transportation Institute published Low-Stress Bicycling and Network Connectivity which establishes a methodology for evaluating the level of stress for bicyclists riding on a designated bicycle

facility associated with specific factors. The Mineta Transportation Institute document used the City of San Jose as a test case to apply the methodology. This methodology applies a level of traffic stress (LTS) on a scale of LTS 1 (lowest stress) to LTS 4 (highest stress) for the following criteria:

- Roadway Classifications
- Roadway Speeds
- Bicycle Facility Type
- Bike Lane and Buffer Widths
- Intersection Control
- Bike Lane configuration at Intersections
- Parking Lane width
- Existing Transit Routes

LTS 1 facilities present little traffic stress and demand little attention from cyclists. They are suitable for almost all cyclists and attractive enough for a relaxing bike ride. LTS 2 facilities are suitable to most adult cyclists but demand more attention than might be expected from children. LTS 3 starts to introduce a stress level that not all adult cyclists feel comfortable with. LTS 4 is the highest level of stress and may be used by experienced bicyclists or not used at all.

Per the methodology guidance, both directions of a roadway segment are independently assigned a score between LTS 1 and LTS 4 based on several criteria shown in **Tables 2-2** through **2-8**. The resulting directional roadway level of traffic stress is the worst level of stress assigned to a segment from the several individual criteria scores. Where a table cell shows a result of "(no effect)", the resulting LTS for that situation is equal to the lower adjacent LTS.

Data on roadway classifications, speeds, bicycle facility type, and intersection control were compiled using field observations of roadway segments and intersections for classified roadways in the University community. This information was supplemented with measurement estimates and documentation of bike lane configurations at intersections taken from aerial imagery.

Table 2-2 Criteria for Bike Lanes Alongside a Parking Lane

	LTS $\geq$ 1	LTS $\geq$ 2	LTS $\geq$ 3	LTS $\geq$ 4
Street Width** (through lanes per direction)	1	(no effect)	2 or more	(no effect)
Sum of bike lane and parking lane width	15 ft. or more	14 or 14.5 ft.*	13.5 ft or less	(no effect)
Speed Limit or prevailing speed	25 mph or less	30 mph	35 mph	40 mph
Bike Lane Blockage	Rare	(no effect)	Frequent	(no effect)

Note: (no effect)=factor does not trigger an increase to this level of traffic stress.

* If speed limit < 25 mph or Class= residential, then any width is acceptable for LTS 2.

Table 2-3 Criteria for Bike Lanes Not Alongside a Parking Lane

	LTS ≥ 1	LTS ≥ 2	LTS ≥ 3	LTS ≥ 4
Street Width (through lanes per direction)	1	2, if separated by a raised median	More than 2 or 2 without a separating median	(no effect)
Bike Lane width (includes marked buffer and paved gutter)	6 ft. or more	5.5 ft or less	(no effect)	(no effect)
Speed Limit or prevailing speed	30 mph or less	(no effect)	35 mph	40 mph or more
Bike Lane Blockage	Rare	(no effect)	Frequent	(no effect)

Note: (no effect)=factor does not trigger an increase to this level of traffic stress.

Table 2-4 Criteria for Level of Traffic Stress in Mixed Traffic

Speed Limits	Street Width		
	2-3 Lanes	4-5 Lanes	6+ Lanes
Up to 25 mph	LTS 1* or 2*	LTS 3	LTS 4
30 mph	LTS 2* or 3*	LTS 4	LTS 4
35+ mph	LTS 4	LTS 4	LTS 4

Note: * Use lower value for streets without marked centerlines or classified as residential and with fewer than 3 lanes; use higher values otherwise.

Table 2-5 Level of Traffic Stress Criteria for Pocket Bike Lanes

Configuration	Level of Traffic Stress
Single right-turn lane up to 150 ft. long, starting abruptly while the bike lane continues straight, and having intersection angle and curb radius such that turning speed ≤ 15 mph.	LTS ≥ 2
Single right-turn lane up to 150 ft. long, starting abruptly while the bike lane continues straight, and having intersection angle and curb radius such that turning speed ≤ 20 mph.	LTS ≥ 3
Single right-turn lane in which the bike lane shifts to the left but the intersection angle and curb radius are such that turning speed is ≤ 15 mph.	LTS ≥ 3
Single right-turn lane with any other configuration; dual right-turn lanes; or right-turn lane along with an option (through-right) lane.	LTS ≥ 4

Table 2-6 Level of Traffic Stress Criteria for Mixed Traffic in the Presence of a Right-turn Lane

Configuration	Level of Traffic Stress
Single right-turn lane with length ≤ 75 ft. and intersection angle and curb radius limit turning speed to 15 mph.	(No effect on LTS)
Single right-turn lane with length between 75 ft. and 150 ft., and intersection angle and curb radius limit turning speed to 15 mph.	LTS ≥ 3
Otherwise	LTS = 4

Table 2-7 Level of Traffic Stress Criteria for Unsignalized Crossings Without a Median Refuge

Speed Limit of Street Being Crossed	Width of Street Being Crossed		
	Up to 3 lanes	4-5 lanes	6+ lanes
Up to 25 mph	LTS 1	LTS 2	LTS 4
30 mph	LTS 1	LTS 2	LTS 4
35 mph	LTS 2	LTS 3	LTS 4
40 mph	LTS 3	LTS 4	LTS 4

Table 2-8 Level of Traffic Stress Criteria for Unsignalized Crossings with a Median Refuge at Least Six Feet Wide

Speed Limit of Street Being Crossed	Width of Street Being Crossed		
	Up to 3 lanes	4-5 lanes	6+ lanes
Up to 25 mph	LTS 1	LTS 1	LTS 2
30 mph	LTS 1	LTS 2	LTS 3
35 mph	LTS 2	LTS 3	LTS 4
40 mph	LTS 3	LTS 4	LTS 4

TRANSIT TRAVELSHED

The ArcGIS Network Analyst tool was used to evaluate how far a person can travel in 30 minutes during the PM peak using transit from key points within the University community. This evaluation estimates the distance traveled by a transit user within a set time period, taking into consideration available transit routes, travel times, transfer points, and stop and transfer delays. An initial comparison of GIS data to route schedule data revealed the need to apply time penalties to transit routes for variables such as traffic control

devices and bus stops. A time penalty of 30 seconds was applied to routes for each traffic signal, 5 seconds for each stop sign and 30 seconds for each bus stop. Other peak periods were not evaluated. A detailed description of the travelshed methodology in included in **Appendix B**.

The following six locations within the University Community were selected for evaluation. Three locations are the major transit centers within the community. The other three locations are intersections selected for their proximity to major employment areas.

- UTC Transit Center
- Gilman Transit Center
- La Jolla Square Transit Center
- Genesee Avenue & Governor Drive
- Executive Drive & Executive Way
- Genesee Avenue & Campus Point Drive

TRANSIT TRAVEL TIME

A comparison of transit and automobile modes of travel was performed using travel time as the measure of effectiveness. Travel time information was obtained from using Google Maps directions using the "depart at" feature for the time of day being evaluated. The fastest transit route for each time of day was chosen for the comparison. Two locations within the community were selected as departure points: UTC Transit Center and Gilman Transit Center. These locations were selected because they have multiple transit routes serving the stations. Five locations outside of the community served by transit connected to the University community were selected as arrival points: San Diego City Hall (downtown), Old Town Transit Center, Oceanside Transit Center, Rancho Bernardo Transit Center, and San Diego State University Transit Center. The comparison was made for morning (7:30 a.m.), midday (12:00 p.m.), and afternoon (5:00 p.m.) departure times. The results indicate how competitive transit is as a mode of travel to get to destinations outside of the community when compared to driving personal vehicles.

SIGNALIZED AND UNSIGNALIZED INTERSECTION LEVEL OF SERVICE

The Highway Capacity Manual (*HCM)* published by the Transportation Research Board establishes procedures to evaluate highway facilities and rate their ability to process traffic volumes. The terminology "level of service" is used to provide a qualitative evaluation based on certain quantitative calculations, which are related to empirical values. The criteria for the various levels of service designations for intersections are given in **Table 2-9**.

Level of service (LOS) for signalized intersections is defined in terms of delay, which is a measure of driver discomfort, frustration, fuel consumption, and loss of travel time. Specifically, LOS criteria are stated in terms of the average control delay per vehicle for the peak 15-minute period within the hour analyzed. The average control delay includes initial deceleration delay, queue move-up time, and final acceleration time in addition to the stop delay.

LOS for unsignalized intersections is determined by the computed or measured control delay and is defined for each movement. At an all-way stop control intersection, the delay reported is the average control delay of all movements at the intersection. At a one-way or two-way stop control intersection, the delay reported represents the worst movement, which is typically the left-turn from the minor street approach.

Synchro 9 (Trafficware) software was used to analyze the operations of both signalized and unsignalized intersections. Synchro provides the option to report methodologies for both 2010 and 2000 editions of the HCM. The 2010 version of the HCM is similar to the 2000 HCM methodologies but focused more on specific

controller set ups. Due to the changes in the 2010 HCM, there are several limitations within Synchro that do not allow results to be produced for an intersection. Some of these limitations include:

- Exclusive pedestrian phases
- Exclusive U-turn phases
- Right turn overlaps with through movements
- Permissive left turns yielding to pedestrians at a T-intersection
- Split phasing

Since approximately thirty of the intersections within the community would not be able to produce results using the 2010 HCM methodology, the 2000 HCM methodology was used for the intersection analysis.

The following list contains the assumptions used for the existing conditions intersection analyses:

- HCM 2000 methodology
- Peak-hour factor (PHF) = Measured in field PHFs were used for the analysis
- Percent of heavy vehicle (PHV) = 2 percent
- Pedestrians & Bicycles = Volumes measured in field
- Signal Timing = Existing signal timing was used for all existing signalized intersections

The acceptable Level of Service (LOS) standard for intersections in the City of San Diego is LOS D.

Table 2-9 LOS Criteria for Intersections

LOS	Control Delay (sec/veh)		Description
	Signalized Intersections (a)	Unsignalized Intersections (b)	
A	≤10.0	≤10.0	Operations with very low delay and most vehicles do not stop.
B	>10.0 and ≤20.0	>10.0 and ≤15.0	Operations with good progression but with some restricted movement.
C	>20.0 and ≤35.0	>15.0 and ≤25.0	Operations where a significant number of vehicles are stopping with some backup and light congestion.
D	>35.0 and ≤55.0	>25.0 and ≤35.0	Operations where congestion is noticeable, longer delays occur, and many vehicles stop. The proportion of vehicles not stopping declines
E	>55.0 and ≤80.0	>35.0 and ≤50.0	Operations where there is significant delay, extensive queuing, and poor progression.
F	>80.0	>50.0	Operations that is unacceptable to most drivers, when the arrival rates exceed the capacity of the intersection.

Notes:

(a) 2000 Highway Capacity Manual, Chapter 18, Page 6, Exhibit 18-4

(b) 2000 Highway Capacity Manual, Chapter 19, Page 2, Exhibit 19-1 and Chapter 20, Page 3, Exhibit 20-2

ROADWAY SEGMENT CAPACITY LEVEL OF SERVICE ANALYSIS

In order to determine the operations along the study area roadway segments, capacity thresholds and associated LOS have been developed by the City of San Diego and is used as a reference. **Table 2-10** presents this information. The segment traffic volumes under LOS E as shown in this table are considered to be the capacity of the roadway. It should be noted that the values listed in the table are planning-level estimates only. The actual operations of a roadway segment would be affected by the type and frequency of traffic control, terrain, lane width, percent of heavy vehicles, and other factors.

Table 2-10 City of San Diego Roadway Segment Capacity and LOS Summary

Road Class	Lanes	Cross Section[1]	A	B	C	D	E
Freeway	8		60,000	84,000	120,000	140,000	150,000
Freeway	6		45,000	63,000	90,000	110,000	120,000
Freeway	4		30,000	42,000	60,000	70,000	80,000
Expressway	6	102/122	30,000	42,000	60,0000	70,000	80,000
Prime Arterial*	8		35,000	50,000	70,000	75,000	80,000
Prime Arterial	6	102/122	25,000	35,000	50,000	55,000	60,000
Major Arterial*	7		22,500	31,500	45,000	50,000	55,000
Major Arterial	6	102/122	20,000	28,000	40,000	45,000	50,000
Major Arterial*	5		17,500	24,500	35,000	40,000	45,000
Major Arterial	4	78/98	15,000	21,000	30,000	35,000	40,000
Collector	4	72/92	10,000	14,000	20,000	25,000	30,000
Collector (No center lane) (continuous left-turn lane)	4 2	64/84 50/70	5,000	7,000	10,000	13,000	15,000
Collector (No fronting property)	2	40/60	4,000	5,500	7,500	9,000	10,000
Collector (commercial-industrial fronting)	2	50/70	2,500	3,500	5,00	6,500	8,000
Collector (multifamily)	2	40/60	2,500	3,500	5,000	6,500	8,000
Sub-Collector (single-family)	2	36/56	---	---	2,200	---	---

Notes:

The volumes and the average daily level of service listed above are only intended as a general planning guideline. Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors.

[1]Cross Section: Curb to Curb width (feet)/Right-of-way width (feet)

Sources:

City of San Diego Traffic Impact Study Manual, Table 2, Page 8, July 1998.

*City of San Diego Planning Department Mobility Staff Input

CORRIDOR SPEED ANALYSIS

Four corridors within the community were selected for analysis of travel time during the peak hours in addition to the estimated daily capacity; these corridors include Genesee Avenue, La Jolla Village Drive, Nobel Drive, and Regents Road. Genesee Avenue and La Jolla Village Drive are the primary arterials serving the community. Nobel Drive and Regents Road are major roads that provide alternative routes. The

corridor analysis consisted of two procedures: travel time runs performed under actual conditions and simulated travel time using software.

Travel time runs were performed using the floating car method. A minimum of 5 runs in each direction per peak hour were collected to arrive at an average value. This method simulates average travel speed along a corridor by maintaining a similar position within vehicle progression bands.

Software analysis was performed using the 2000 HCM methodology which provides a computation of LOS using average vehicle travel speed. This average speed is computed by adding the running time between signalized intersections assuming free flow speed along the corridor and the control delay associated with each signalized intersection. **Table 2-11** presents the arterial LOS criteria based on the urban street class and average travel speed.

Table 2-11 HCM 2000 Urban Street LOS Criteria

Urban Street Class	I	II	III	IV
Range of free-flow speeds (FFS)	55 to 45 mi/h	45 to 35 mi/h	35 to 30 mi/h	35 to 25 mi/h
Typical FFS	50 mi/h	40 mi/h	35 mi/h	30 mi/h
LOS	Average Travel Speed (mi/h)			
A	> 42	> 35	> 30	> 25
B	>34 – 42	> 28 – 35	> 24 – 30	> 19 – 25
C	> 27 – 34	> 22 – 28	> 18 – 24	> 13 – 19
D	> 21 – 27	> 17 – 22	> 14 – 18	> 9 – 13
E	> 16 – 21	> 13 – 17	> 10 – 14	> 7 -9
F	≤ 16	≤ 13	≤ 10	≤ 7

Source: HCM 2000, Exhibit 15-2

FREEWAY SEGMENTS

Freeway segments were analyzed during the AM and PM peak hours based on the methodologies outlined in the 2000 HCM. The free-flow speed of each freeway segment was calculated based on a base free-flow speed of 65 mph, which is consistent with Caltrans' requirements for analyzing freeway segments. Factors affecting the free-flow speed of each segment include the lane width, lateral clearance, number of lanes, interchange density, and geometric design. Based on each segment's free-flow speed, the density was calculated, which is the primary factor for determining the segment's LOS. **Table 2-12** presents the freeway segment criteria based on density.

Table 2-12 HCM 2000 Freeway Segment LOS Criteria

LOS	Density Range (pc/mi/ln)*
A	0 – 11
B	> 11 – 18
C	> 18 – 26
D	> 26 – 35
E	> 35 – 45
F	>45

Source: HCM 2000, Page 23-3
* passenger car per mile per lane

FREEWAY RAMP METERS

Ramp metering is a means of controlling the volume of traffic entering the freeway with the goal of improving the safety, 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 existing volumes to the meter rate at the given location. The fixed rate and uniform 15-minute maximum delay approaches are two approaches that are currently accepted by the City. The fixed rate approach is based solely on the specific time intervals that ramp meters are programmed to release traffic. The uniform 15-minute approach is based on the assumption that any demand exceeding 15-minutes will seek an alternate route or will choose to use the ramp during other time periods when the traffic demand is lower. The fixed rate approach was utilized in this study to analyze freeway ramp meters.

The excess demand at a freeway ramp forms the basis for calculating the maximum queues and maximum delays anticipated at each location. Substantial queues and delays can form where demand significantly exceeds the meter rate. This approach assumes a static rate throughout the course of the peak hour; however, Caltrans has indicated that the meter rates operate in a traffic responsive mode and based on the level of traffic using the on-ramp. To the extent possible, the meter rate in the field is set such that the queue length does not exceed the available storage, smooth flows on the freeway mainline are maintained, and there is no interference to arterial traffic.

Meter rates were provided by Caltrans and include a range between the least and most restrictive rates. Since many of the freeways currently operate at or above its capacity during the peak hours, the most restrictive rate was used for the analysis. Some rates were adjusted within the range of rates provided to better reflect queue lengths consistent with field observations. The field observations were completed at each ramp meter location.

The following list contains the assumptions used for the existing conditions ramp meter analyses based on field observations:

- Storage length measured from recent aerials of the area
- 20% High Occupancy Vehicle (HOV)
- 80% Single Occupancy Vehicle (SOV) and evenly distributed between the SOV lanes
- 25-foot vehicle length

3 EXISTING SETTING

This section describes the existing mobility network within the University community. **Figure 3-1** presents a summary of the existing mobility network within the University community. Details of the existing mobility network are discussed in more detail below.

ROAD NETWORK

The following section provides a description of the existing Circulation Element streets within the University community. Ultimate roadway classifications are taken from the current University Community Plan, last updated October 2014. The portions of the roadways described are intended to reflect the areas within the given community, and may not reflect the entirety of the roadway. Functional classifications are based on field observations performed during preparation of this report. The City of San Diego Bicycle Master Plan (City BMP) proposes several bicycle facilities in this Community as noted in the roadway descriptions below.

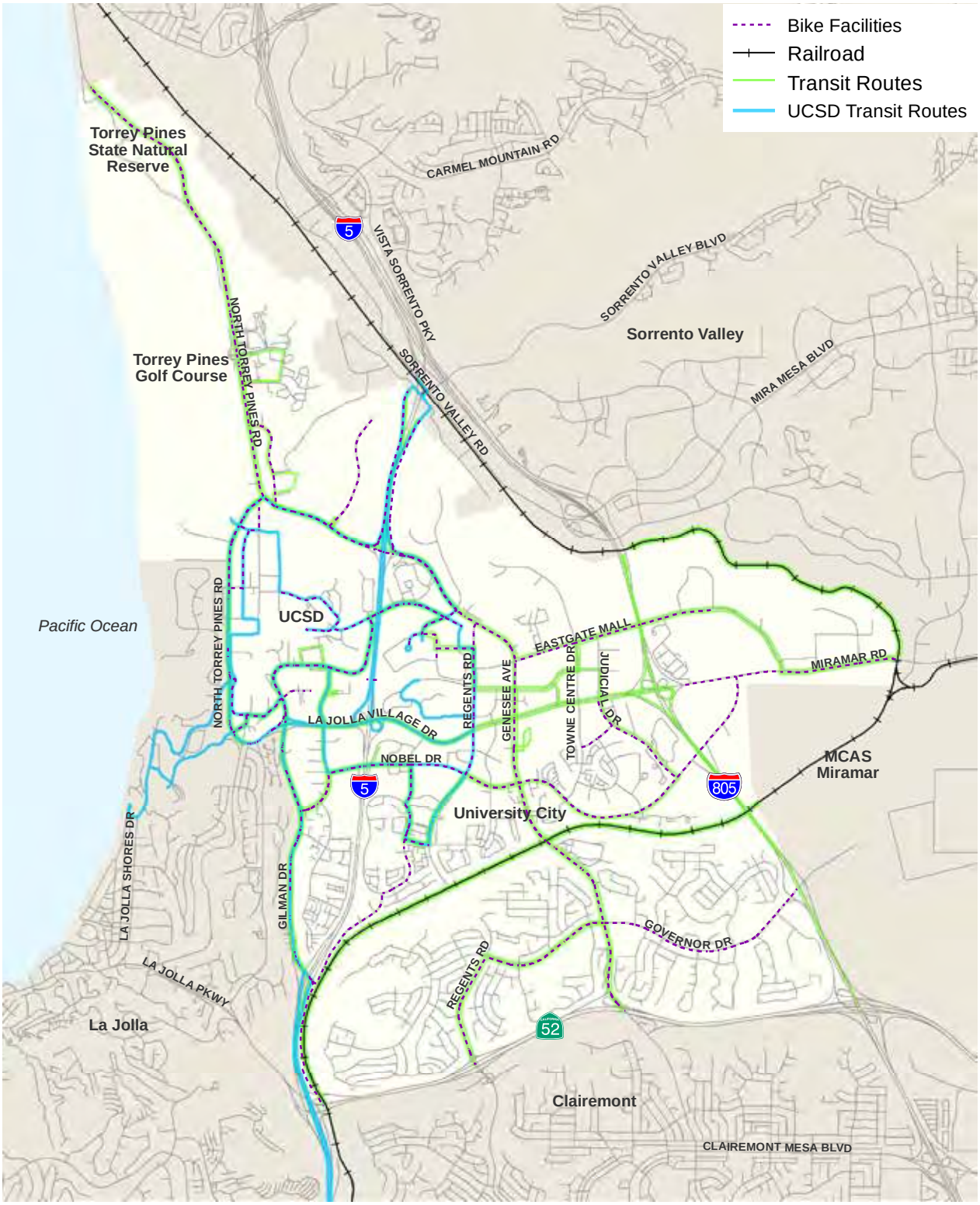
URBAN STREETS

Eastgate Mall functions as a two-way east-west, 2 and 4-lane Collector. Between Regents Road and Genesee Avenue, Eastgate Mall is a 2-lane Collector with a continuous two-way left-turn lane, angled parking on both sides of the street and a curb to curb width of 70 feet. The posted speed limit is 25 mph. Between Genesee Avenue and Easter Way, Eastgate Mall is a 4-lane Collector with a continuous two-way left-turn lane, no parking, bike lanes on both sides of the street and a curb to curb width of 70 feet. Eastgate Mall turns into a 4-Lane Major Arterial with a raised median, no parking, bike lanes on both sides of the street and a curb to curb width of 70 feet between Easter Way and the I-805 Freeway Overpass. The posted speed limit is 35 mph. Within these segments, Eastgate Mall is lined with sidewalks and curbs on both sides of the street. Over the I-805 Freeway Overpass, Eastgate Mall is classified as a 2-lane Collector with no parking, bike lanes on both sides of the street, and a curb to curb width of 40 feet. Within this segment, Eastgate Mall is lined with sidewalks on the south side of the street and curbs on both sides. The posted speed limit is 45 mph. Eastgate Mall between Eastgate Drive and Miramar Road is classified as a 2-lane Collector with a continuous left-turn lane, and a curb to curb width of 50 feet. Within this segment, the roadway has sidewalk, curb, and parking on the north side of the street. The posted speed limit is 45 mph. The ultimate adopted Community Plan street classification for Eastgate Mall is a 4-lane Collector between Regents Road and Genesee Avenue, a 4-way Major between Genesee Avenue and Town Centre Drive and a 4-lane Collector between Towne Centre Drive and Miramar Road. The City BMP proposes Eastgate Mall as a Class II (Bike Lane) facility throughout the extents of the roadway.

Executive Drive functions as a two-way east-west, 4-lane Collector with a continuous two-way left-turn lane and a curb to curb width of 60 feet from Regents Road to Regents Park Row and 70 feet from Regents Park Row to Judicial Drive. Executive Drive is lined with sidewalks and curbs with parallel parking available on both sides of the street for the entire length of the street except for the segment between Regents Park Row and Genesee Avenue. The posted speed limit is 30 mph. Executive Drive has been built to the ultimate adopted Community Plan street classification except for the segment between Towne Centre Drive and Judicial Drive which is classified as a 4-lane Major. The City BMP proposes Executive Drive as a Class III (Bike Route) facility.

Executive Way functions as a two-way north-south, 4-lane Collector with a continuous two-way left-turn lane and a curb to curb width of 70 feet. Executive Way is lined with sidewalks and curbs with parallel parking available on both sides of the street for the entire length of the street. Executive Way has reached the ultimate adopted Community Plan street classification.

FIGURE 3-1



Existing Mobility Network Summary

Genesee Avenue functions as a two-way north-south, 4 and 6-lane Arterial. Between North Torrey Pines Road and I-5, Genesee Avenue is a 6-Lane Prime Arterial with bike lanes on both sides of the street, no parking, raised medians, and a curb to curb width ranging from 80 feet to 120 feet. Over I-5, Genesee Avenue turns into a 4-Lane Major Arterial with no parking or bike lanes and a curb to curb width of 70 feet. Genesee Avenue between I-5 and La Jolla Villa is a 6-Lane Prime Arterial with bike lanes on both sides of the street, no parking, raised medians and a curb to curb width of 110 feet. Between La Jolla Village Drive and Esplanade Court, Genesee Avenue is a 4-Lane Major Arterial with bike and bus lanes, raised medians, no parking, and a curb to curb width of 110 feet. Genesee Avenue between Esplanade Court and Nobel Drive is a 6-Lane Major Arterial with parking on the west side of the street, bike lanes on both sides of the street, raised medians, and a curb to curb width of 110 feet. Between Nobel Drive and Lehrer Drive, Genesee Avenue is a 4-Lane Major Arterial with no parking, bike lanes on both sides of the street, raised medians, and a curb to curb width of 80 feet. Genesee Avenue is lined with sidewalks and curbs on both sides of the street for the entire length of the street. The posted speed limit is 45 mph. Access to I-5 and SR-52 is provided on Genesee Avenue. The ultimate adopted Community Plan street classification for Genesee Avenue is a 6-lane Collector between Nobel Drive and SR-52 Ramps and a 4-lane Major Arterial between the SR-52 Ramps and Lehrer Drive. Genesee has reached the ultimate adopted Community Plan street classification on all other road segments.

Gilman Drive functions as a two-way north-south, 4-lane Collector between UCSD Campus and Via Alicante with bike lanes on both sides of the street and a curb to curb width of 90 feet. Throughout this segment, Gilman Drive is lined with sidewalks and curbs with parallel parking available on the west side of the street, with parking available on both sides of the street between Evening Way and Villa La Jolla Drive. Gilman Drive between Via Alicante and I-5 is classified as a 4 Lane Major Arterial with bike lanes, raised medians, and a curb to curb width of 70 feet. Parallel parking is only available on the west side of the street in front of the housing development north of Gilman Court. Between the housing development and I-5, Gilman Drive is lined with sidewalks and curbs on the west side of the street. The posted speed limit is 45 mph. Access to I-5 is provided at the southern terminus of Gilman Drive. The ultimate adopted Community Plan street classification for Gilman Drive is a 4-lane Major.

Golden Haven Drive functions as a two-way east-west, 4-lane Major Arterial with bike lanes on both sides of the street, no parking, raised medians and a curb to curb width of 74 feet. Golden Haven Drive is lined with sidewalks and curbs on both sides of the street for the entire length of the street. The posted speed limit is 35 mph. The ultimate adopted Community Plan street classification for Golden Haven Drive has been built.

Governor Drive functions as a two-way east-west, 4-lane Major Arterial with raised medians and a curb to curb width of 70 feet. Governor Drive is lined with sidewalks and curbs on both sides of the street for the entire length of the street. Parallel parking is available on both sides of the street along most segments of the roadway west of Gullstrand Street. Bike lanes are on both sides of the street between Genesee Avenue and Gullstrand Street. The posted speed limit is 35 mph. Access to I-805 is provided at the eastern terminus of Governor Drive. The ultimate adopted Community Plan street classification for Governor Drive is a 4-lane Major. The City BMP proposes Governor Drive west of Genesee Avenue as a Class II (Bike Lane) or III (Bike Route).

Judicial Drive functions as a two-way north-south, 4-lane Major Arterial with raised medians and a curb to curb width of 80 feet. Judicial Drive is lined with sidewalks and curbs on both sides of the street for the entire length of the street. Parallel parking is available north of Executive Drive with bike lanes on both sides of the street south of Executive Drive. Judicial Drive has reached its ultimate adopted Community Plan street classification. The City BMP proposes Judicial Drive as a Class II (Bike Lane) facility north of Executive Drive.

La Jolla Scenic Drive functions as a two-way north-south, 4-lane Major Arterial with raised medians and a curb to curb width of 80 feet. La Jolla Scenic Drive is lined with sidewalks and curbs with parallel parking

available on both sides of the street for the entire length of the street. The ultimate adopted Community Plan does not include a street classification for La Jolla Scenic Drive. The City BMP proposes La Jolla Scenic Drive as a Class II (Bike Lane) facility.

La Jolla Village Drive functions as a two-way east-west, 6-lane Prime Arterial between Revelle College Drive and the I-5 SB Ramps and a 6-lane Major Arterial between the I-5 SB Ramps and the I-805 SB Ramps. La Jolla Village Drive has a curb to curb width of 120 feet and is lined with sidewalks and curbs on both sides of the street except between I-5 and Lebon Drive where sidewalk is only on the south side of the street. Parallel parking is available on both sides of the street east of I-5 and bike lanes are on both sides of the street west of La Jolla Scenic Drive. The posted speed limit is 45 mph. Access to I-5 and I-805 is provided along La Jolla Village Drive. The ultimate adopted Community Plan street classification for La Jolla Village Drive is a 8-lane Primary Arterial between Villa La Jolla Drive and the I-5 Ramps and Judicial Drive and the I-805 Ramps. All other segments of La Jolla Village Drive have reached their ultimate adopted Community Plan street classification. The City BMP proposes La Jolla Village Drive as a Class II (Bike Lane) facility.

Lebon Drive functions as a two-way north-south, 4 and 5-lane Major Arterial. Between Palmilla Drive and Nobel Drive, Lebon Drive is classified as a 4-lane Major Arterial with raised medians and a curb to curb width of 80 feet. Throughout this segment, parallel parking is available on both sides of the street. This segment is also classified as a Class III (Bike Route) facility. Lebon Drive between Nobel Drive and La Jolla Village Drive is classified as a 5-lane Major Arterial with raised medians, no parking, and a curb to curb width of 80 feet. Lebon Drive is lined with sidewalks and curbs on both sides of the street for the entire length of the street. The posted speed limit is 35 mph. The ultimate adopted Community Plan street classification for Lebon Drive has been reached. The City BMP proposes all of Lebon Drive as a Class II (Bike Facility) facility.

Miramar Road functions as a two-way east-west, 6 and 8-lane Prime Arterial. Between I-805 and Eastgate Mall, Miramar Road is classified as an 8-Lane Prime Arterial with raised medians, bike lanes, no parking and a curb to curb width of 124 feet. Between Eastgate Mall and Camino Santa Fe, Miramar Road is classified as a 6-Lane Prime Arterial with raised medians, bike lanes, no parking and a curb to curb width of 100 feet. Miramar Road is lined with sidewalks and curbs on both sides of the street east of Nobel Drive. West of Nobel Drive, Miramar Road has sidewalks and curbs on the north side of the street. Miramar Road has buffered bike lane facilities between Miramar Mall and Camino Sante Fe. The posted speed limit is 50 mph. Access to I-805 is provided on Miramar Road. The ultimate adopted Community Plan street classification for Miramar Road has been reached.

North Torrey Pines Road functions as a two-way north-south, 4 and 6-lane Arterial. Between Science Park Road and Genesee Avenue, North Torrey Pines Road is classified as a 6-lane Prime Arterial with raised medians, bike lanes, no parking, and a curb to curb width of 120 feet. Between Genesee Avenue and Revelle College Drive, North Torrey Pines Road is classified as a 4-lane Major Arterial with raised medians, bike lanes, no parking, and a curb to curb width of 80 feet. North Torrey Pines Road is lined with sidewalks and curbs on both sides of the street for the entire length of the street. The posted speed limit is 45 mph. The ultimate adopted Community Plan street classification for North Torrey Pines Road has been reached.

Nobel Drive functions as a two-way east-west, 4, 5 and 6-lane Arterial. Between Villa La Jolla Drive and I-5, Nobel Drive is classified as a 4-lane Major Arterial with raised medians, bike lanes, no parking, and a curb to curb width of 80 feet. Nobel Drive between I-5 and Genesee Avenue is classified as a 6-lane Major Arterial with raised medians and a curb to curb width of 100 feet. Parallel Parking is available on both sides of the street between Lebon Drive and Regents Road. Throughout the rest of the segments, Nobel drive has bike lanes on both sides of the street. The posted speed limit is 40 mph. Nobel Drive turns into a 4-lane Major Arterial between Genesee Avenue and Towne Centre Drive with raised medians, parallel parking available on the south

side of the street between Lombard Place and Via Las Rambles, and a curb to curb width of 90 feet. The posted speed limit is 35 mph. Between Towne Centre Drive and Judicial Drive, Nobel Drive is classified as a 6-lane Prime Arterial with raised medians, bike lanes, no parking, and a curb to curb width of 100 feet. The posted speed limit is 45 mph. Between Judicial Drive and Avenue of Flags, Nobel Drive is classified as a 5-lane Major Arterial with raised medians, bike lanes, no parking and a curb to curb width of 100 feet. Nobel Drive from Avenue of Flags to Miramar Road is classified as a 4-lane Major Arterial with raised medians, bike lanes, no parking, and a curb to curb width of 80 feet. Nobel Drive is lined with sidewalks and curbs on both sides of the street for the entire length of the street. Access to I-5 and I-805 is provided along Nobel Drive. The ultimate adopted Community Plan street classification for Nobel Drive has been reached for all segments except between Town Centre Drive and Judicial Drive, which has an ultimate classification of a 6-lane Primary Arterial. The City BMP proposes Nobel Drive a Class II (Bike Lane) facility between Genesee Avenue and Towne Centre Drive.

Regents Road functions as a two-way north-south roadway that is divided by Rose Canyon. North of Rose Canyon between Genesee Avenue and Eastgate Mall, Regents Road is classified as a 2-lane Collector with a continuous left-turn lane, no parking, and a curb to curb width of 40. The posted speed limit is 25 mph. Between Eastgate Mall and La Jolla Village Drive, Regents Road is classified as a 4-lane Collector with a continuous left-turn lane, bike lanes, no parking, and a curb to curb width of 65 feet. Regents Road between La Jolla Village Drive and Nobel Drive is classified as a 5-lane Major Arterial with raised medians, parallel parking on both sides of the street and a curb to curb width of 90 feet. South of Nobel Drive, Regents Road is classified as a 4-lane Major Arterial with raised medians, parallel parking on both sides of the street, and a curb to curb width of 70 feet. North of Rose Canyon, Regents Road is lined with sidewalks and curbs on both sides of the street for the entire length of the street. The posted speed limit is 40 mph. The City BMP proposes Regents Road as a Class II (Bike Lane) or a Class III (Bike Route) facility south of Nobel Drive. South of Rose Canyon north of Governor Drive, Regents Road is classified as a 2-lane Collector with no parking and a curb to curb width of 30 feet. Between Governor Drive and Luna Avenue, Regents Road is classified as a 4-lane Major Arterial with raised medians, bike lanes, no parking, and a curb to curb width of 80 feet. Regents Road has buffered bike lanes between Pennant Way and Luna Avenue. South of Rose Canyon, Regents Road is lined with sidewalks and curbs on the east side of the street for the entire length of the street. The posted speed limit is 50 mph. Access to SR-52 is provided along Regents Road. The ultimate adopted Community Plan street classification for Regents Road is a 4-lane Major. The City BMP proposes Regents Road as a Class II (Bike Lane) or Class III (Bike Route) facility north of Governor Drive.

Torrey Pines Road functions as a two-way north-south, 4-lane Major Arterial with raised medians, bike lanes, and a curb to curb width of 60 feet. Torrey Pines Road is lined with sidewalks and curbs on both sides of the street for the entire length of the street. The ultimate adopted Community Plan does not include a street classification for Torrey Pines Road.

Towne Centre Drive functions as a two-way north-south, 4-lane Major Arterial with raised medians and a curb to curb width of 80 feet. Towne Centre Drive is lined with sidewalks and curbs on both sides of the street. Parallel parking available on both sides of the street for the majority of the street. Towne Centre Drive between Executive Drive and La Jolla Village Drive has bike lanes with no parking on both sides of the street. The posted speed limit is 40 mph. The ultimate adopted Community Plan street classification for Towne Centre Drive has been reached. The City BMP proposes Towne Centre Drive as a Class II (Bike Lane) or Class III (Bike Route) facility.

Villa La Jolla Drive functions as a two-way north-south roadway. South of VA Medical Center, Villa La Jolla Drive is classified as a 4-lane Major Arterial with raised medians, a posted speed limit of 40 mph, parallel parking on both sides of the street, and a curb to curb width of 80 feet. North of the VA Medical Center, Regents

Road is classified as a 2-lane Collector with no parking and a curb to curb width of 26 feet. Villa La Jolla Drive is lined with sidewalks and curbs on both sides of the street for the entire length of the street. The posted speed limit is 25 mph. The ultimate adopted Community Plan street classification for Villa La Jolla Drive has been reached.

FREEWAYS

Interstate 5 is a significant north-south interstate that traverses the United States from the Mexican border to the Canadian border through the states of California, Oregon, and Washington. Within California, I-5 connects the following major metropolitan areas: San Diego, Los Angeles, Sacramento, and the eastern portion of the San Francisco Bay Area. I-5 is located on the western half of the University community and has interchanges at Genesee Avenue, La Jolla Village Drive, Gilman Drive, and Nobel Drive.

Interstate 805 is largely contained within the San Diego metropolitan area. Termini are both located along Interstate 5, one near the Mexico border and the other near the Torrey Pines State Reserve and the University of California at San Diego. I-805 is located on the eastern half of the University community and has interchanges at La Jolla Village Drive/Miramar Road, Nobel Drive, and Governor Drive.

State Route 52 is an east-west state highway that connects La Jolla on the west end at the termini with I-5 within Santee on the east end. SR-52 is located on the south side of the University community and has interchanges at interstate at Regents Road and Genesee Avenue.

COLLISION HISTORY

Table 3-1 provides a summary of collision data information obtained from the Traffic Injury Mapping System (TIMS) database, which only includes collisions where injuries were reported. The reports provide accident data from January 2008 through December 2012. The table provides a snapshot of the number of accidents along each corridor in the community and the severity and time of day that they occurred. Detailed information on the collisions are provided in **Appendix A**.

Figure 3-2 graphically displays the location of each collision and whether the collision involved autos only or involved a bicyclist or pedestrian.

As shown in the figure, some of the areas that had the highest number of collisions in the past five years include:

- Villa La Jolla Drive from Nobel Drive to La Jolla Village Drive
- Lebon Drive near Nobel Drive and La Jolla Village Drive
- Genesee Avenue near Nobel Drive
- Genesee Avenue near La Jolla Village Drive
- Town Centre Drive near La Jolla Village Drive
- Miramar Road at Nobel Drive
- Miramar Road at Eastgate Mall

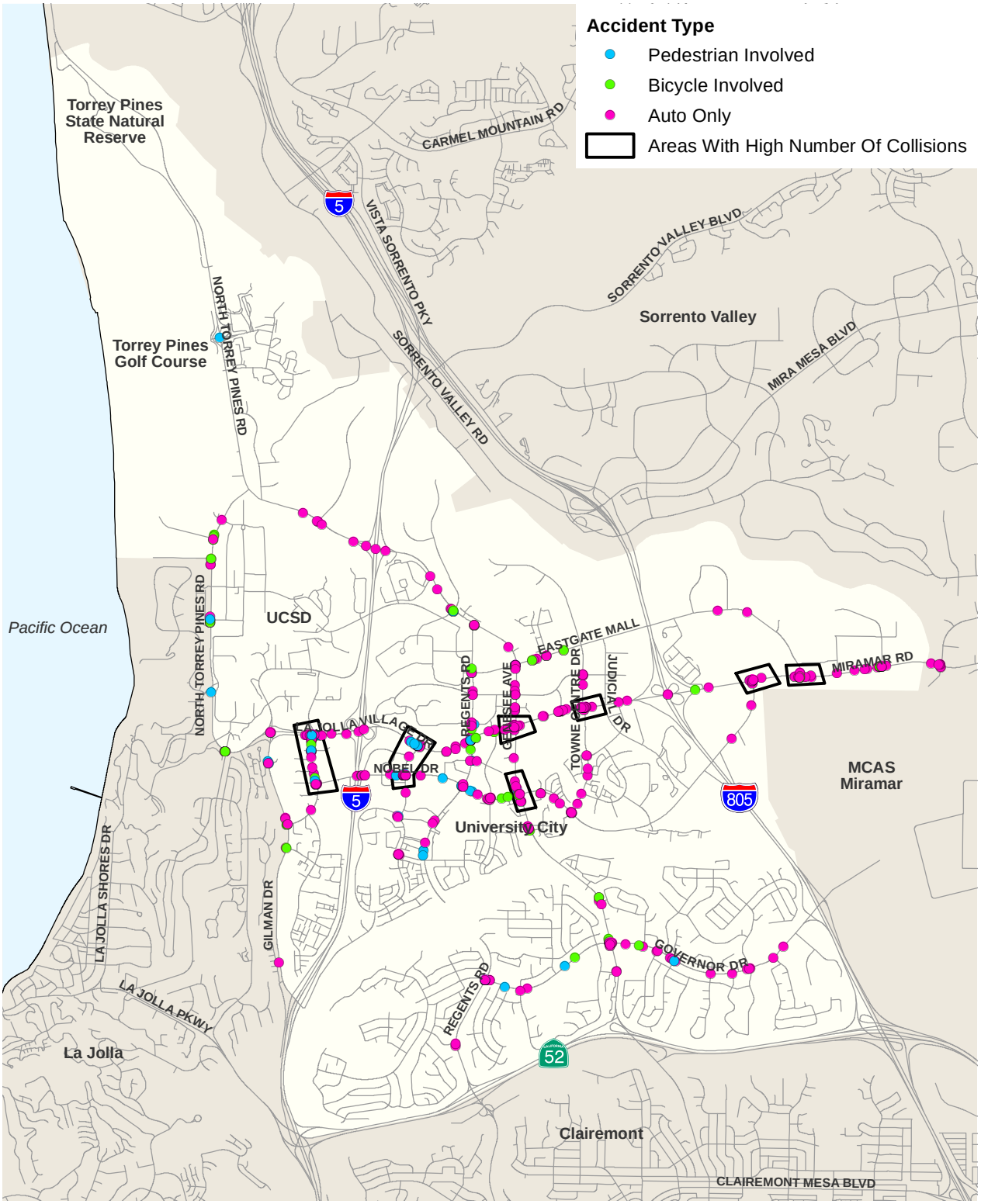
Table 3-1 Summary of Collision Rates (2008-2012)

Segments	Total Accidents	At Intersection	Injury	Fatality	Pedestrian Collisions	Bicyclist Collisions	Day	Night
Arriba St - Palmilla Dr to Regents Rd	6	3	6	0	0	0	5	1
Campus Point Dr - Genesee Ave to Voight Dr	2	1	2	0	1	1	2	0
Eastgate Mall - Genesee Ave to Miramar Rd	21	9	21	0	1	3	17	4
Genesee Ave - Torey Pines Rd to Radcliff Ln	97	38	96	1	6	11	74	23
Gilman Dr - La Jolla Village Dr to I-5	15	4	15	0	3	3	13	2
Governor Dr - Regents Rd to Greenwich Dr	41	9	39	2	5	4	27	14
La Jolla Village Dr - Villa La Jolla Dr to Camino Santa Fe	162	62	160	2	13	9	119	43
Lebon Dr - La Jolla Village Dr to Charmant Dr/Palmilla Dr	24	7	23	1	5	0	16	8
Nobel Dr - Villa La Jolla to Miramar Rd	87	37	87	0	9	7	61	26
Regents Rd North - Arriba St to Genesee Ave	45	17	44	1	9	5	36	9
Regents Rd South - Governor Dr to SR-52	8	5	7	0	1	0	4	4
Torrey Pines Rd - NU System Driveway to La Jolla Village Dr	27	10	27	0	4	7	23	4
Town Centre Dr - Eastgate Mall to Nobel Dr	27	13	27	0	1	0	23	4
Villa La Jolla Drive - Gilman Dr South to Gilman Dr North	42	14	42	0	5	7	32	10

Notes:

Latest accident data obtained from TIMS Map SWITRS 01/01/08 - 12/31/12

FIGURE 3-2



Collision History Summary (2008-2012)

4 ACTIVE TRANSPORTATION: WALKABLE COMMUNITY

SANDAG collects and maintains an inventory of the sidewalks within and adjacent to the University community. This information was used to create a baseline pedestrian network and to help determine existing pedestrian facilities versus missing facilities and connections within the community. The data is not all-inclusive, but has the necessary information to determine the adequacy of pedestrian connections. **Figure 4-1** presents an overview of the pedestrian network inventory within the community. It is important to note that the sidewalk inventory available does not include private entities, such as the UCSD campus, nor separated trails, such as those within Rose Canyon.

PEDESTRIAN BARRIERS AND MISSING FACILITIES

As shown in Figure 4-1, sidewalks are provided along the majority of the roadways within the community. There are a few areas within the community that have missing facilities or barriers for pedestrian connectivity. **Figure 4-2** summarizes the pedestrian barriers identified in the community.

- *Rose Canyon*: There are several trails through Rose Canyon that pedestrians can use to travel east-west across the community or cross the canyon. These trails are primarily used for recreation purposes. For a pedestrian on a non-recreation trip, the canyon can act as a barrier between the northern and southern part of the community. Crossing the canyon requires traversing steep slopes and railroad tracks that can limit the users and be less time-efficient than other potential modes of travel. Genesee Avenue currently provides the only paved crossing across the canyon, providing sidewalks on both sides of the roadway.

- *Interstate 805*: In general, the interstate acts as a barrier between land uses west and east of it due to the limited crossing locations. This is typical with any freeway as there are limited roadways that cross or intersect with freeways. The number of locations where pedestrians can cross Interstate 805 is limited and are listed as follows:
    - Nobel Drive provides pedestrian facilities on both sides of the bridge crossing over I-805.
    - La Jolla Village Drive provides pedestrian facilities on the north side of the bridge only.
    - Eastgate Mall does not provide any pedestrian facilities on the bridge crossing over I-805.
    - Governor Drive does not provide any pedestrian facilities on the roadway crossing under I-805.
    - Rose Canyon provides trails that go under I-805.

- *Interstate 5*: While the number of locations where pedestrians can cross Interstate 5 is limited, there are pedestrian connections along each roadway crossing the freeway. The impact the freeway barrier has on pedestrians has been minimized by providing sidewalks on each available roadway crossing, but there are still a couple areas of the community where the freeway limits pedestrian connections.
    - Genesee Avenue will have a pedestrian bridge crossing over Interstate 5 when the current construction project is completed.
    - Voigt Drive provides pedestrian facilities on both sides of the bridge crossing over I-5.
    - La Jolla Village Drive provides pedestrian facilities on both sides of the bridge crossing over I-5.
    - Nobel Drive provides pedestrian facilities on both sides of the bridge crossing over I-5.

- *State Route 52*: There are only two roads that cross SR-52 connecting the University community to the Claremont community and they both provide sidewalks.
    - Regents Road provides pedestrian facilities on the east side crossing under SR-52.
    - Genesee Avenue provides pedestrian facilities on the east side crossing under SR-52.

Pedestrian facilities within the UCSD campus are not illustrated. There is an overarching assumption that the UCSD campus is walkable. Similarly, pedestrian trails and connections through large private development sites are not shown as part of this community-level evaluation. These sites may provide additional and quicker paths of travel for pedestrians.

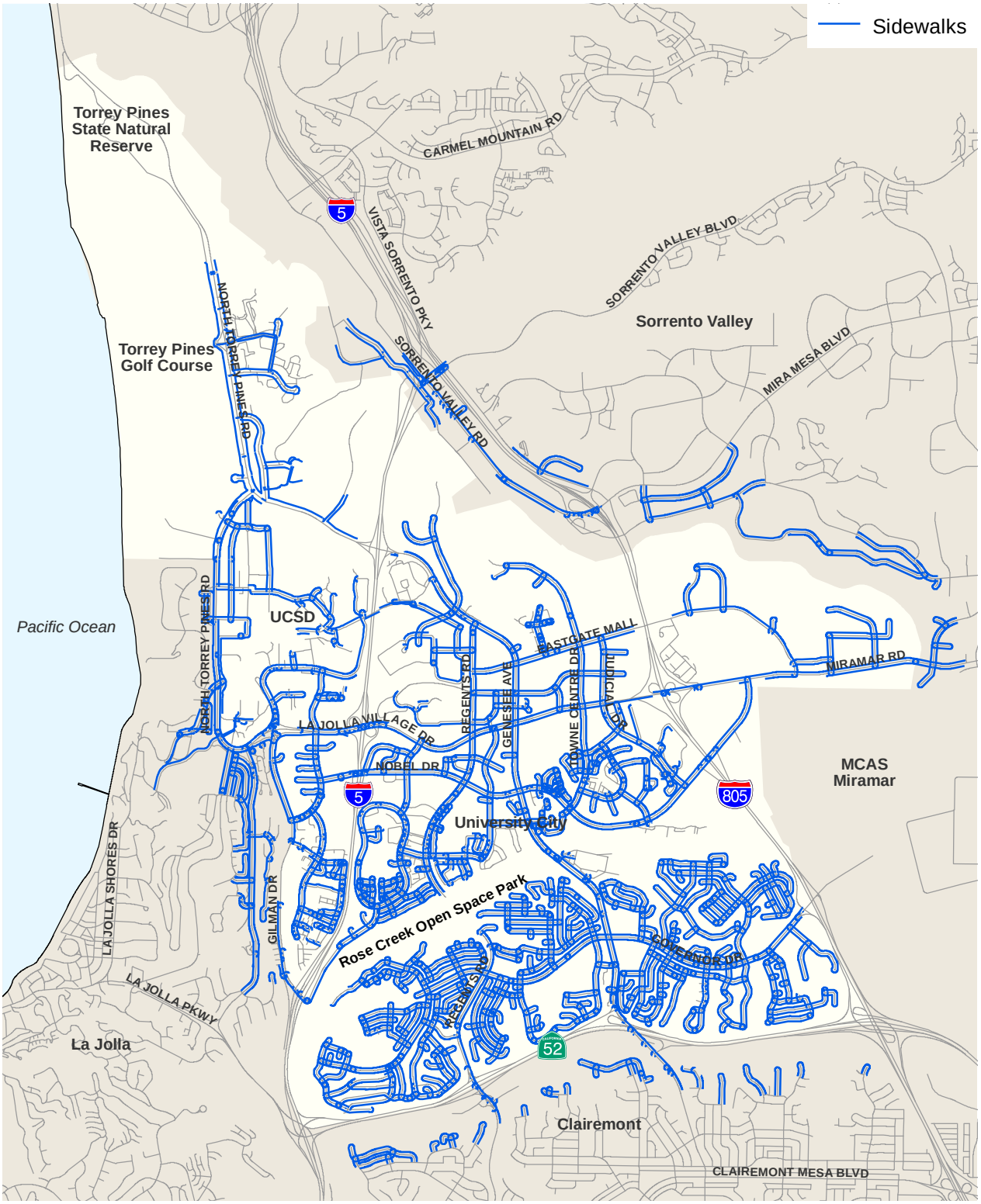
The inventory provided did not have the level of detail to identify if pedestrian ramps are provided at each corner of each intersection. Missing pedestrian ramps at intersections can be a barrier for some users and limit the connectivity.

The University community consists of many wide roadways, carrying six or more travel lanes. These roadways also allow for higher speeds of travel and more vehicle capacity. These factors limit pedestrian crossing locations to be at signalized locations only and make pedestrian crossing times and distances longer. Pedestrian trips that require crossing multiple large intersections are less attractive. Pedestrian bridges are more common in this community than most others to minimize the need for pedestrians to cross these wide, busy streets. Pedestrian bridges are currently built at the following locations in the urban core of the community:

- Genesee Ave near Executive Square
- La Jolla Village Drive east of Genesee Ave
- Genesee Avenue between La Jolla Village Drive and Esplanade Court

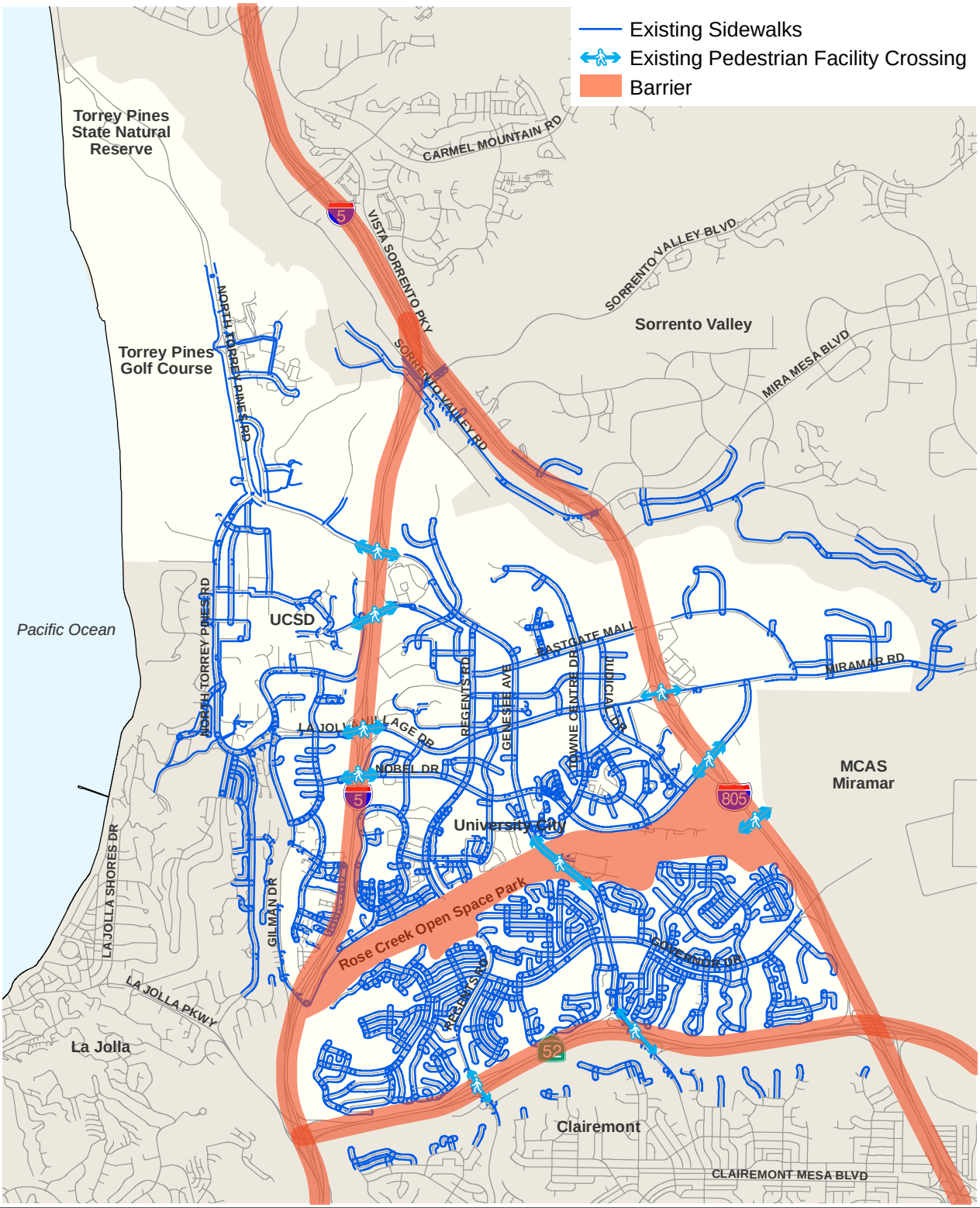
The first two pedestrian overpasses are connected by a walkway through the property located at the northeast corner of La Jolla Village Drive and Genesee Avenue. This walkway allows pedestrians from the Executive Square areas to travel to the Westfield UTC shopping center and have high pedestrian traffic during the typical work week. The construction of the transit center at the southeast corner of this intersection will further attract pedestrian traffic across these walkways. Similarly, the third pedestrian crossing, located between La Jolla Village Drive and Esplanade Court, allows pedestrians to cross Genesee Avenue and access southbound public transit facilities located on the west side of the roadway.

FIGURE 4-1



Existing Pedestrian Network

FIGURE 4-2



Existing Pedestrian Barriers

ACCESS TO TRANSIT

Each transit stop within the University community was evaluated for its accessibility through the sidewalk network. A 0.25-mile walkshed was calculated from each transit stop, allowing the simulated pedestrian to only utilize available sidewalks and crossings. The evaluation is purely distance based and does not have any factors related to time. **Figure 4-3** summarizes the results of the walkshed analysis.

The northern and central areas within the community provide good pedestrian facilities to access transit. Most of the area is covered within a 0.25 mile walkshed. The southern part of the community is not well served, with only the areas very close to Governor Drive and Genesee Avenue having good pedestrian connections. Residential neighborhoods within the southwestern and southeastern areas of the "golden triangle" do not have public transit facilities located within a 0.25-mile walkshed.

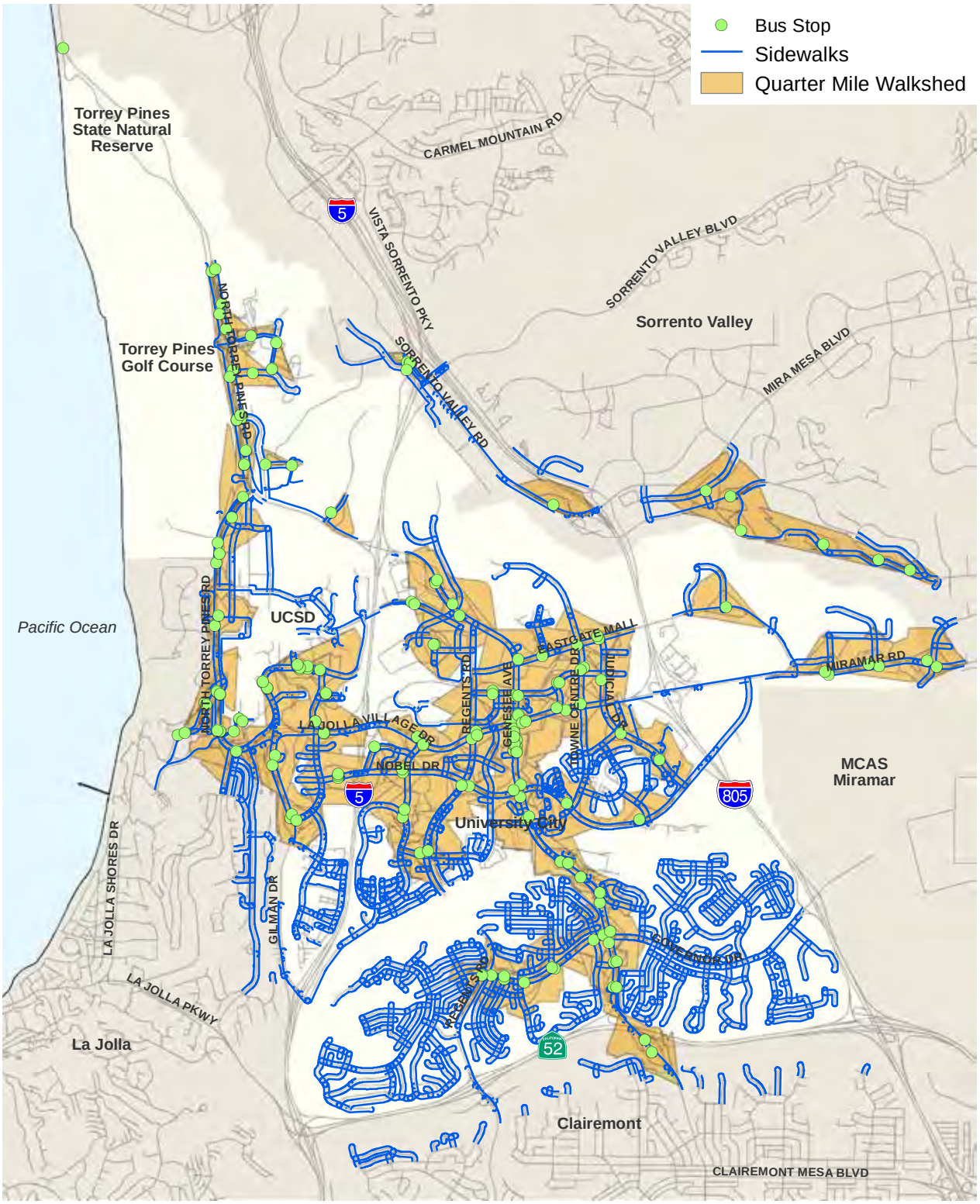
PEDESTRIAN COLLISION HISTORY

Between 2008 and 2012, there were a total of 63 reported collisions involving pedestrians within the University community. In the State of California, collision reports must be generated for any collision where property damage totals 750 dollars or more, someone is injured, or someone is killed. As a result it is important to note some pedestrian incidents may go unreported for failing to meet one of these criteria. Pedestrian collision data within the vicinity of the community planning area is illustrated in **Figure 4-4**.

Most locations have isolated incidents. A few locations have a more frequent history of collisions (3 or more documented):

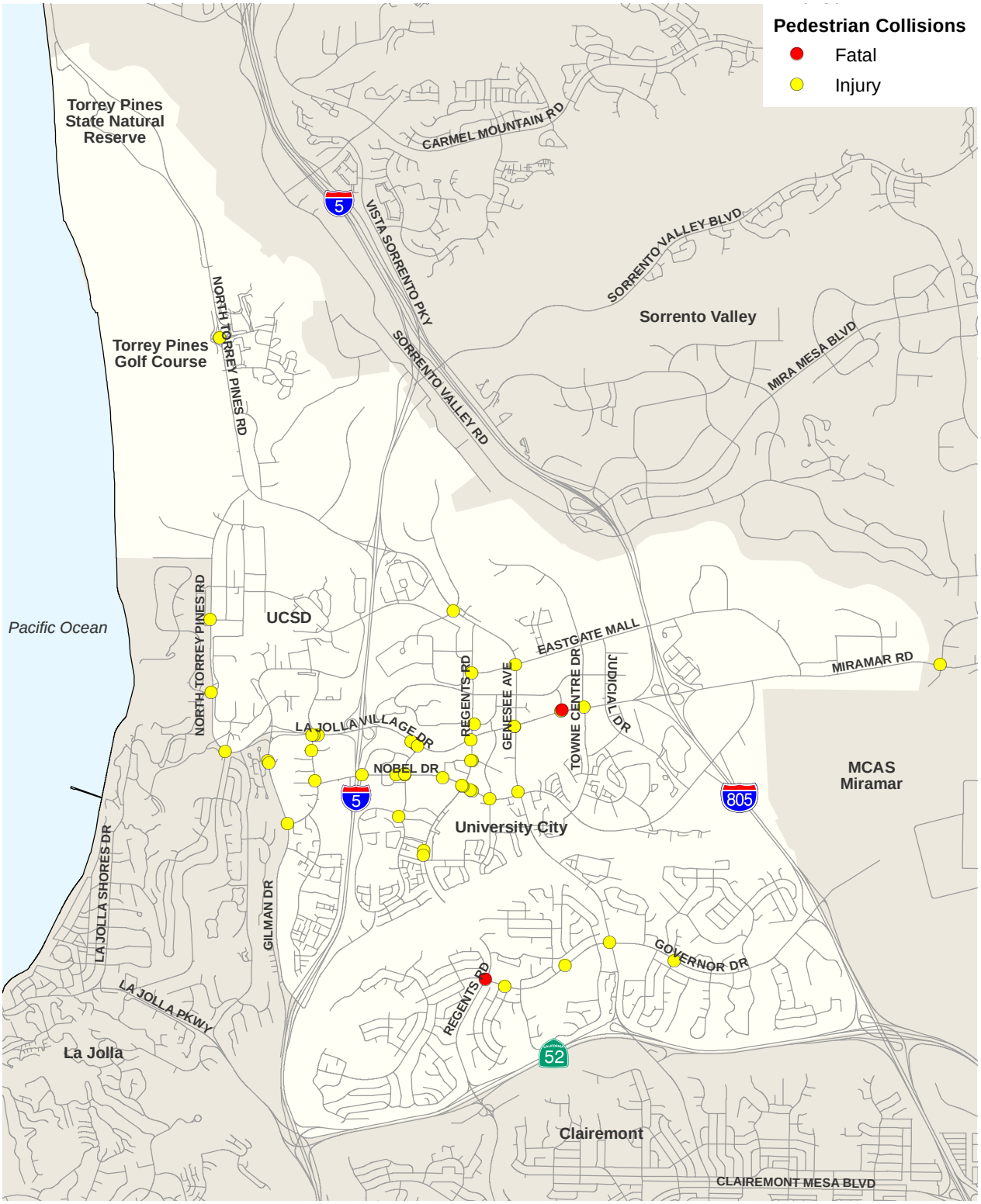
- Regents Road near Nobel Drive
- Lebon Drive near La Jolla Village Drive (including a fatal incident)
- Lebon Drive near Nobel Drive
- Villa La Jolla Drive near La Jolla Village Drive

FIGURE 4-3



Existing Pedestrian Access to Transit

FIGURE 4-4

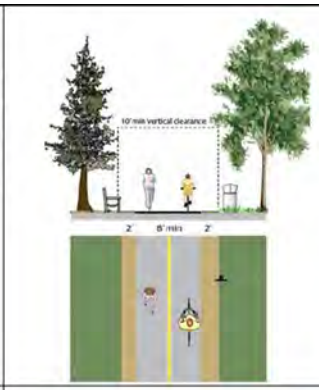


Pedestrian Collision History (2008-2012)

5 ACTIVE TRANSPORTATION: BICYCLING

The City of San Diego has developed a network of designated Class I, II, and III bikeways as part of their Bicycle Master Plan efforts. A Class I facility is a bike path that provides for bicycles to travel on a paved right-of-way completely separated from any street or highway. A Class II facility is a bike lane that provides bicycles an exclusive or semi-exclusive lane of travel on a roadway separated by a painted line. A Class III facility is a bike route that provides for a shared use with pedestrian or motor vehicle traffic and is only identified by signage and/or pavement markings. **Table 5-1** provides more description and illustrates the types of bikeway identified in the City of San Diego Bicycle Master Plan (BMP).

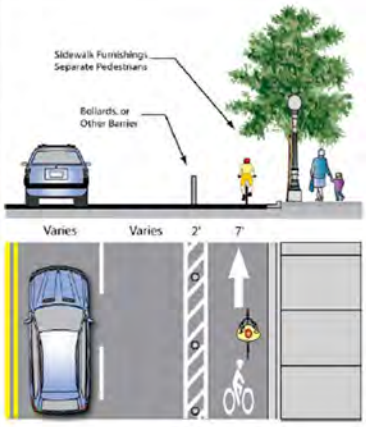
Table 5-1 Regional Bicycle Facility Classifications

Class I – Bike Path Bike paths are bikeways that are physically separated from vehicular traffic. Also termed shared-use paths, bike paths accommodate bicycle, pedestrian, and other non-motorized travel. Paths can be constructed in roadway right-of-way or independent right-of-way. Bike paths provide critical connections in the region where roadways are absent or are not conducive to bicycle travel.	
Class II - Bike Lanes Bike lanes are defined by pavement markings and signage used to allocate a portion of a roadway for exclusive or preferential bicycle travel. Within the regional corridor system, bike lanes should be enhanced with treatments that improve safety and connectivity by addressing site-specific issues. Such treatments include innovative signage, intersection treatments, and bicycle loop detectors.	
Class III - Bike Routes Bike routes are located on shared roadways that accommodate vehicles and bicycles in the same travel lane. Established by signs, bike routes provide continuity to other bike facilities or designate preferred routes through corridors with high demand. Within the regional corridor system, bike routes should be enhanced with treatments that improve safety and connectivity by addressing site-specific issues.	

Source: *SANDAG Regional Bicycle Plan*, dated April 2010 (ALTA Planning)

Two additional bicycle facilities, Cycle Track and Bicycle Boulevard, have been adopted into the SANDAG Regional Bike Plan (RBP). A Cycle Track is a bicycle facility that is located within the roadway right-of-way but essentially functions as a separated facility. Bicycle Boulevards are roadways where physical improvements such as traffic calming and diversions are intended to provide priority to bicyclists. Bicycle Boulevards are typically installed on local roads with a low volume of vehicles. **Table 5-2** further explains the two new bicycle facilities.

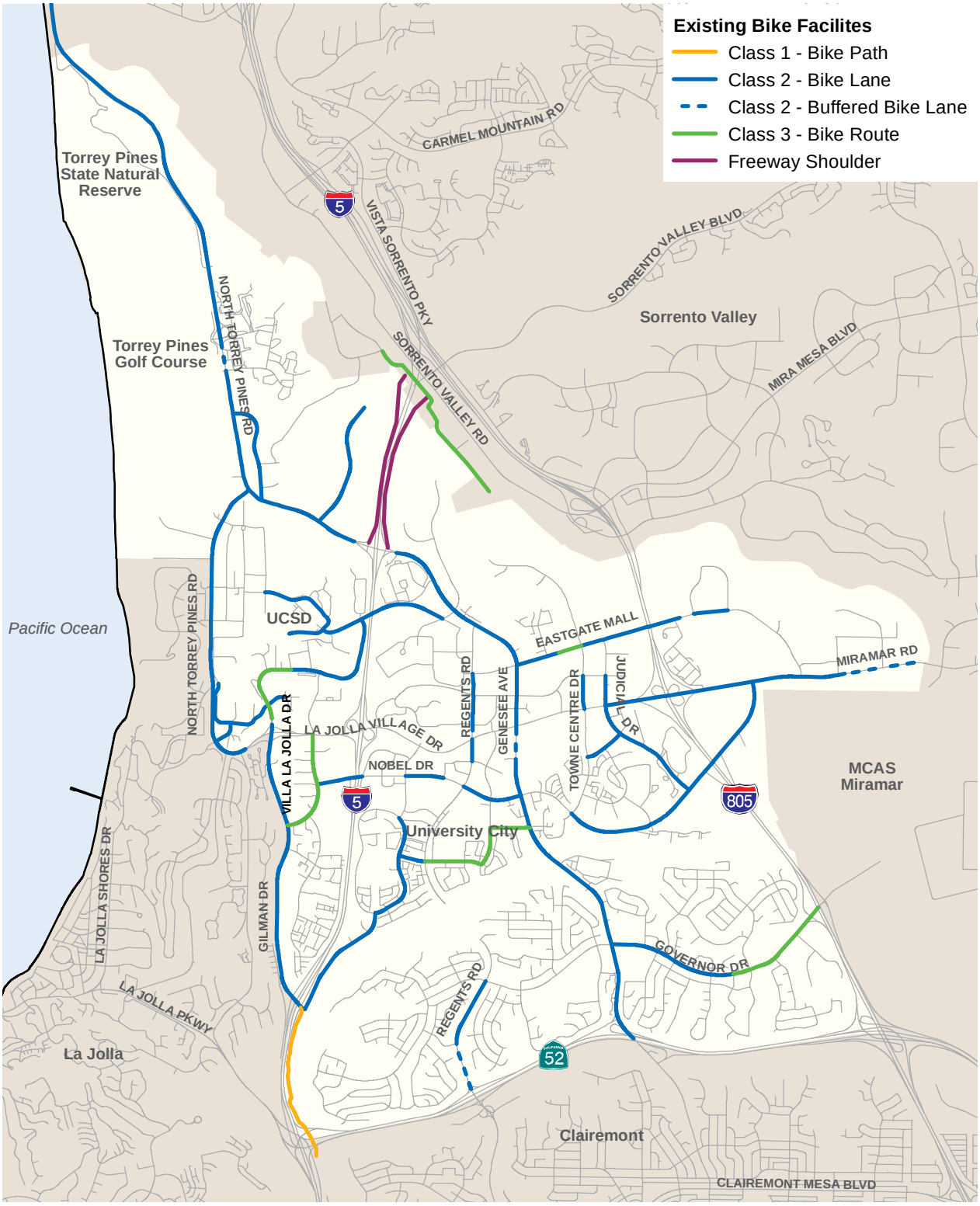
Table 5-2 Additional Bicycle Facilities

Cycle Tracks A cycle track is a hybrid type bicycle facility that combines the experience of a separated path with the on-street infrastructure of a conventional bike lane. Cycle tracks are bikeways located in roadway right-of-way but separated from vehicle lanes by physical barriers or buffers. Cycle tracks provide for one-way bicycle travel in each direction adjacent to vehicular travel lanes and are exclusively for bicycle use. Cycle tracks are not recognized by Caltrans Highway Design Manual as a bikeway facility. Development of cycle track on segments of the regional corridor system is proposed through experimental, pilot projects.	
Bicycle Boulevards Bicycle boulevards are local roads or residential streets that have been enhanced with traffic calming and other treatments to facilitate safe and convenient bicycle travel. Bicycle boulevards accommodate bicyclists and motorists in the same travel lanes, typically without specific vehicle or bicycle lane delineation. These roadway designations prioritize bicycle travel above vehicular travel. The treatments applied to create a bike boulevard heighten motorists' awareness of bicyclists and slow vehicle traffic, making the boulevard more conducive to safe bicycle and pedestrian activity. Bicycle boulevard treatments include signage, pavement markings, intersection treatments, traffic calming measures and can include traffic diversions. Bicycle boulevards are not defined as bikeways by Caltrans Highway Design Manual; however, the basic design features of bicycle boulevards comply with Caltrans standards.	

Source: *SANDAG Regional Bicycle Plan*, dated April 2010 (ALTA Planning)

A summary of the existing bicycle facilities in the University community is provided in **Figure 5-1.**

FIGURE 5-1



Existing Bicycle Network

BIKE ON FREEWAYS

A unique feature of the San Diego bicycle network is the five freeway segments (totaling 16.1 miles), which permit bicyclists to ride on the freeway shoulder. These bicycle facilities are deemed necessary to provide connections between areas with no viable alternative within the existing bicycle network. The image below displays a bicyclist riding along a freeway shoulder.

Source: TransNet North Coast Corridor webpage , retrieved November 2015

The University community contains one of the five freeway shoulder facilities within Caltrans District 11 currently designated as a bicycle facility: a segment of Interstate 5 between Sorrento Valley Road and Genesee Avenue. As part of the North Coast Corridor (NCC) Program, a Class I bicycle facility will be constructed adjacent to Interstate 5 to connect between the Sorrento Valley Coaster Station and the UCSD Campus. The use of the freeway shoulder along Interstate 5 as a bicycle facility will be prohibited upon completion of the Class I facility bicycle. This portion of the NCC was under construction at the time of this study.

CLASS I BIKE FACILITIES

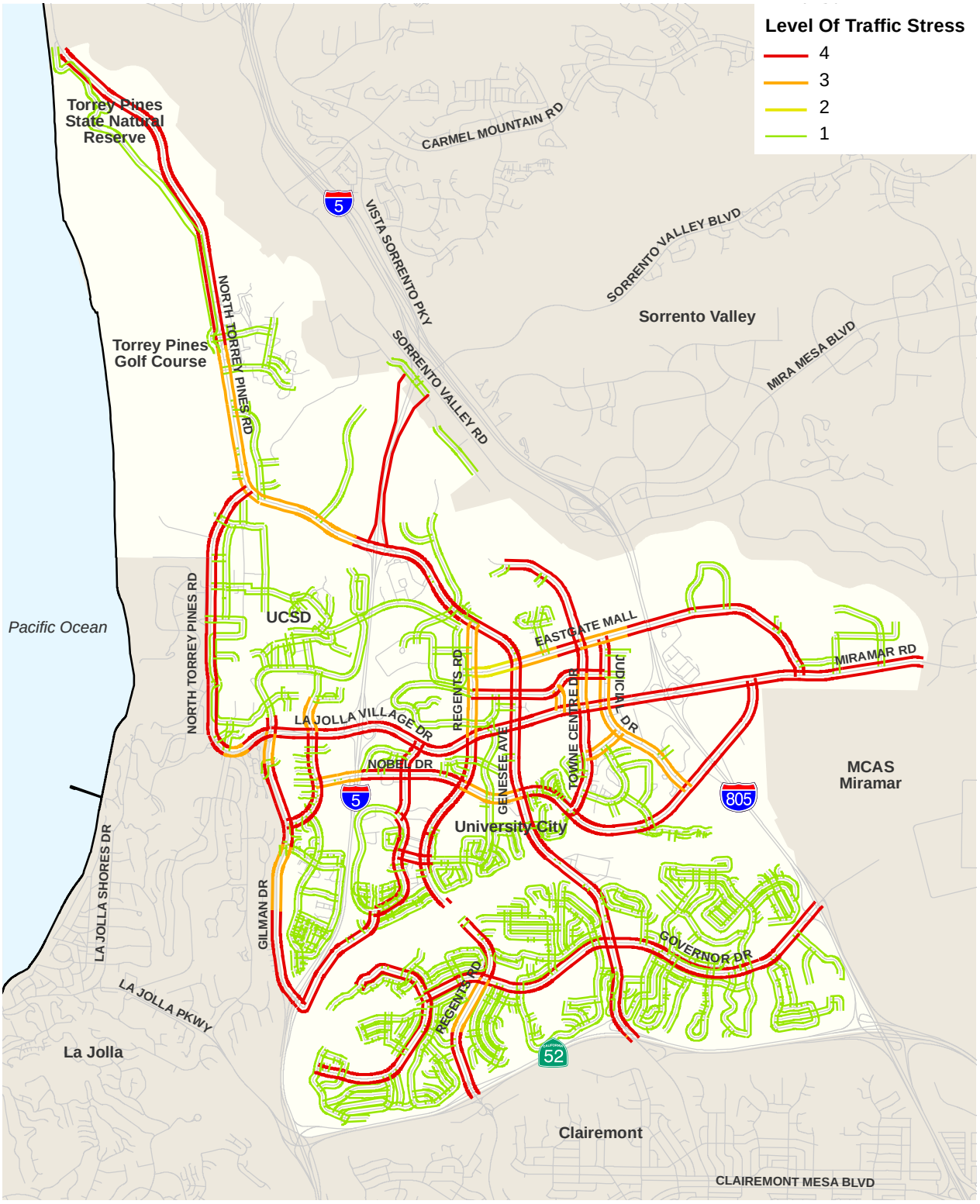
The University community consists of several wide, busy streets and multiple freeway interchanges that act as barriers for bicyclists riding within the community and to and from adjacent communities. Class I facilities can provide important connections around these types of barriers. There are two class I facilities within the community that are currently under construction. The Rose Creek bicycle trail will be a 1.1 mile Class I facility that connects the Class II bicycle lane on Gilman Drive in the southwestern part of the community to Santa Fe Street south of State Route 52. As discussed in the previous section, a Class I bicycle facility is currently under construction that will provide a connection in the northern part of the community across Genesee Avenue and adjacent to Interstate 5.

LEVEL OF TRAFFIC STRESS ANALYSIS

The Bicycle Level of Traffic Stress (BLTS) analysis was completed to summarize the biking conditions in the community. **Figure 5-2** shows the LTS score for each direction of the study roadway segments.

Increased number of travel lanes and higher speeds result in a more stressful experience and is shown in the BLTS scoring. As seen in Figure 5-2, pockets of low stress local roadways are often isolated from adjacent areas by high stress circulation element roads. In the northern part of the community, high speeds and traffic volumes on the majority of roadways create a stress barrier for cyclists. Pockets of low stress roadways in the UCSD area and residential areas have minimal low-stress options to get to other parts of the community. The southern portion of the community is primarily residential and has a high number of low-stress roadways, but lacks connections to the destinations in the northern portion of the community as Governor Drive and Genesee Avenue create high stress barriers. Overall, the community is primarily a high-stress bicycle community.

FIGURE 5-2



Existing Bicycle Level of Traffic Stress

BICYCLE COLLISION HISTORY

Between 2008 and 2012, there were a total of 57 reported collisions involving bicycles within the University community. In the State of California, collision reports must be generated for any collision where property damage totals 750 dollars or more, someone is injured or someone is killed. As a result it is important to note some bicycle incidents may go unreported for failing to meet one of these criteria. **Table 5-3** displays the primary causes for bicycle involved collisions. As shown in the table, the top cause for bicycle involved collisions is improper turning.

Table 5-3 Primary Bicycle-Involved Collision Cause (2008-2012)

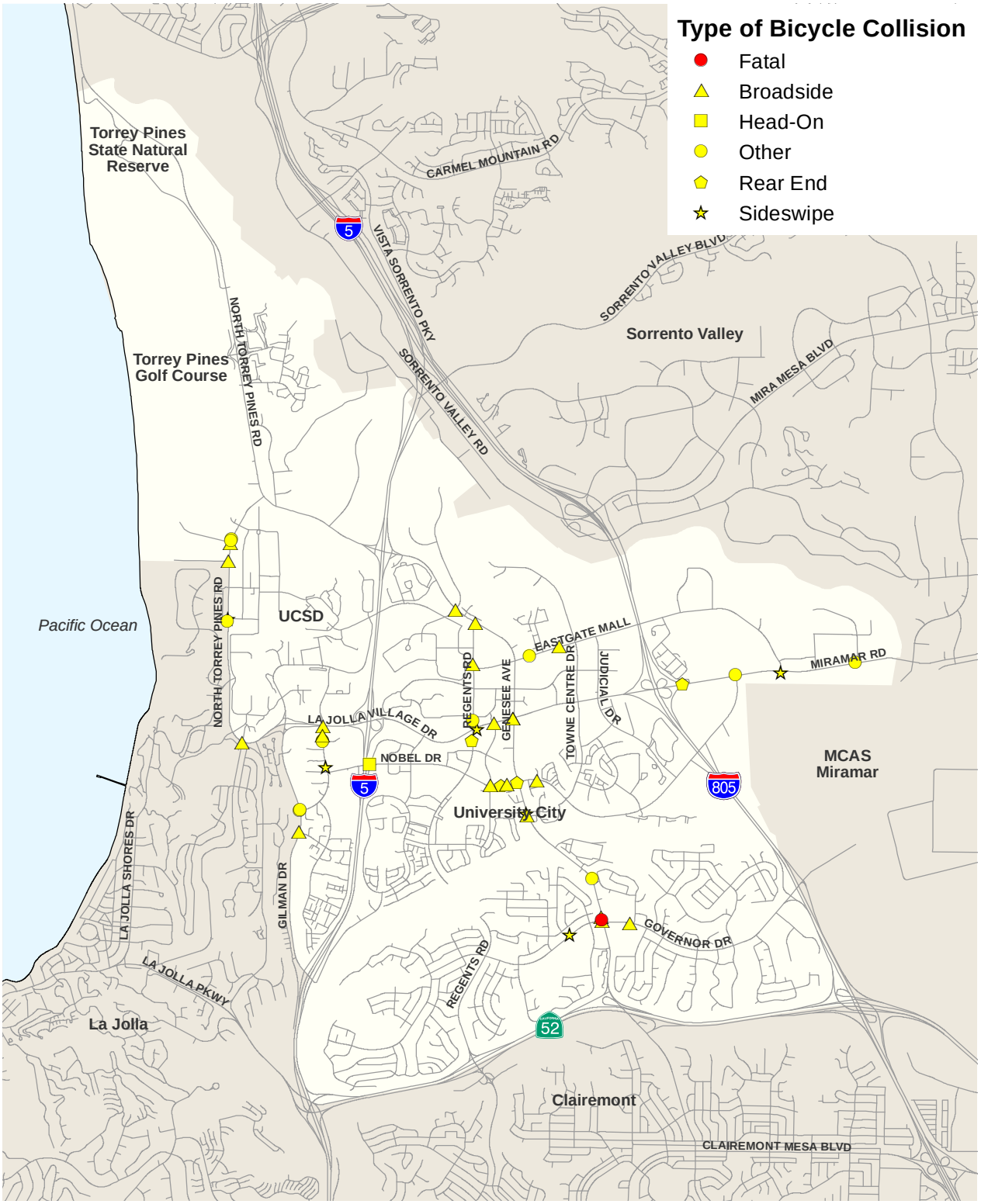
Primary Collision Cause	Number of Collisions	Percent of Total Bicycle Collisions
Automobile Right of Way	8	14%
Improper Turning	15	26%
Pedestrian Right of Way	2	4%
Pedestrian Violation	2	4%
Traffic Signals and Signs	3	5%
Unsafe Lane Change	2	4%
Unsafe Speed	6	11%
Wrong Side of Road	7	12%
Other Hazardous Violation	5	8%
Other Than Driver (or Pedestrian)	2	5%
Unknown	4	7%
Total	***57***	***100%***

Figure 5-3 displays the collisions involving bicycles, including the collision type for each occurrence. Most locations have isolated incidents. A few locations seem have a more frequent history of collisions:

- North Torrey Pines Road had several incidents in the couple of blocks between Torrey Pines Scenic Drive and Muir College Drive.
- Nobel Drive between Costa Verde Blvd/Cargill Ave and Lombard Place saw multiple broadside and rear-end bicycle collisions.
- The intersection of Genesee Avenue and Governor Drive had multiple reported collisions including two broadside collisions.

One fatality collision was documented near the intersection of Genesee Avenue and Governor Drive.

FIGURE 5-3



Bicycle Collision History (2008-2012)

6 PUBLIC TRANSIT

There are several types of transit currently serving the University community. **Figure 6-1** shows an overview of the roadways and separated facilities where transit is available within the community.

BUS ROUTES

There are 14 Metropolitan Transit Service (MTS) routes that serve the University community including the SuperLoop (201/202 and 204), Rapid Route 237, and Coaster Connection Routes 978 and 979. There is also one North County Transit District (NCTD) Breeze Route (Route 101). A description and map of each of the bus routes within the community is provided in **Appendix B**. The combination of the MTS, NCTD, and UCSD bus routes cover the majority of the community and provide connections to transfer stations and COASTER/AMTRACK stations that allow users to access other bus routes, trolley lines and regional services.

Bus routes within the University community include;

- MTS Route 30: Downtown – UTC/VA Medical Center
- MTS Routes 31 and 921: UTC – Mira Mesa
- MTS Route 41: Fashion Valley – UCSD/VA Medical Center
- MTS Route 50: Downtown - UTC Express
- MTS Route 150: Downtown – UTC/ VA Hospital Express
- MTS Route 60: Euclid Transit Center – UTC
- NCTD Route 101: Oceanside – VA/UCSD
- MTS Route 105: Old Town – UTC
- MTS SuperLoop 201/202: UTC Transit Center – UCSD
- MTS SuperLoop 204: UTC East Loop
- MTS Rapid Route 237: Rancho Bernardo – UCSD
- MTS Coaster Connection Route 978: Torrey Pines
- MTS Coaster Connection Route 979: North University City

SHUTTLE SERVICES

The UCSD Transportation Services provides eight shuttle routes that serve the University community. The shuttle routes specifically serve the campus, medical centers, and other key points off campus. Students, faculty, and staff can ride the shuttles for free. All shuttles operate during academic quarters with some shuttles operating year-round.). A description and map of the shuttle routes is provided in **Appendix B.**

RAIL SERVICES

There are two rail lines that travel through the University community: the NCTD COASTER and the AMTRAK Pacific Surfliner. The closest COASTER/AMTRAK station is located in Sorrento Valley, one exit north of the community on Interstate 5. Access to this station is provided by shuttle service to limited portions of the University community. The rail services provide connections north and south of the community and connect to other regional rail services. Both the COASTER and the Pacific Surfliner services are part of the 351-mile Los Angeles-San Diego-San Luis Obispo Rail Corridor that travels through a six-county coastal region in Southern California.

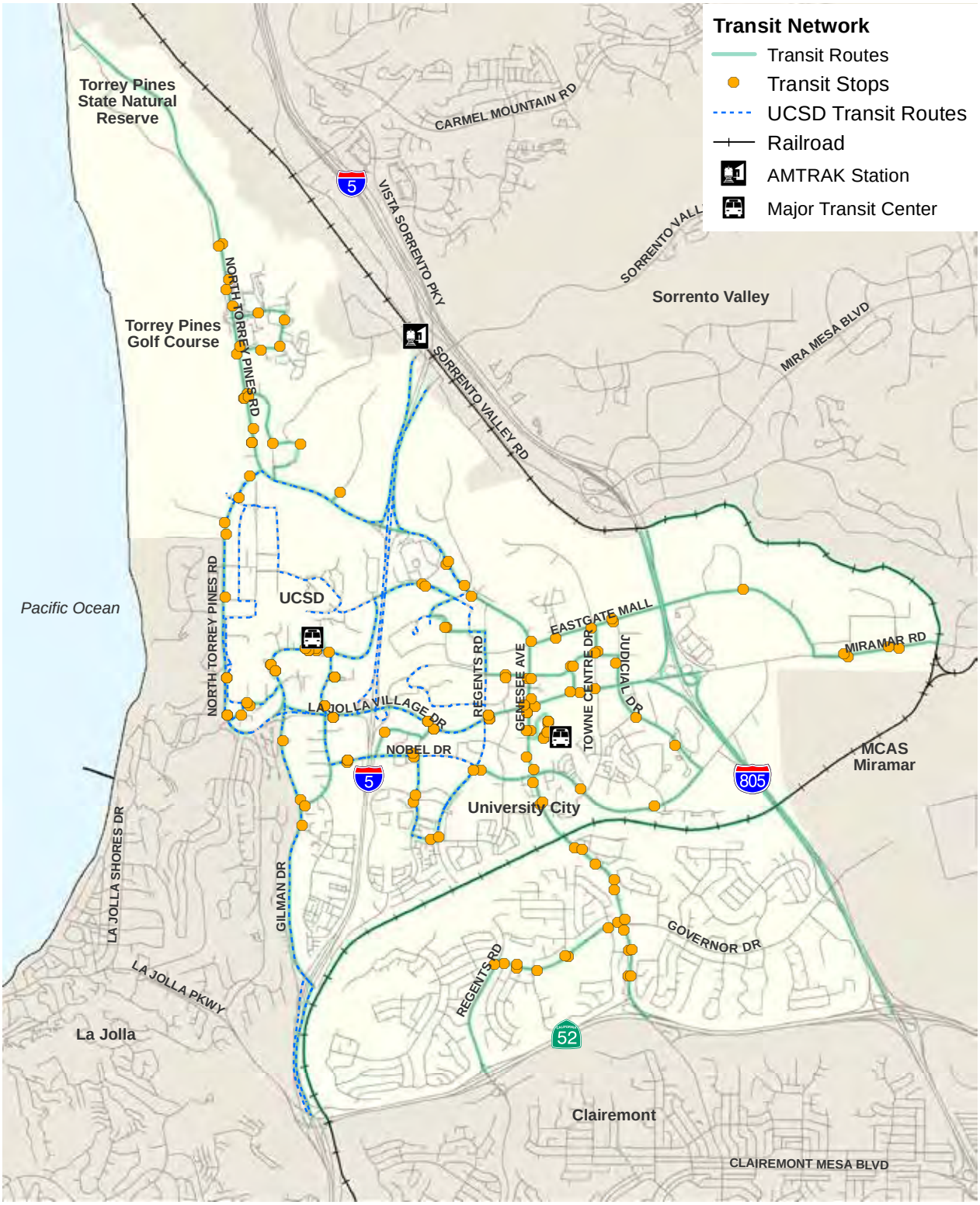
NCTD COASTER

The COASTER is a commuter rail line operated by NCTD that runs north to south from Oceanside to downtown San Diego through the University community. The COASTER serves eight stations including Santa Fe Depot, Old Town, Sorrento Valley, Solana Beach, Encinitas, Carlsbad Poinsettia, Carlsbad Village, and Oceanside. It takes about an hour to travel the entire route from downtown San Diego (Santa Fe Depot) to the Oceanside Transit Center. The rail line provides 11 daily round-trip services Monday through Thursday, 13 round-trip services on Fridays, six round-trip services on Saturdays, and four round-trip services on Sundays and Holidays. The COASTER also provides expanded service in the spring and summer and additional trains scheduled for special events as needed (such as a Padres games). The fare varies depending on the number of zones traveled.

AMTRAK Pacific Surfliner

The Pacific Surfliner is a passenger rail line operated by AMTRAK that runs north to south from San Luis Obispo to downtown San Diego through the University community. The Pacific Surfliner serves thirty stations including the eight COASTER stations stated above, as well as Anaheim, Santa Barbara, and Los Angeles. The rail line offers 12 daily round-trip services between San Diego and Los Angeles, and between Santa Barbara and San Diego. Commuters with COASTER passes can use AMTRAK trains that are not full.

FIGURE 6-1



Existing Transit Routes

TRANSIT TRAVELSHED

Figure 6-2 displays the results of the ArcGIS Network Analyst assuming a 30 minute transit travel time during the PM peak period. A 30 minute travel time was selected as the highest reasonable amount of time that would be expected for a regular transit commute. The results show that access can be provided within a 30 minute transit commute to the neighboring communities of La Jolla, Kearny Mesa, Torrey Pines, Encinitas, Mira Mesa, Pacific Beach, Clairemont, Clairemont Mesa, Old Town and Downtown San Diego. The results of the network analysis show increased distances can be covered when traveling north and south. Access to areas north of the community is enhanced by the presence of the COASTER, which has a station on the northern border of the community. Access to areas south of the community is enhanced by commuter bus routes that travel on the freeway with limited stops while headed towards downtown.

TRANSIT TRAVEL TIMES

Table 6-1 compares automobile and transit travel from the University community to five popular destinations within San Diego. This comparison was made to assess the feasibility of different travel mode choices available to University commuters. Travel time information was obtained from using Google Maps directions using the "depart at" feature for the time of day being evaluated. The fastest transit route for each time of day was chosen for the comparison. While the exact methodology used by Google in calculating the travel times is not available, it is assumed that it is based on big data information being gathered on a regular basis. The time estimates seem to be reliable based on comparisons with actual travel times.

Two locations within the University community were used for comparisons: the UTC Transit Center and the Gilman Transit Center (on the UCSD Campus). The destinations outside of the community selected for evaluation include San Diego City Hall in downtown, Old Town Transit Center, Oceanside Transit Center, Rancho Bernardo Transit Center, and SDSU Transit Center. These destinations were chosen as they reflect locations with strong transit service. Other employment or residential areas in the community are not as well served by transit, and these areas would expect significant time savings by using automobile travel.

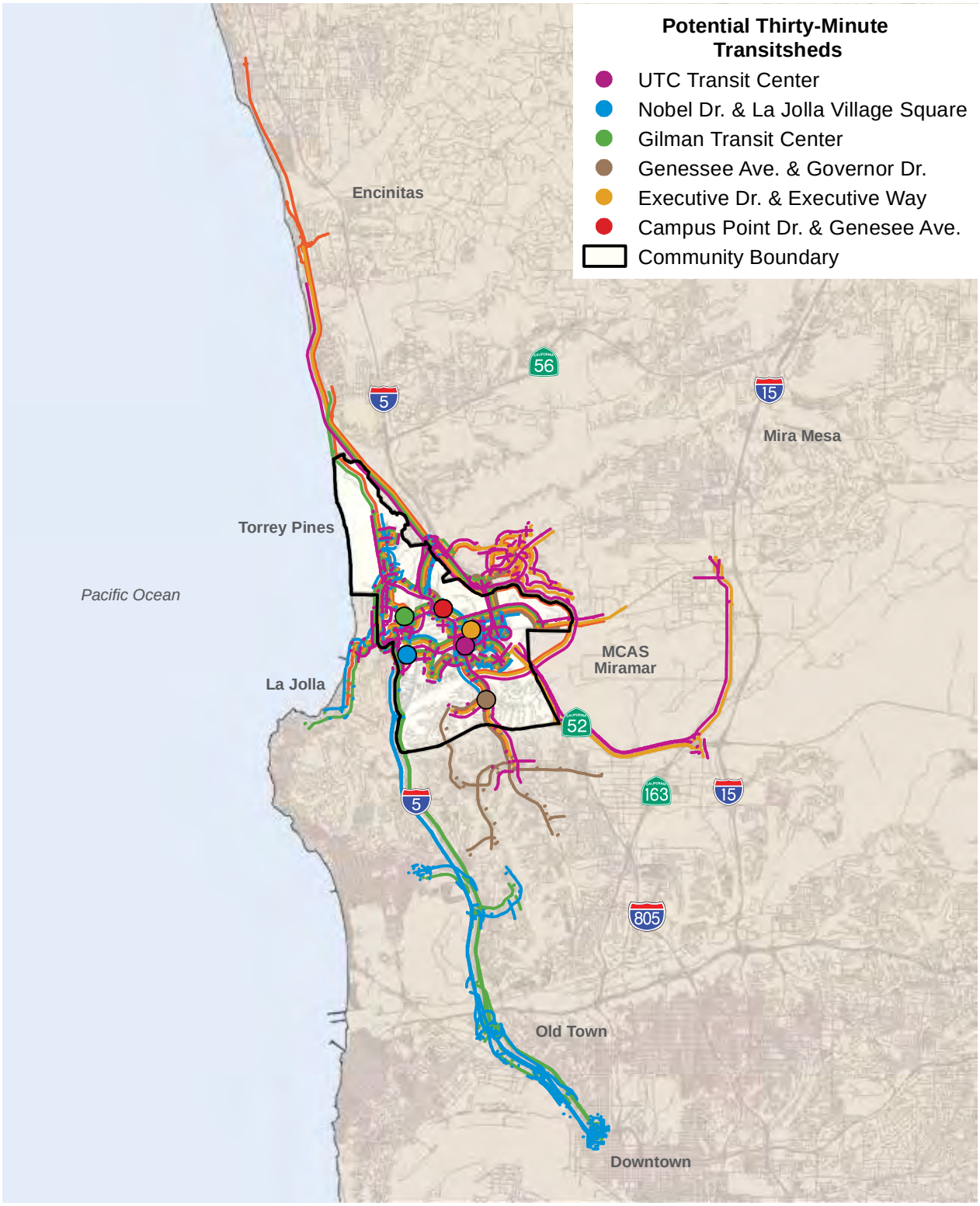
As shown in the table, transit can offer competitive travel times during peak periods when roadways and freeways are congested. Buses are able to use HOV lanes (where available) to by-pass long queues, which can afford a time savings of about 10-15 minutes at some freeway on-ramp locations. Further, transit priority measures, such as queue jumps, can be utilized where available to avoid delays at intersections. During off-peak times and in the off-peak direction, the auto travel time is estimated to be faster than that of transit time since transit must stop to pick up passengers.

Based on input from the San Diego Metropolitan Transit System and roadway and freeway analyses presented later in this study, five key chokepoints were identified that cause delays for buses in the community. The location of these key chokepoints are illustrated in **Figure 6-3**.

- La Jolla Village Drive to I-805 Southbound: The on-ramp from eastbound La Jolla Village Drive to southbound I-805 backs up during the PM peak and there isn't an HOV lane to allow buses to bypass the queues.
- Gilman Drive to Southbound I-5: The right lane leading to the on-ramp to southbound I-5 during the PM peak backs up and there is not an HOV lane to allow buses to bypass the queues.
- Genesee Avenue and La Jolla Village Drive intersection: The left turn from northbound Genesee Avenue to westbound La Jolla Village Drive does not provide enough green time to clear the queue and creates abnormal delays for buses making this left turn movement.
- Genesee Avenue between Nobel Drive and Governor Drive: Delays occur frequently during peak periods and there is no alternative route to cross Rose Canyon.

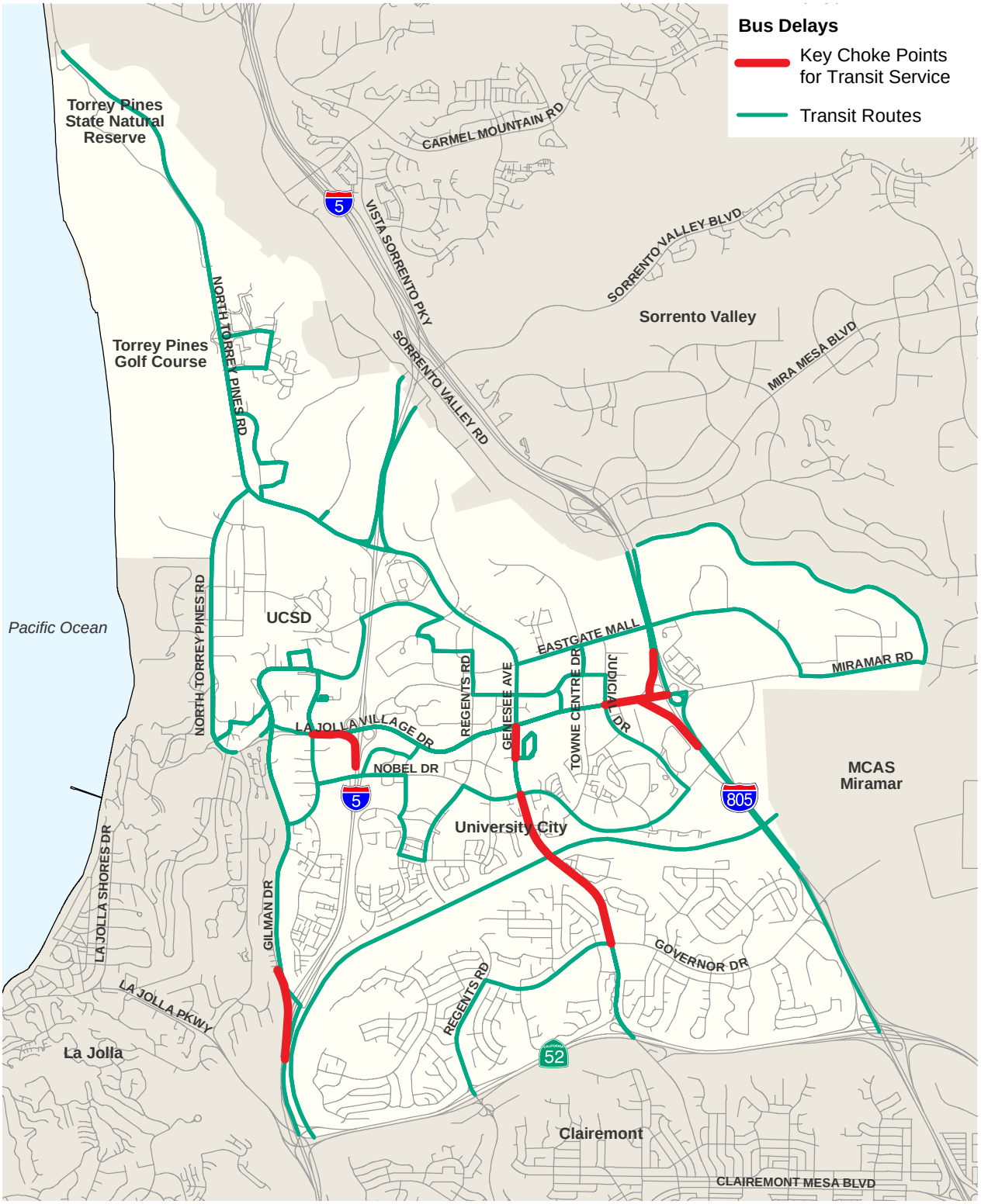
- La Jolla Village Drive and the Interstate 5 Southbound Ramp: Heavy through movement demand on La Jolla Village Drive leads to large queue development on all approaches

FIGURE 6-2



Existing Potential Thirty-Minute Transit Travelshed

FIGURE 6-3



Existing Transit Choke Points

Table 6-1 Travel Time Comparison by Mode (Minutes)

Location		AM	MID-DAY	PM
UTC Transit Center -----> City Hall	Personal Vehicle	28	28	55
	Transit	44	48	52
UTC Transit Center -----> Old Town Transit Center	Personal Vehicle	22	24	40
	Transit	32	36	38
UTC Transit Center -----> Oceanside Transit Center	Personal Vehicle	40	40	65
	Transit	84	107	66
UTC Transit Center -----> Rancho Bernado Transit Center	Personal Vehicle	35	35	55
	Transit	48	81	53
UTC Transit Center -----> SDSU Transit Center	Personal Vehicle	24	24	60
	Transit	56	58	65
City Hall -----> UTC Transit Center	Personal Vehicle	45	26	28
	Transit	42	43	44
Old Town Transit Center-----> UTC Transit Center	Personal Vehicle	35	22	24
	Transit	39	37	38
Oceanside Transit Center----->UTC Transit Center	Personal Vehicle	80	40	55
	Transit	67	118	84
Rancho Bernado Transit Center -----> UTC Transit Center	Personal Vehicle	50	30	30
	Transit	52	61	57
SDSU Transit Center-----> UTC Transit Center	Personal Vehicle	55	26	28
	Transit	57	55	58
Gilman Transit Center/UCSD-----> City Hall	Personal Vehicle	24	26	50
	Transit	32	33	39
Gilman Transit Center/UCSD -----> Old Town Transit Center	Personal Vehicle	20	20	40
	Transit	19	20	24
Gilman Transit Center/UCSD -----> Oceanside Transit Center	Personal Vehicle	40	40	65
	Transit	85	93	81
Gilman Transit Center/UCSD-----> Rancho Bernado Transit Center	Personal Vehicle	35	28	55
	Transit	51	89	56
Gilman Transit Center/UCSD -----> SDSU Transit Center	Personal Vehicle	30	28	60
	Transit	51	50	51
City Hall -----> Gilman Transit Center/UCSD	Personal Vehicle	45	24	24
	Transit	38	36	38
Old Town Transit Center----->Gilman Transit Center/UCSD	Personal Vehicle	35	20	22
	Transit	25	23	24
Oceanside Transit Center----->Gilman Transit Center/UCSD	Personal Vehicle	80	40	50
	Transit	71	67	79
Rancho Bernado Transit Center -----> Gilman Transit Center/UCSD	Personal Vehicle	50	35	35
	Transit	56	75	62
SDSU Transit Center-----> Gilman Transit Center/UCSD	Personal Vehicle	60	30	30
	Transit	53	51	54

Notes:
Travel times were estimated using Google Maps
AM Period based on 7:30 departure
Mid-day period based on 12:00 pm departure
PM period based on 5:00 departure
Transit travel times less than or equal to personal vehicle travel times

TRANSIT USE EVALUATION

The percentage of workers that used public transit to get to work was collected from the Year 2013 U.S. Census surveys, organized by the census tract they live in. **Figure 6-3** illustrates the transit use by census tract.

Portions of the University community, particularly south of Rose Canyon, have low transit ridership (under 2%). This result is not surprising given limited transit service and long walking distances to bus stops in these areas. Areas that are well served by transit have transit use similar to or better than the City-wide average. The areas shown in light and dark green have transit ridership well above the City-wide averages. The area including UCSD has a transit ridership of about 25%.

A weighted average of all Census tracts in the University community was calculated to be 8.1%.

Table 6-2 depicts transit boardings (getting on the vehicle) and alightings (getting off the vehicle) for MTS routes serving the University Community using ridership numbers provided by SANDAG representing fiscal year 2014 data. The SuperLoop Rapid Buses (Routes 201/202/204) combine to serve about 10,500 daily boardings and alightings. Route 41, which connects to the Fashion Valley Transit Center has about 4,600 daily boardings/alightings in the community. Route 30, with service to La Jolla and downtown San Diego, and Route 150, with service to downtown San Diego, each have over 3,200 daily boardings/alightings.

Table 6-4 depicts the transit stops or stations within the University Community that have the most transit boardings and alightings. Not surprisingly, the locations with the highest values are in the high density areas and locations with transfer points. These are also areas served by multiple transit lines.

A summary of the existing ridership is illustrated in **Figure 6-5**. The ridership values shown on the figure represent the total use of a stop, combining boardings and alightings.

ACCESS TO TRANSIT STATIONS

Access to transit is an important part of the success of a transit system. The number of pedestrian and bicycle collisions in the area and the high stress pedestrian and bicycle environment may have an effect on existing ridership.

Figure 6-5 provides a summary of collisions within 500 feet of a transit stop that involved a pedestrian or bicyclist. As shown in the figure, there are numerous documented collisions along the transit route roadways.

As stated previously, pedestrians have facilities available to access transit stops in the northern portion of the community. However, the wide, busy streets throughout the community may deter people from walking to transit stops. The southern portion of the community has less transit coverage and fewer pedestrian connections to transit stops.

Bicyclists utilizing transit have the option of getting on at any local bus stop to get to their destination. For bicyclist traveling outside of the community, they also have the option to bike directly to the transit station rather than using a local bus route to get there. However, as presented previously, the level of traffic stress is high along the roadways leading to the transit stations.

Figure 6-6 provides a summary of collisions within 500 feet of a transit stop that involved a pedestrian or bicyclist. As shown in the figure, there are numerous documented collisions along the transit route roadways.

Table 6-2 University Community Ridership by Route

Route	Daily Boardings and Alightings within Community
30	3,420
31	272
41	4,626
50	454
105	548
150	3,205
201	4,948
202	4,911
204	645
237	490
301	1,819
921	1,223
960	132
978	97
979	77

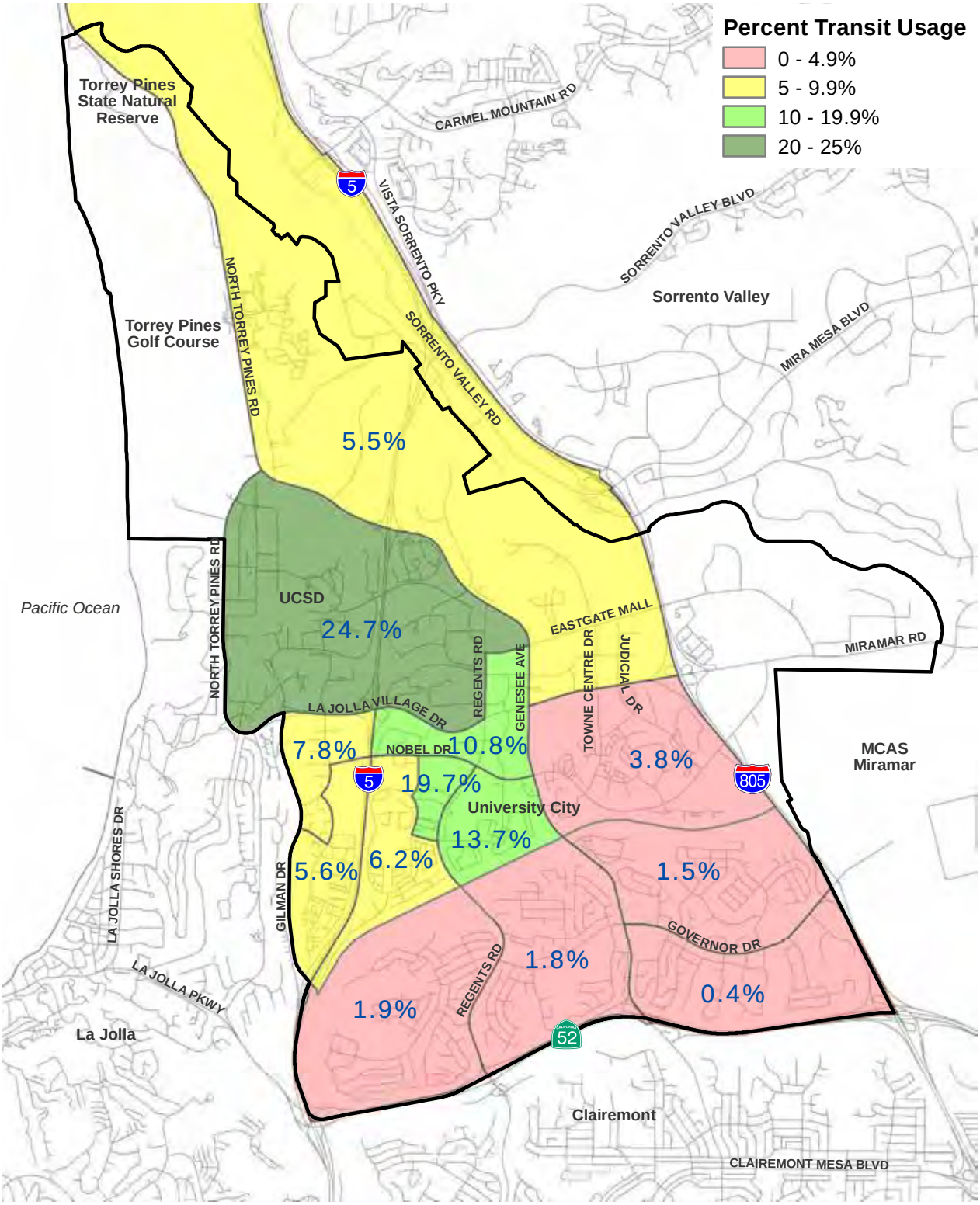
*FY2014 Transit Counts
Source: SANDAG

Table 6-3 University Community Transit Stops with Most Passengers

Transit Stops with Most Passengers	Boardings and Alightings
UTC Transit Center	1,196
Nobel Dr & La Jolla Village Square Dwy	1,103
Gilman Transit Center (Gilman Dr & Myers Dr)	761
La Jolla Village Dr & Regents Rd/Golden Haven	580
Executive Dr & Regents Rd	543
Genesee Av & Governor Dr	505
Nobel Dr & Lebon Dr	499
Genesee Av & Esplanade Ct	486
Nobel Dr & Regents Rd	450
Gilman Dr & Villa La Jolla Dr	350
Medical Center Dr & Health Science Drive	334

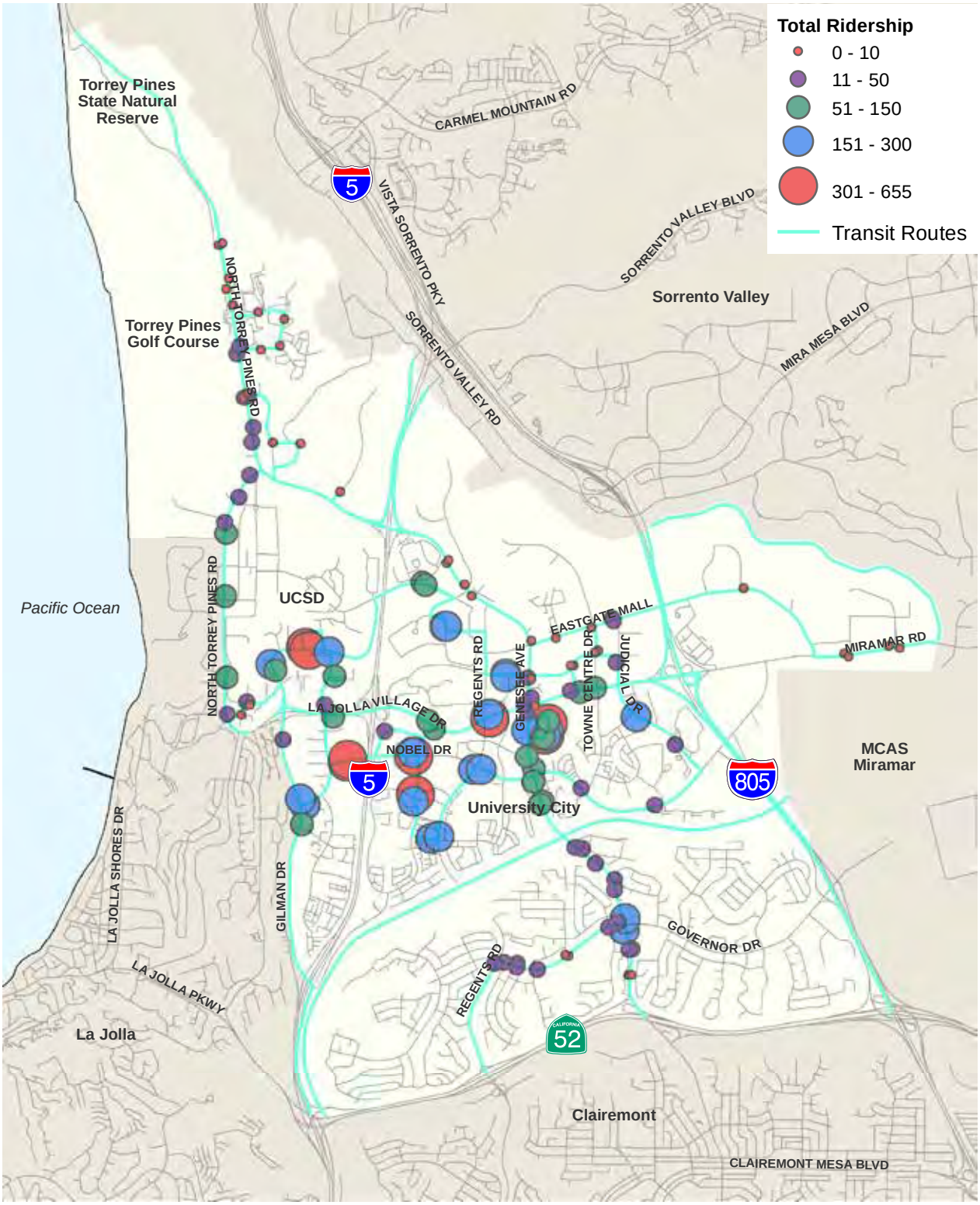
*FY2014 Transit Counts; Source: MTS

FIGURE 6-4



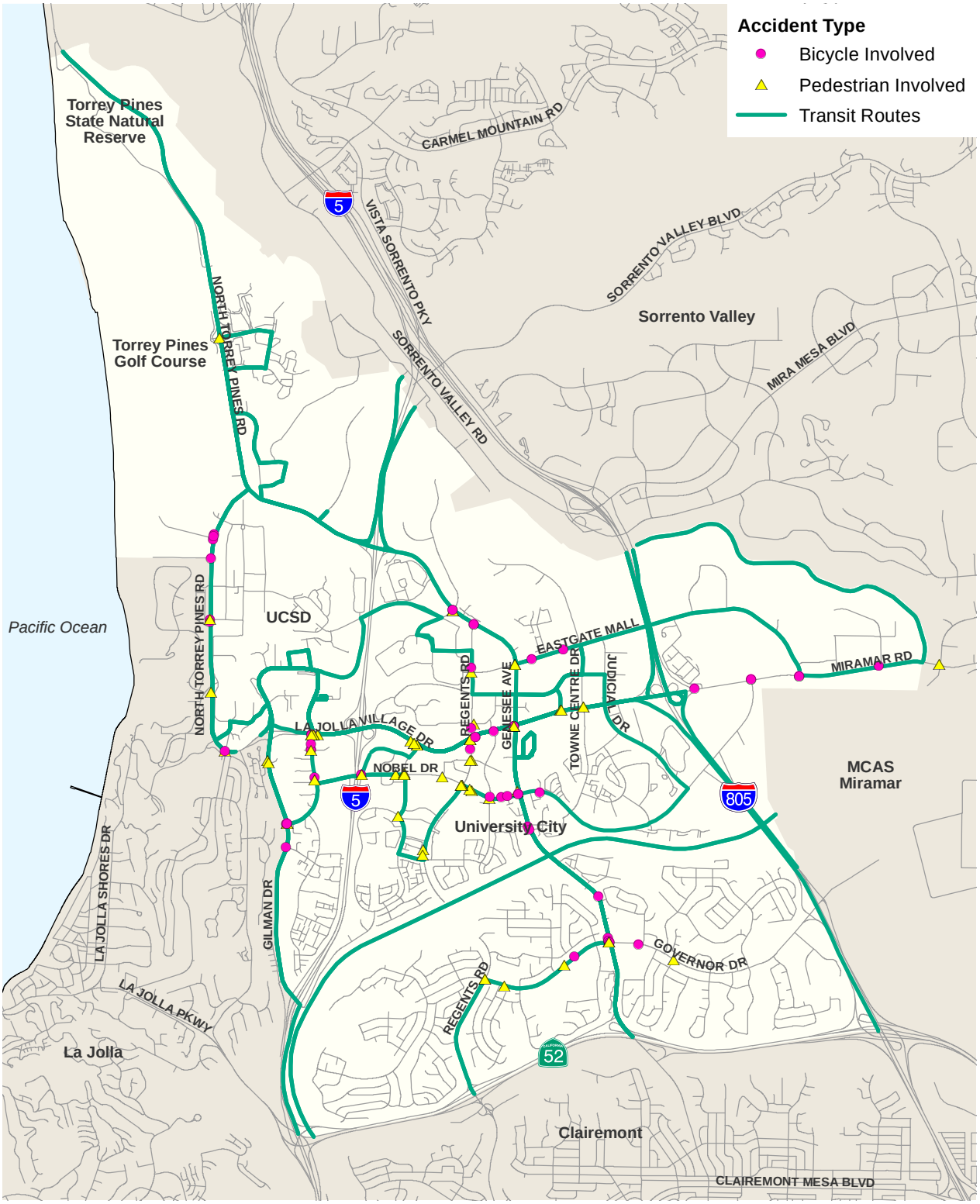
Existing Transit use by Census Tract

FIGURE 6-5



Existing Transit Ridership

FIGURE 6-6



Bicycle and Pedestrian Collisions Near Transit (2008-2012)

7 STREET NETWORK

This section describes the layout and operations of the street system in the University community. It includes the results of existing conditions analyses at the study area intersections, roadway segments, and corridors.

ROADWAY CLASSIFICATIONS

Figure 7-1 illustrates the existing roadway classifications within the community based on observations completed in May 2015.

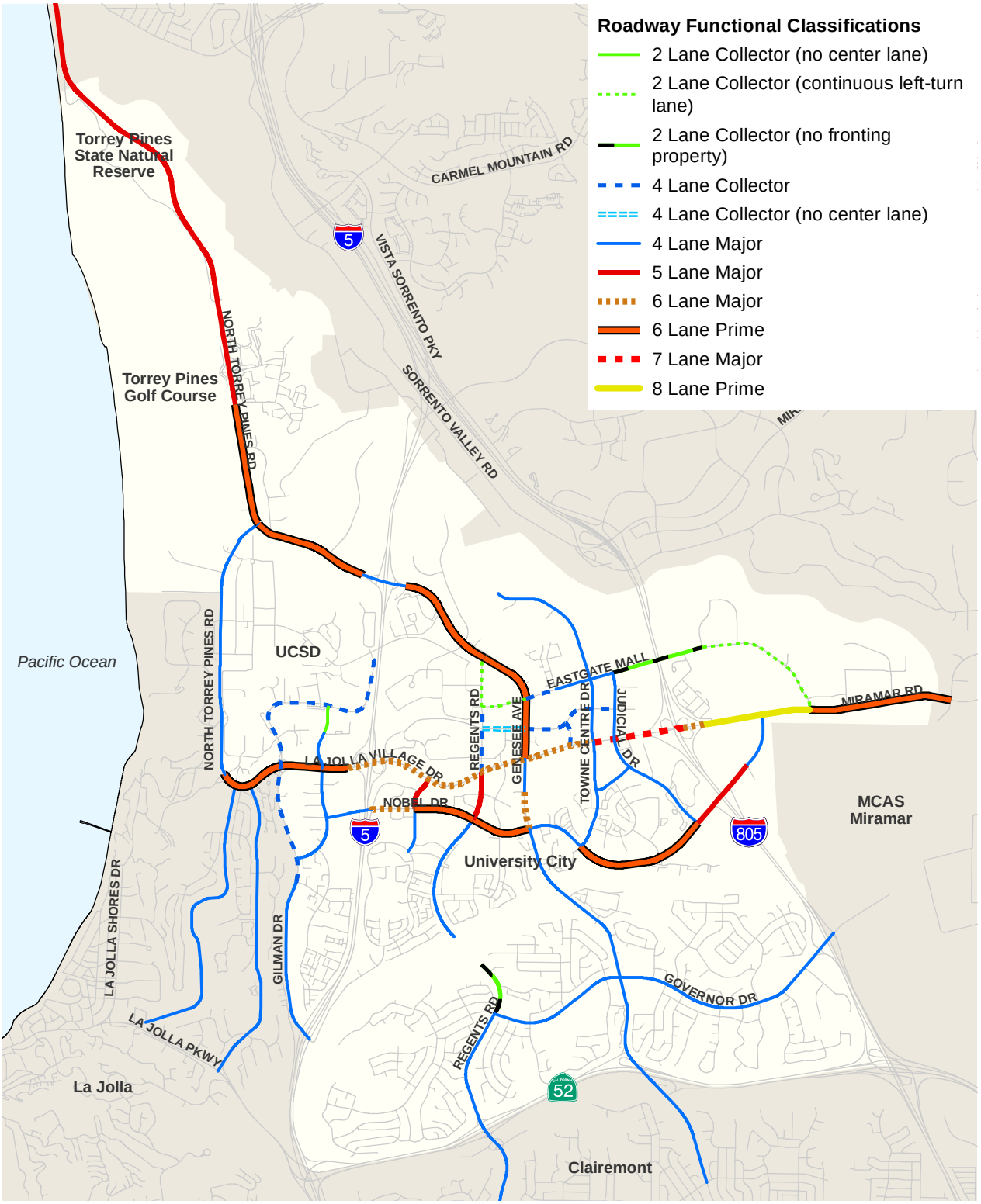
INTERSECTION GEOMETRY

Figures 7-2 through 7-5 illustrate the geometry at each intersection included in the study area as observed in the field in May 2015. These layouts were used in the existing conditions intersection analysis.

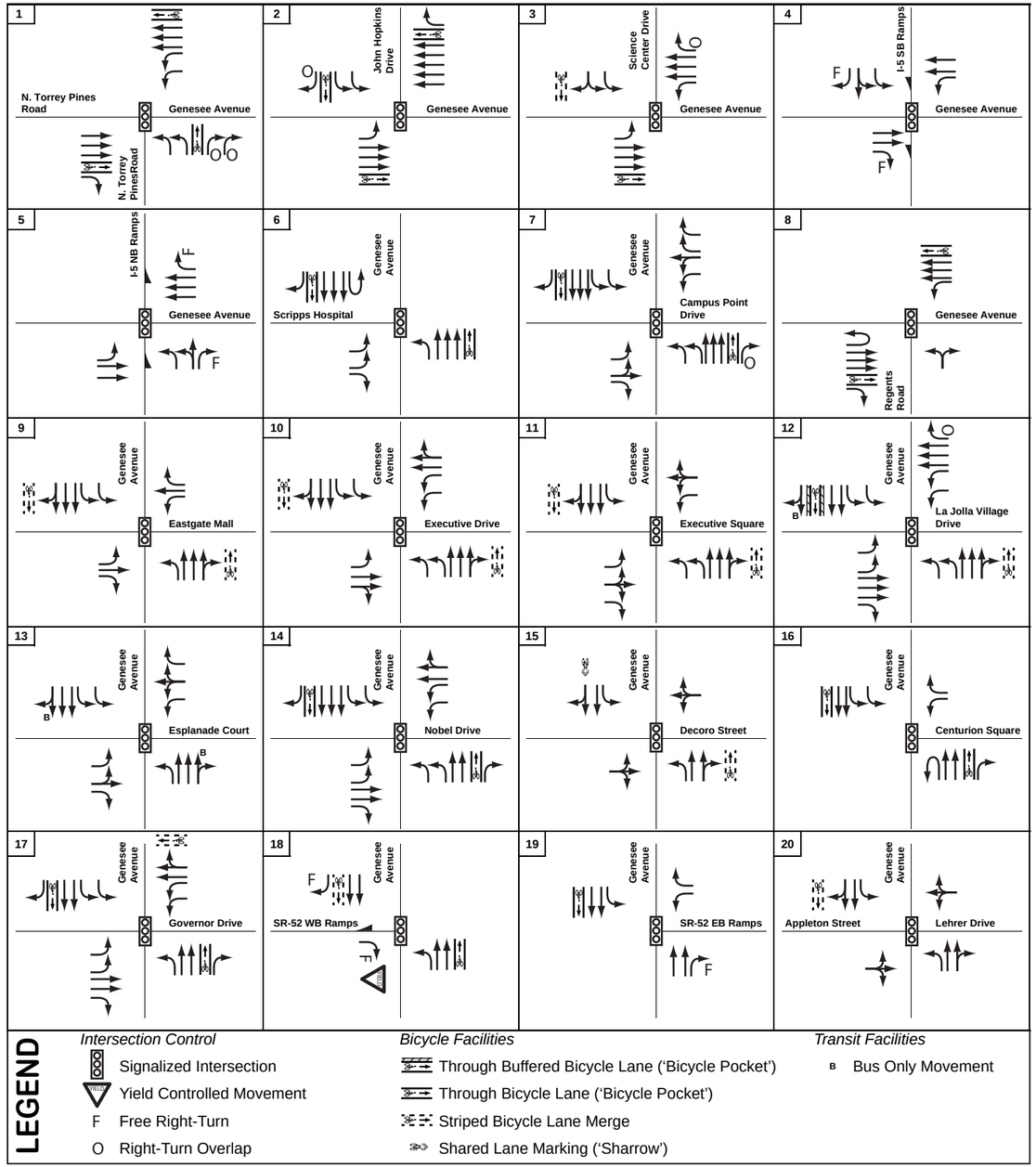
TRAFFIC VOLUMES

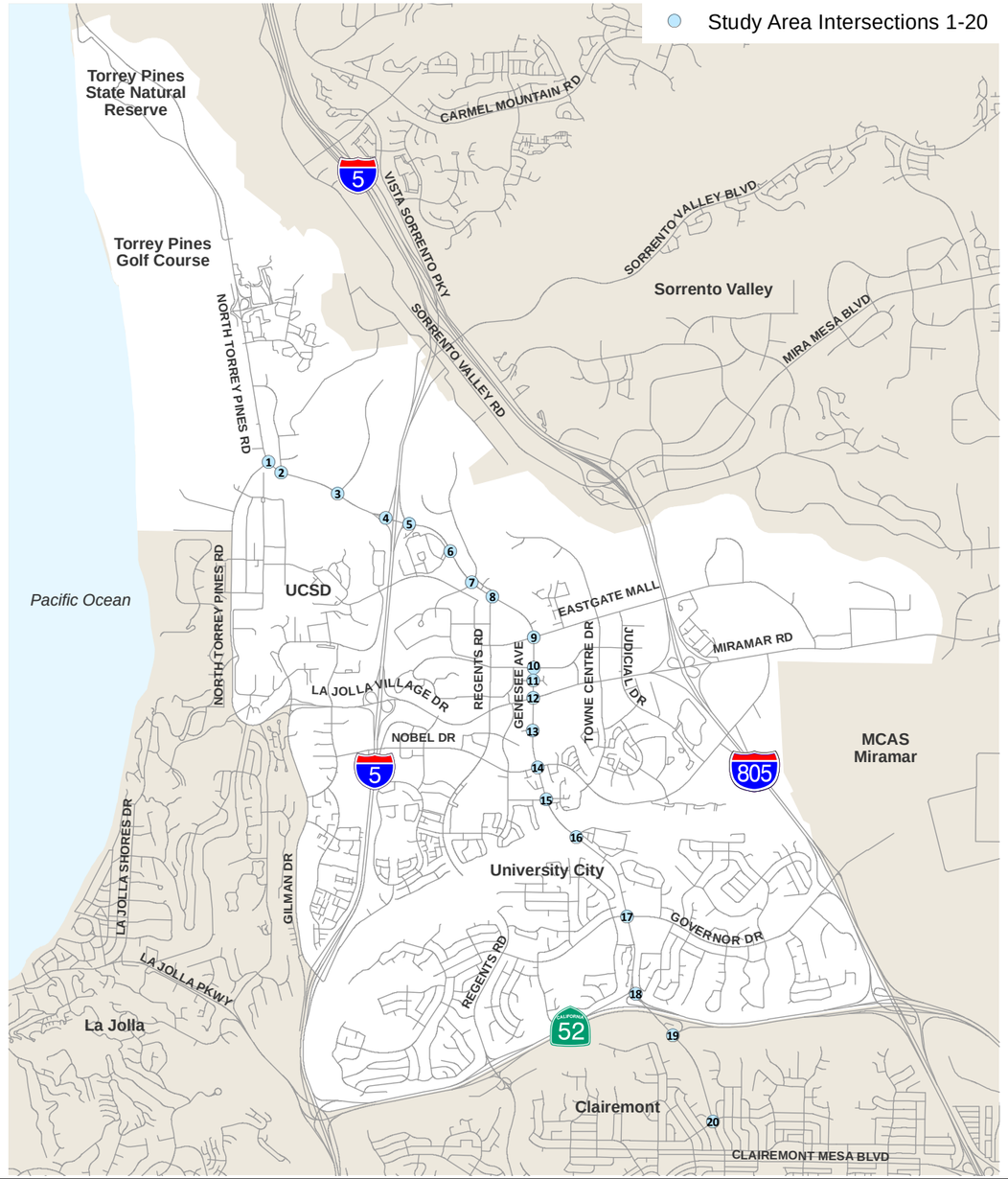
The peak-hour intersection turning movement and daily roadway volumes were counted in April and May 2015 by Accurate Video Counts. Counts were taken Tuesday through Thursday over a three week period. These counts reflect typical weekday conditions when schools were in session. **Figures 7-6 through 7-9** present the AM and PM peak-hour traffic volumes for all study intersections that were used in the intersection analysis. **Figures 7-10 through 7-12** present the midday peak-hour traffic volumes for intersections along Genesee Avenue, La Jolla Village Drive, Nobel Drive and Regents Road that were used in the intersection analysis. The existing traffic volume data is contained in **Appendix C**.

FIGURE 7-1

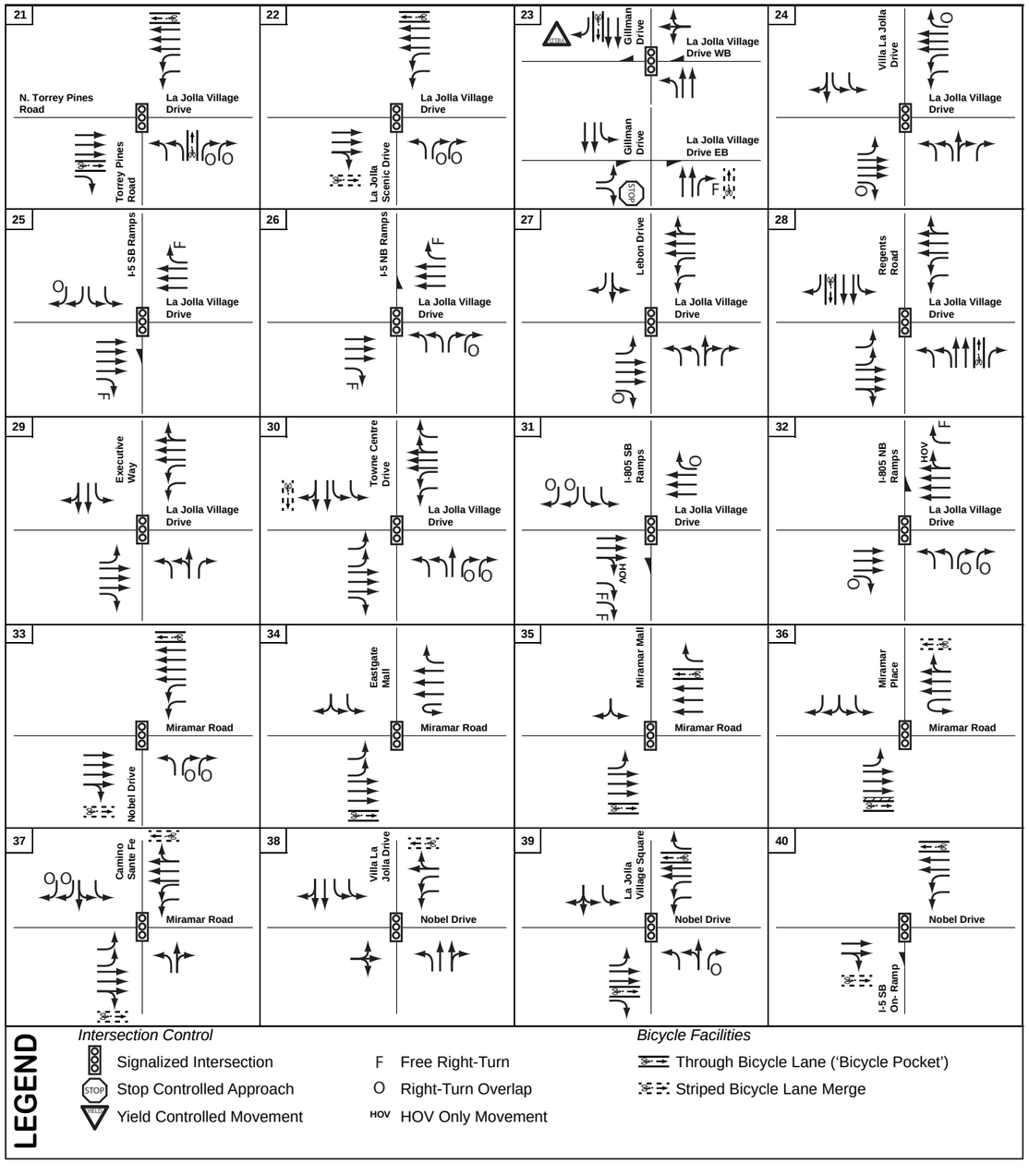


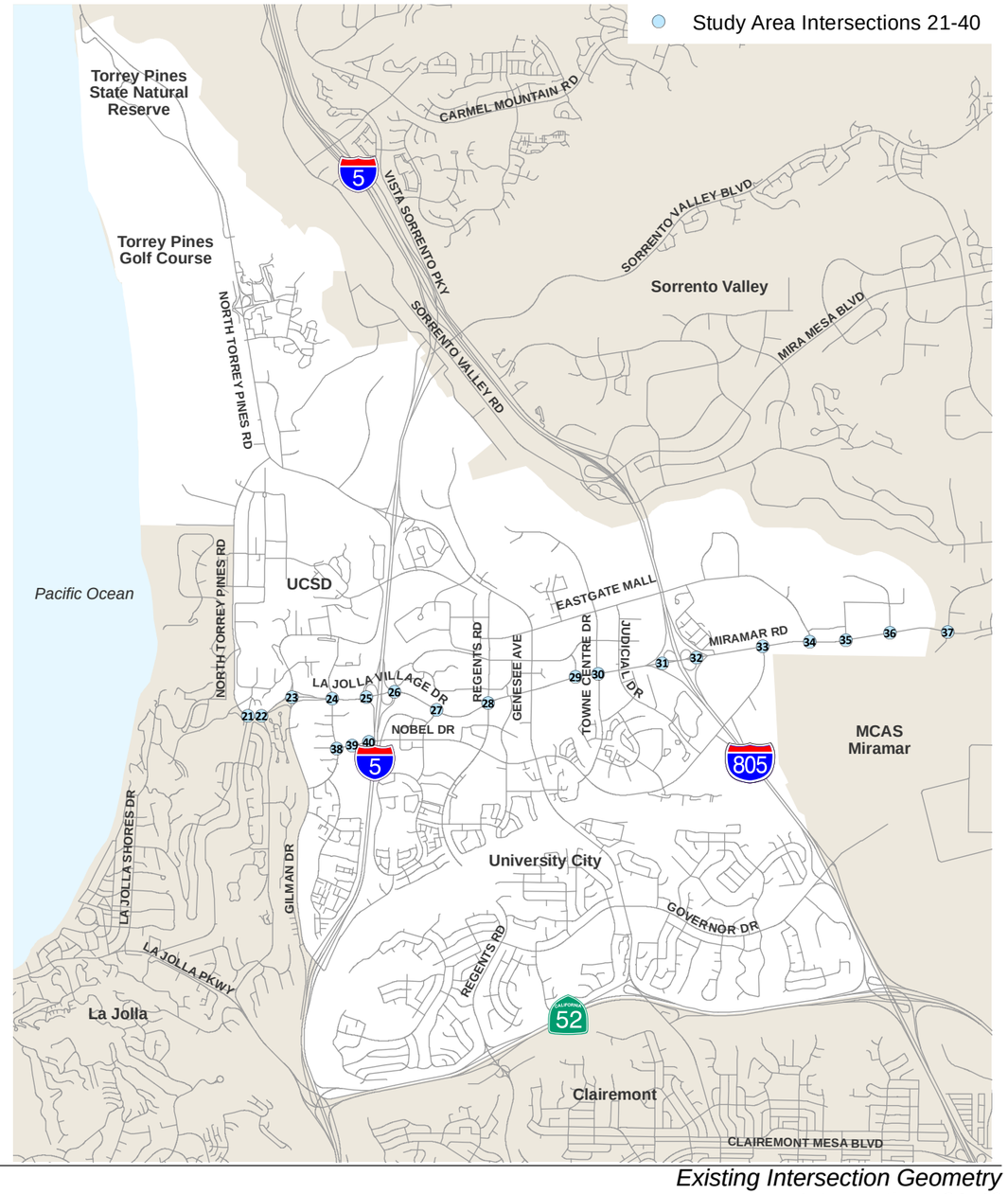
Existing Roadway Classifications



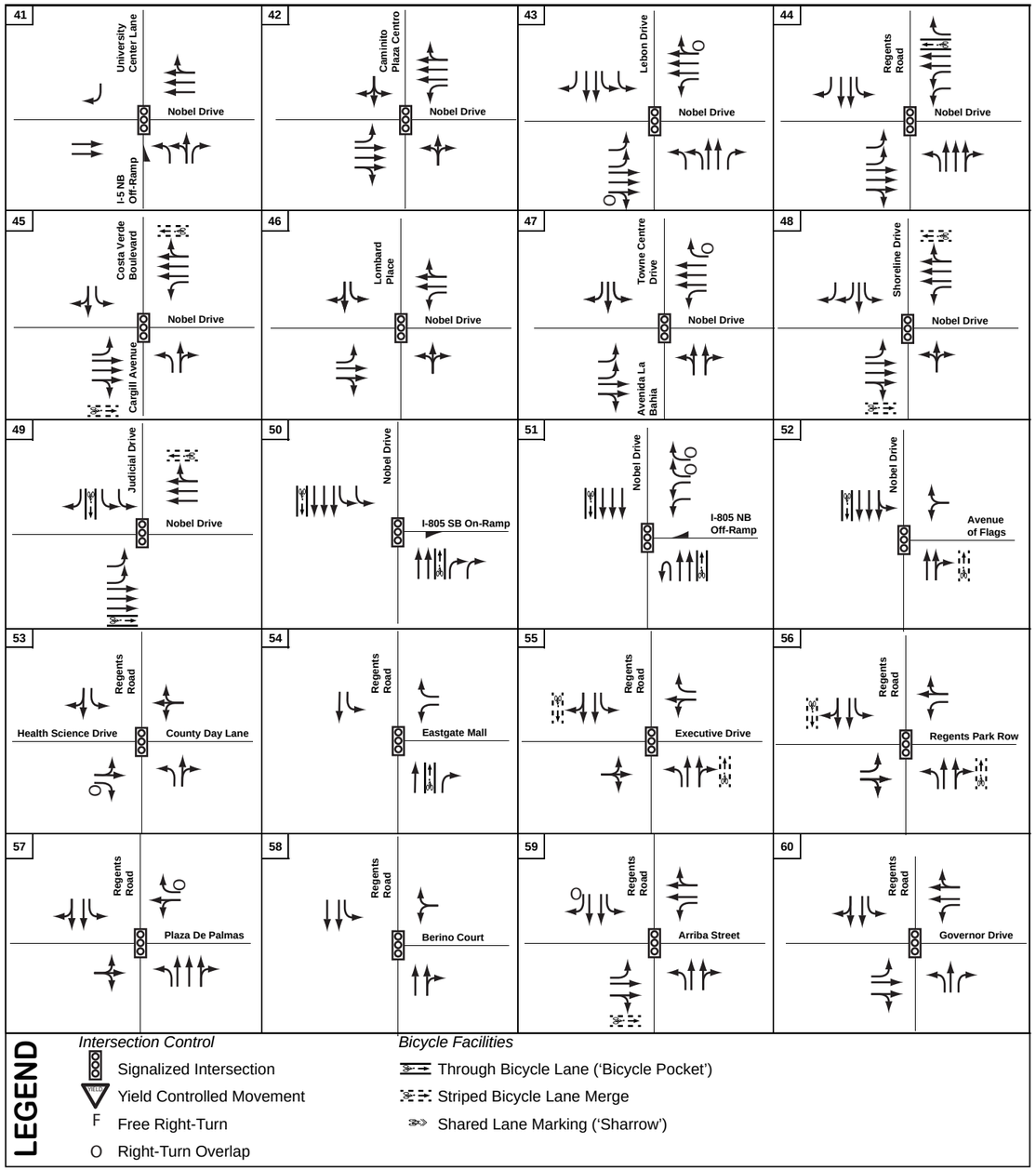


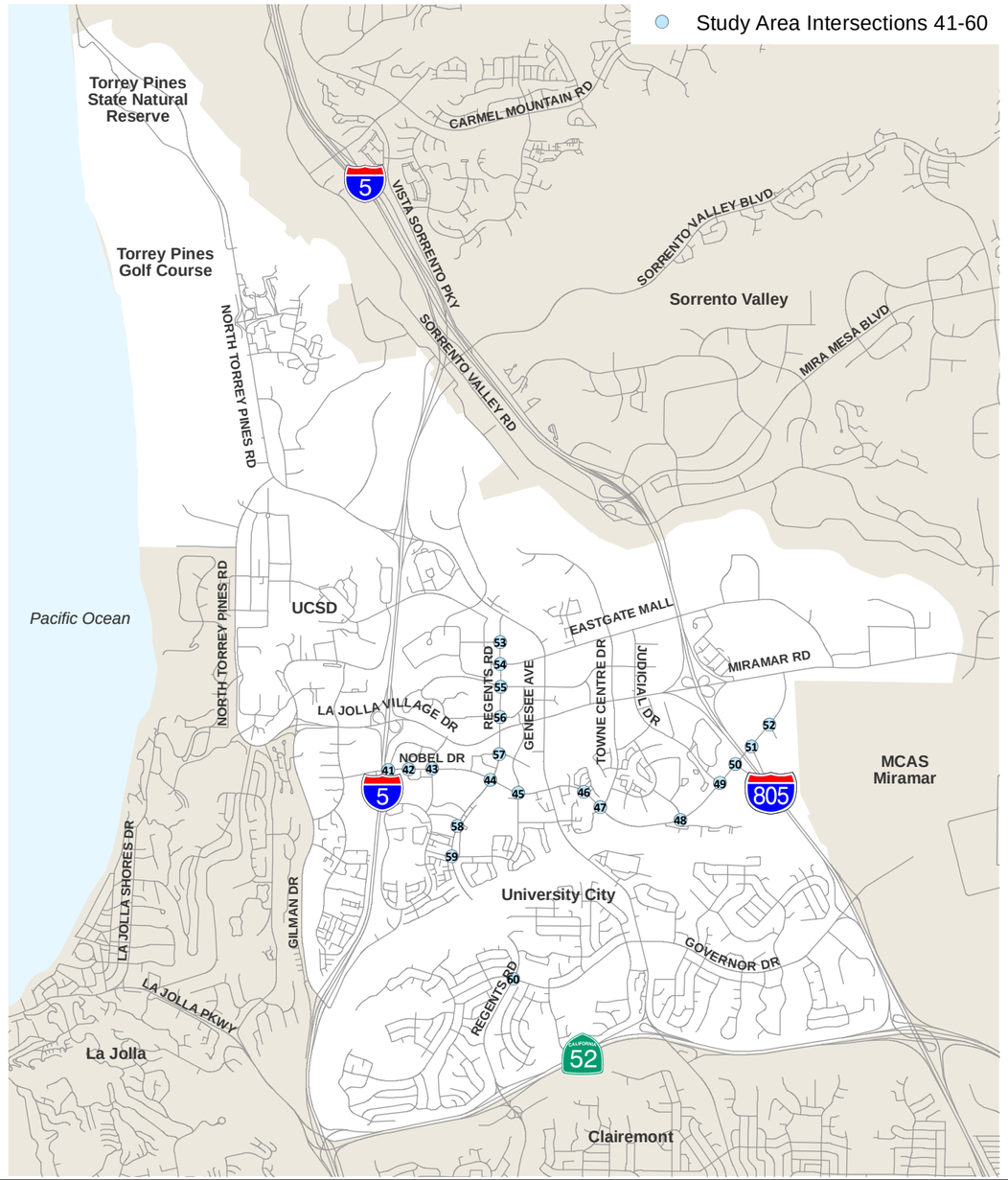
Existing Intersection Geometry
Intersections 1-20



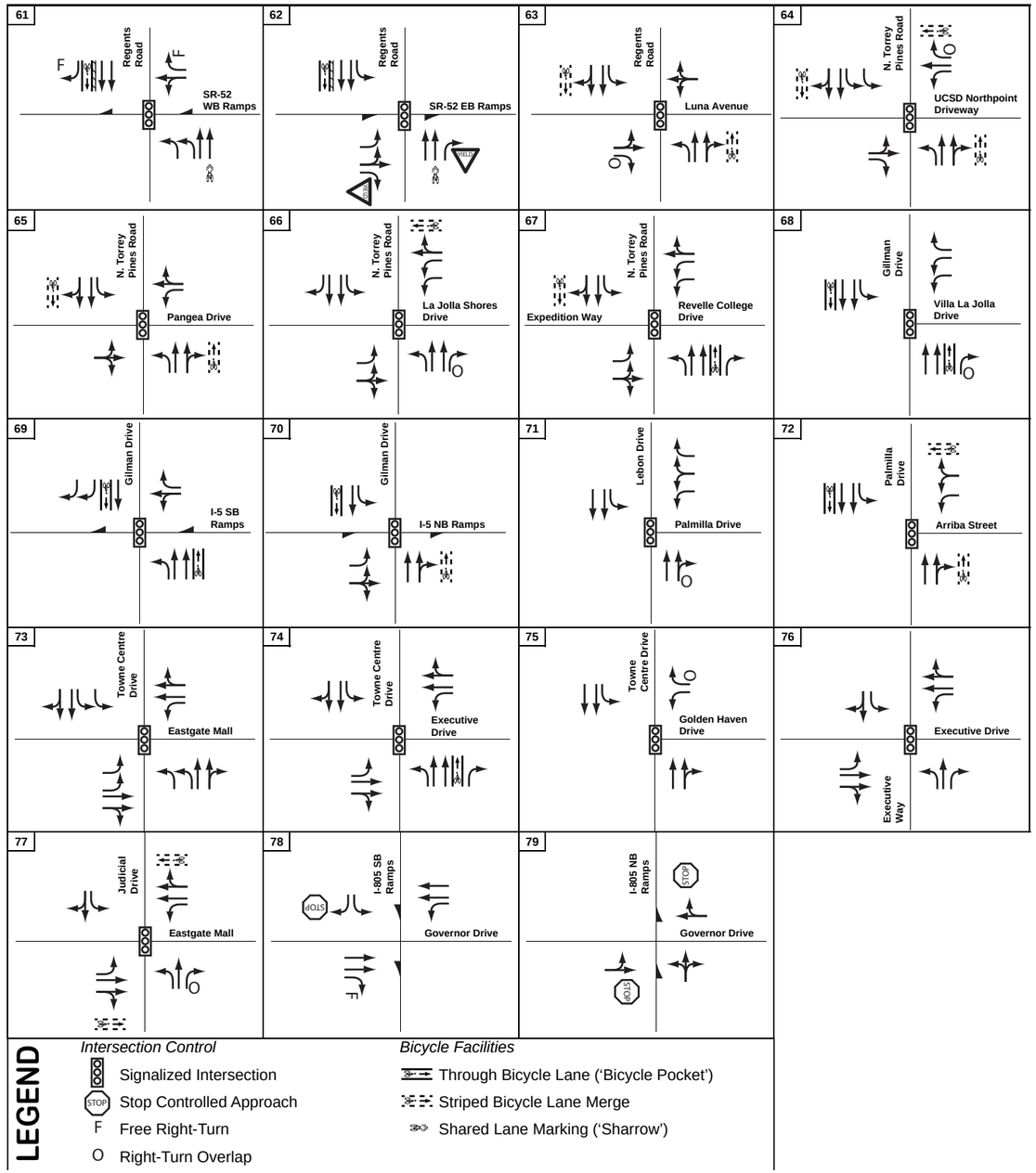


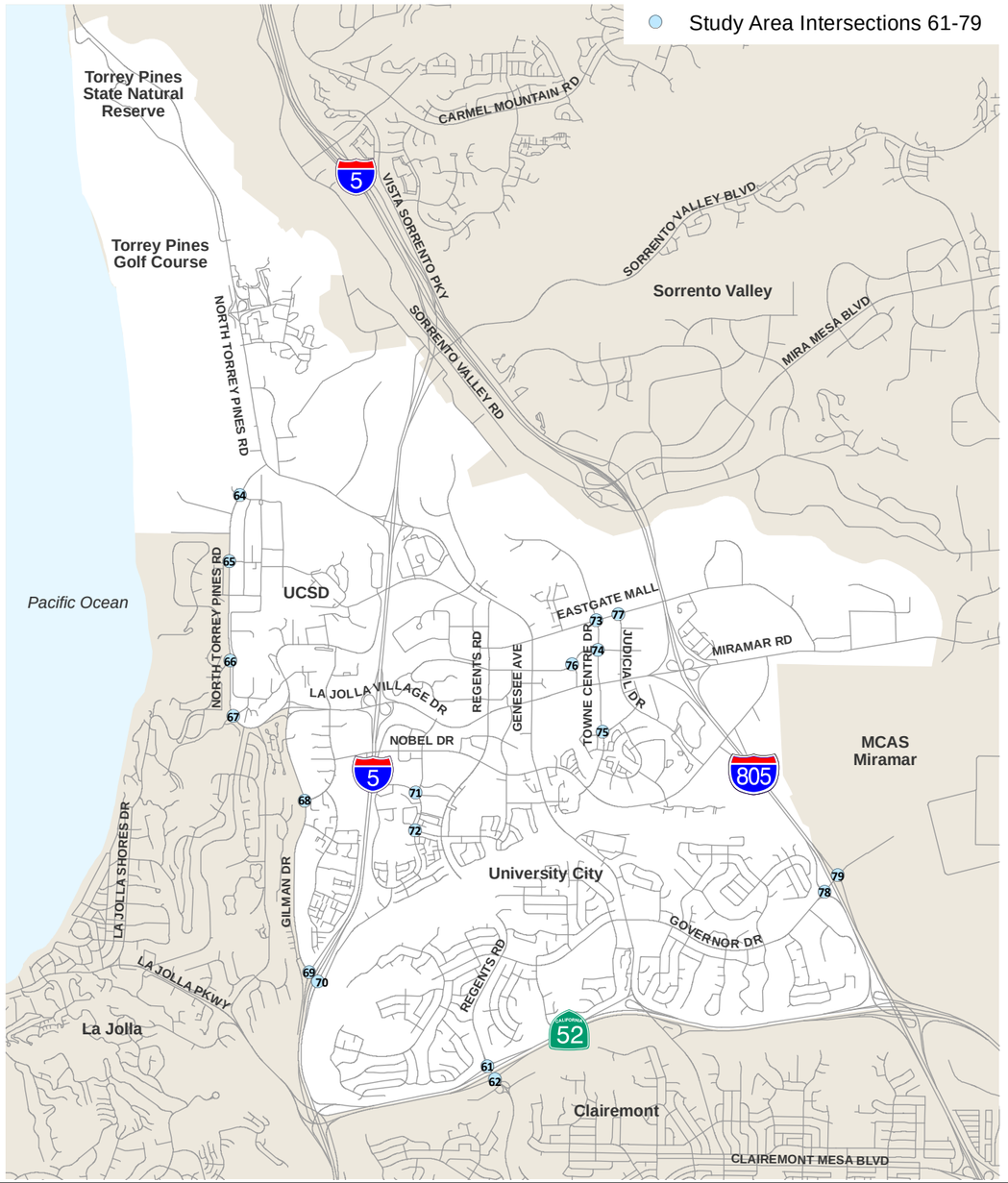
Existing Intersection Geometry
Intersections 21-40





Existing Intersection Geometry
Intersections 41-60





Existing Intersection Geometry
Intersections 61-79

1

		949 / 240 ⇦
		443 / 494 ⇦
		Genesee Avenue
401 / 825 ⇨	N. Torrey Pines Road	⇨
321 / 824 ⇨		⇨
471 / 561 ⇨		⇨ 293 / 388

2

18 / 117 ⇦		⇦ 821 / 103
82 / 541 ⇦	John Hopkins Drive (S)	⇦ 1371 / 616
		⇦ 1 / 0
		Genesee Avenue
87 / 37 ⇨		⇨
607 / 1176 ⇨		⇨

3

15 / 70 ⇦		⇦ 275 / 300
27 / 281 ⇦	Science Center Drive	⇦ 2177 / 629
		U 3 / 11
		Genesee Avenue
75 / 80 ⇨		⇨
616 / 1637 ⇨		⇨

4

712 / 338 ⇦		⇦ 1617 / 548
0 / 3 ⇩	I-5 SB Ramps	⇦ 85 / 312
971 / 850 ⇦		⇦
		Genesee Avenue
419 / 1281 ⇨		⇨
184 / 671 ⇨		⇨

5

	I-5 NB Ramps	⇦ 405 / 969
		⇦ 482 / 541
		Genesee Avenue
188 / 854 ⇨		⇨ ⇧ ⇨
1241 / 1277 ⇨		⇨ ⇧ ⇨
1193 / 319 ⇨		⇨ ⇧ ⇨
8 / 4 ⇧		⇨ ⇧ ⇨
566 / 99 ⇨		⇨ ⇧ ⇨

6

490 / 99 ⇦		⇨
1458 / 1496 ⇦	Genesee Avenue	⇨
5 / 7 U		⇨
		⇨
Scripps Hospital		⇨
60 / 444 ⇨		⇨
116 / 242 ⇦		⇦
		⇨
208 / 85 ⇨		⇨
824 / 1059 ⇧		⇧

7

469 / 139 ⇦		⇦ 52 / 283
700 / 1551 ⇩	Genesee Avenue	⇦ 12 / 25
325 / 59 ⇦		⇦ 19 / 381
		Campus Point Drive
152 / 323 ⇨		⇨ ⇧ ⇨
13 / 9 ⇩		⇨ ⇧ ⇨
96 / 339 ⇦		⇨ ⇧ ⇨
380 / 183 ⇨		⇨ ⇧ ⇨
921 / 536 ⇧		⇨ ⇧ ⇨
371 / 41 ⇨		⇨ ⇧ ⇨

8

		⇦ 1277 / 638
		⇦ 94 / 36
		Genesee Avenue
89 / 44 ⇨		⇨ ⇧ ⇨
643 / 1574 U	Regents Road	⇨ ⇧ ⇨
99 / 649 ⇦		⇨ ⇧ ⇨
190 / 103 ⇨		⇨ ⇧ ⇨
77 / 59 ⇨		⇨ ⇧ ⇨

9

96 / 60 ⇦		⇦ 411 / 194
371 / 889 ⇩	Genesee Avenue	⇦ 285 / 239
206 / 482 ⇦		⇦ 64 / 206
		Eastgate Mall
56 / 48 ⇨		⇨ ⇧ ⇨
190 / 177 ⇨		⇨ ⇧ ⇨
55 / 63 ⇦		⇦ ⇩ ⇨
180 / 27 ⇨		⇨ ⇧ ⇨
1110 / 423 ⇧		⇨ ⇧ ⇨
249 / 101 ⇨		⇨ ⇧ ⇨

10

23 / 45 ⇦		⇨
346 / 1261 ⇩	Genesee Avenue	⇨
56 / 103 ⇦		⇨
		⇨
		⇨
21 / 21 ⇨		⇨
113 / 105 ⇨		⇨
22 / 66 ⇦		⇦
61 / 72 ⇨		⇨ ⇧ ⇨
1170 / 335 ⇧		⇨ ⇧ ⇨
275 / 65 ⇨		⇨ ⇧ ⇨

11

18 / 13 ⇦		⇦ 9 / 15
376 / 1435 ⇩	Genesee Avenue	⇦ 4 / 10
12 / 6 ⇦		⇦ 9 / 127
		Executive Square
13 / 29 ⇨		⇨ ⇧ ⇨
3 / 2 ⇩		⇨ ⇧ ⇨
36 / 172 ⇦		⇨ ⇧ ⇨
281 / 37 ⇨		⇨ ⇧ ⇨
1483 / 425 ⇧		⇨ ⇧ ⇨
208 / 12 ⇨		⇨ ⇧ ⇨

12

52 / 253 ⇦		⇦ 365 / 110
165 / 877 ⇩	Genesee Avenue	⇦ 1550 / 1342
180 / 512 ⇦		⇦ 112 / 344
		La Jolla Village Drive
368 / 114 ⇨		⇨ ⇧ ⇨
1491 / 1122 ⇨		⇨ ⇧ ⇨
79 / 197 ⇦		⇨ ⇧ ⇨
170 / 233 ⇨		⇨ ⇧ ⇨
1017 / 241 ⇧		⇨ ⇧ ⇨
104 / 71 ⇨		⇨ ⇧ ⇨

13

78 / 157 ⇦		⇦ 108 / 243
224 / 1031 ⇩	Genesee Avenue	⇦ 14 / 39
96 / 288 ⇦		⇦ 57 / 181
		Esplanade Court
98 / 148 ⇨		⇨ ⇧ ⇨
8 / 31 ⇩		⇨ ⇧ ⇨
30 / 74 ⇦		⇨ ⇧ ⇨
50 / 73 ⇨		⇨ ⇧ ⇨
1464 / 487 ⇧		⇨ ⇧ ⇨
100 / 170 ⇨		⇨ ⇧ ⇨

14

42 / 121 ⇦		⇨
228 / 1230 ⇩	Genesee Avenue	⇨
55 / 113 ⇦		⇨
		⇨
		⇨
106 / 202 ⇨		⇨
466 / 323 ⇧		⇨
86 / 204 ⇦		⇨
156 / 191 ⇨		⇨ ⇧ ⇨
1424 / 453 ⇧		⇨ ⇧ ⇨
163 / 118 ⇨		⇨ ⇧ ⇨

15

41 / 49 ⇦		⇦ 22 / 15
521 / 1851 ⇩	Genesee Avenue	⇦ 24 / 38
8 / 16 ⇦		⇦ 55 / 245
		Decoro Street
24 / 21 ⇨		⇨ ⇧ ⇨
28 / 25 ⇩		⇨ ⇧ ⇨
173 / 208 ⇦		⇨ ⇧ ⇨
149 / 179 ⇨		⇨ ⇧ ⇨
1702 / 724 ⇧		⇨ ⇧ ⇨
121 / 29 ⇨		⇨ ⇧ ⇨

16

578 / 2266 ⇩		⇦ 212 / 22
169 / 41 ⇦	Genesee Avenue	⇦ 300 / 85
		⇦
		Centurion Square
		U ⇧ ⇨
0 / 1 ⇨		⇨ ⇧ ⇨
1752 / 901 ⇧		⇨ ⇧ ⇨
278 / 46 ⇨		⇨ ⇧ ⇨

17

256 / 464 ⇦		⇦ 249 / 114
499 / 1376 ⇩	Genesee Avenue	⇦ 236 / 334
181 / 402 ⇦		⇦ 247 / 314
		Governor Drive
455 / 195 ⇨		⇨ ⇧ ⇨
306 / 279 ⇩		⇨ ⇧ ⇨
142 / 118 ⇦		⇦ ⇩ ⇨
71 / 189 ⇨		⇨ ⇧ ⇨
1349 / 511 ⇨		⇨ ⇧ ⇨
223 / 250 ⇨		⇨ ⇧ ⇨

18

113 / 338 ⇦		⇨
887 / 1558 ⇦	Genesee Avenue	⇨
		⇨ 852 / 351
SR-52 WB Ramps		⇨
131 / 422 ⇦		⇦
420 / 331 ⇨		⇨ ⇧ ⇨
942 / 455 ⇨		⇨ ⇧ ⇨

19

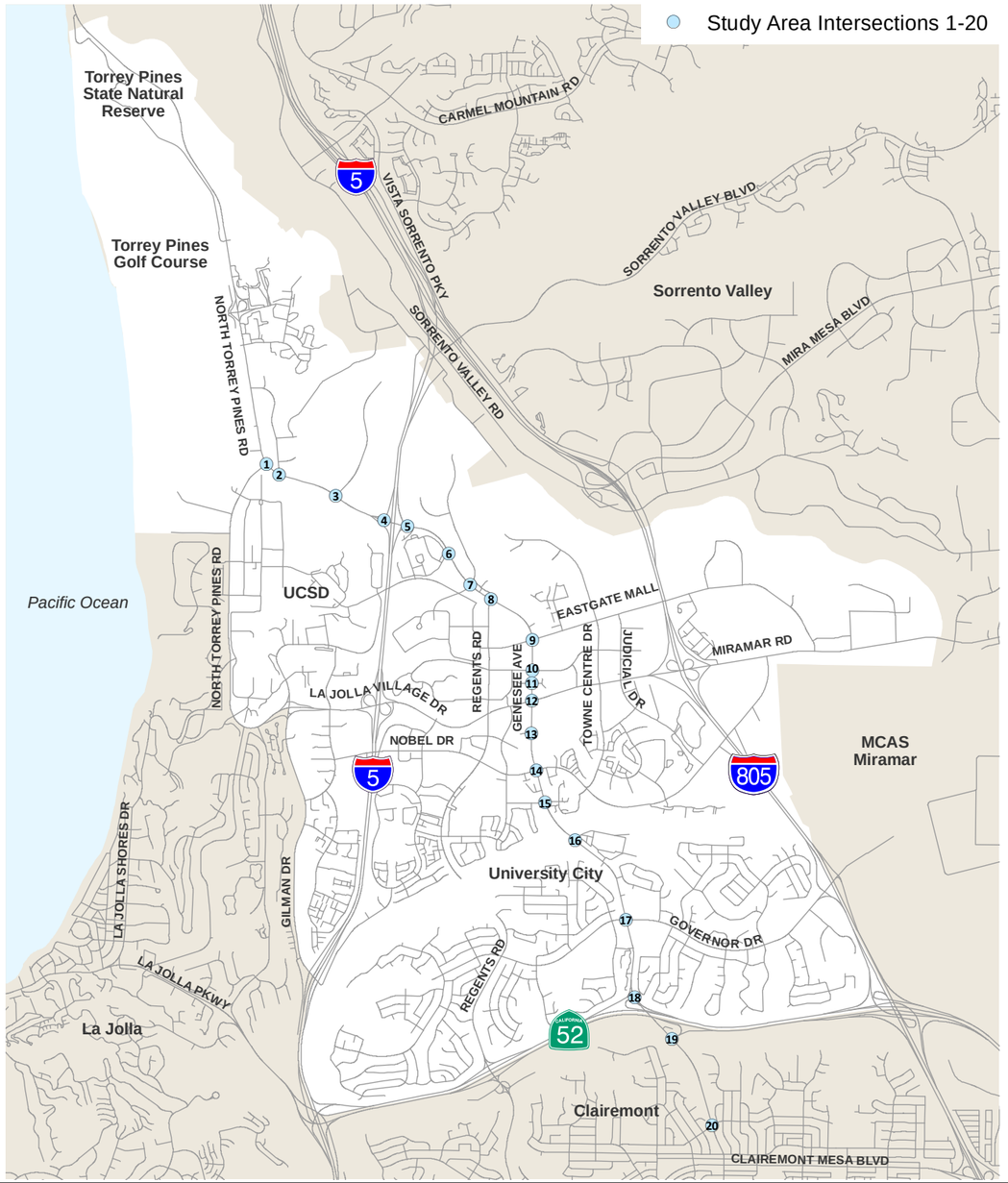
581 / 1220 ⇦		⇨
437 / 760 ⇦	Genesee Avenue	⇨ 170 / 225
		⇦ 132 / 352
		SR-52 EB Ramps
		⇨
1187 / 561 ⇨		⇨ ⇧ ⇨
721 / 300 ⇨		⇨ ⇧ ⇨

20

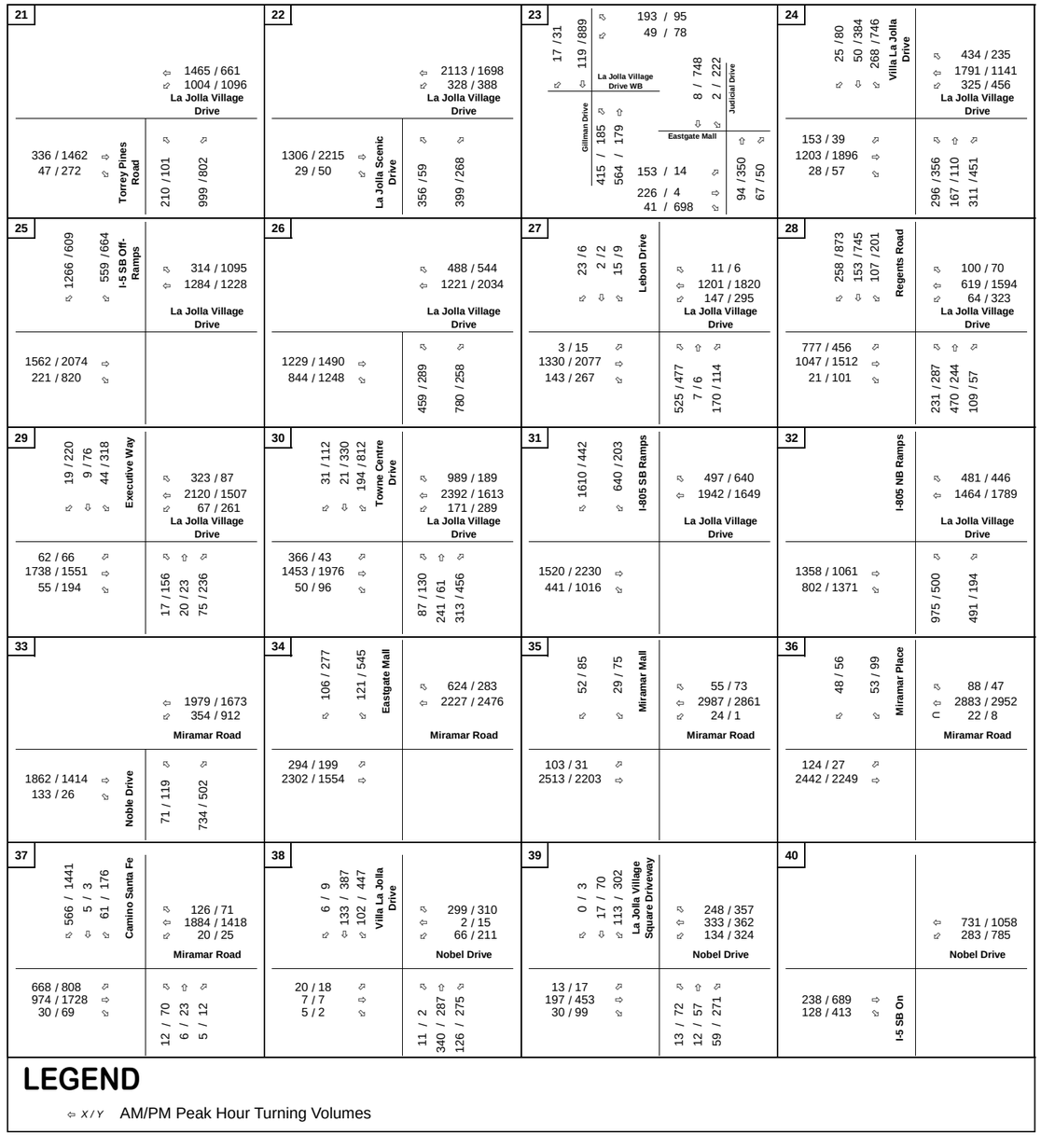
75 / 247 ⇨		⇦ 276 / 63
592 / 1180 ⇩	Genesee Avenue	⇦ 37 / 37
46 / 144 ⇦		⇦ 33 / 26
		Appleton Street
390 / 180 ⇨		⇨ ⇧ ⇨
18 / 85 ⇩		⇨ ⇧ ⇨
45 / 44 ⇦		⇨ ⇧ ⇨
12 / 52 ⇨		⇨ ⇧ ⇨
1242 / 614 ⇧		⇨ ⇧ ⇨
8 / 17 ⇨		⇨ ⇧ ⇨

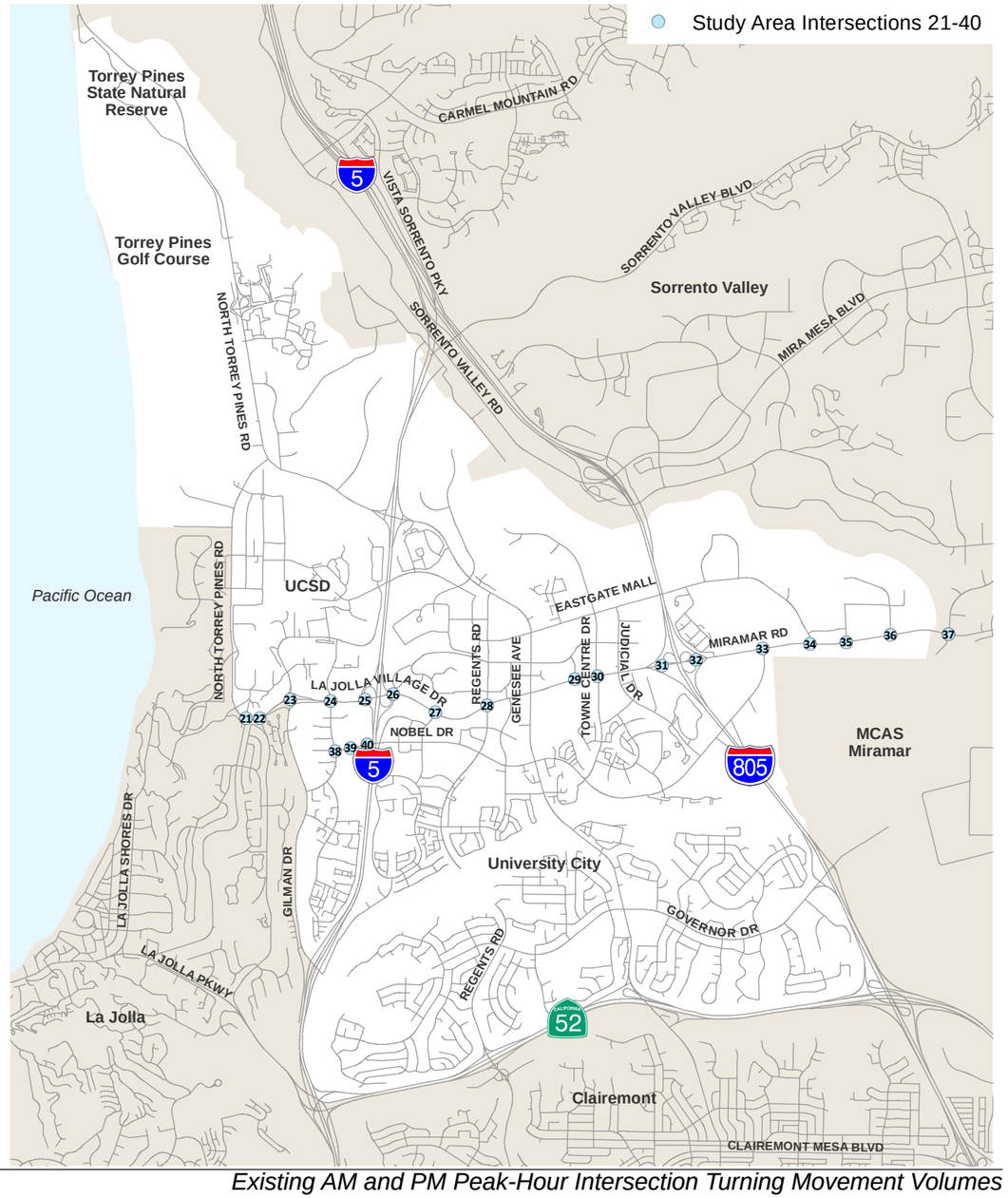
LEGEND

⇦ X / Y AM/PM Peak Hour Turning Volumes



Existing AM and PM Peak-Hour Intersection Turning Movement Volumes Intersections 1-20





Existing AM and PM Peak-Hour Intersection Turning Movement Volumes Intersections 21-40

41

	83 / 253	
University Center Lane/I-5 NB Off		
0 / 2		
242 / 723		

	19 / 10	
Nobel Drive	654 / 1284	
277 / 306		
159 / 50		
338 / 270		

42

	36 / 41	
	4 / 2	
Caminito Plaza Centro	3 / 7	
41 / 64		
523 / 942		
70 / 35		

	15 / 32	
Nobel Drive	567 / 1123	
31 / 68	46 / 20	
1 / 7		
15 / 56		

43

	53 / 173	
	74 / 259	
Lebon Drive	43 / 111	
38 / 73		
444 / 627		
50 / 127		

	102 / 69	
Nobel Drive	424 / 732	
144 / 115	66 / 127	
287 / 159		
96 / 65		

44

	44 / 237	
	195 / 478	
Regents Road	58 / 259	
167 / 166		
429 / 631		
42 / 66		

	125 / 82	
Nobel Drive	348 / 762	
77 / 76	145 / 203	
275 / 120		
166 / 102		

45

	77 /105	
	29 /53	
Costa verde Boulevard/Cargill Ave	81 /107	
Cargill Ave		
121 / 179		
433 / 609		
21 / 65		

	80 / 85	
Nobel Drive	455 / 691	
54 / 59	39 / 103	
45 / 44		
38 /56		

46

	25 /190	
Lombard Place	41 /65	
55 / 202		
752 / 492		
14 / 29		

	25 / 77	
Nobel Drive	464 / 1142	
32 /21	7 / 21	
0 /5		
18 / 7		

47

	185 /544	
	31 /213	
Towne Centre Drive	21 /68	
331 / 295		
500 / 304		
11 / 23		

	76 / 55	
Nobel Drive	190 / 704	
18 /20	7 / 150	
126 /30		
87 /17		

48

	23 /38	
	1 /7	
Shoreline Drive	144 /68	
9 / 56		
619 / 277		
6 / 32		

	44 /205	
Nobel Drive	202 /811	
29 /15	7 /37	
6 /5		
56 /10		

49

	28 /223	
Judicial Drive	206 /471	
195 / 47		
625 / 309		
0%		

	814 / 218	
Nobel Drive	220 / 829	
	4 / 0	

50

	988 /974	
Nobel Drive	157 /286	

I-805 SB On-Ramp		
313 /369		
523 /385		

51

	418 /708	
Nobel Drive		

	666 / 436	
I-805 N Off-Ramp	727 / 552	
313 /369		

52

	503 /741	
Nobel Drive	2 /7	
#REF!		

	1 / 4	
Avenue of Flags	1 / 5	
941 /901		
5 /3		

53

	111 / 19	
	91 / 666	
Regents Road	16 / 6	
Health Science Drive		
20 / 51		
0 / 2		
62 / 311		

	2 / 3	
County Day Ln	2 / 5	
656 / 190		
251 / 108		
32 / 10		

54

	145 / 872	
Regents Road	47 / 132	
0		

	231 / 53	
Eastgate Mall	157 / 263	
651 / 260		
208 / 87		

55

	251 / 1068	
	25 / 46	
	0 / 4	
Regents Road		
1 / 17		
2 / 8		
5 / 11		

	47 / 54	
Executive Drive	1 / 13	
4 / 6	27 / 230	
804 / 298		
101 / 65		

56

	29 / 26	
	235 / 1297	
	44 / 30	
	0 / 4	
Regents Road		
52 / 15		
6 / 3		
163 / 174		

	70 / 41	
Regents Park Row	17 / 4	
174 / 125	74 / 134	
776 / 378		
228 / 82		

57

	10 / 76	
	180 / ###	
Regents Road	16 / 78	
62 / 27		
8 / 13		
20 / 9		

	134 / 59	
	7 / 13	
Plaza De Palmas	28 / 31	
20 / 29		
652 / 271		
17 / 5		

58

	181 / 551	
	163 / 54	
Regents Road	81 / 95	
0		

	89 / 14	
Berino Court	74 / 29	
0 / 1		
243 / 185		
123 / 27		

59

	79 / 303	
	6 / 39	
	95 / 164	
	90 / 78	
Regents Road		
134 / 62		
89 / 141		
8 / 17		

	106 / 34	
Arriba Street	131 / 125	
6 / 15	4 / 12	
15 / 15		
15 / 21		

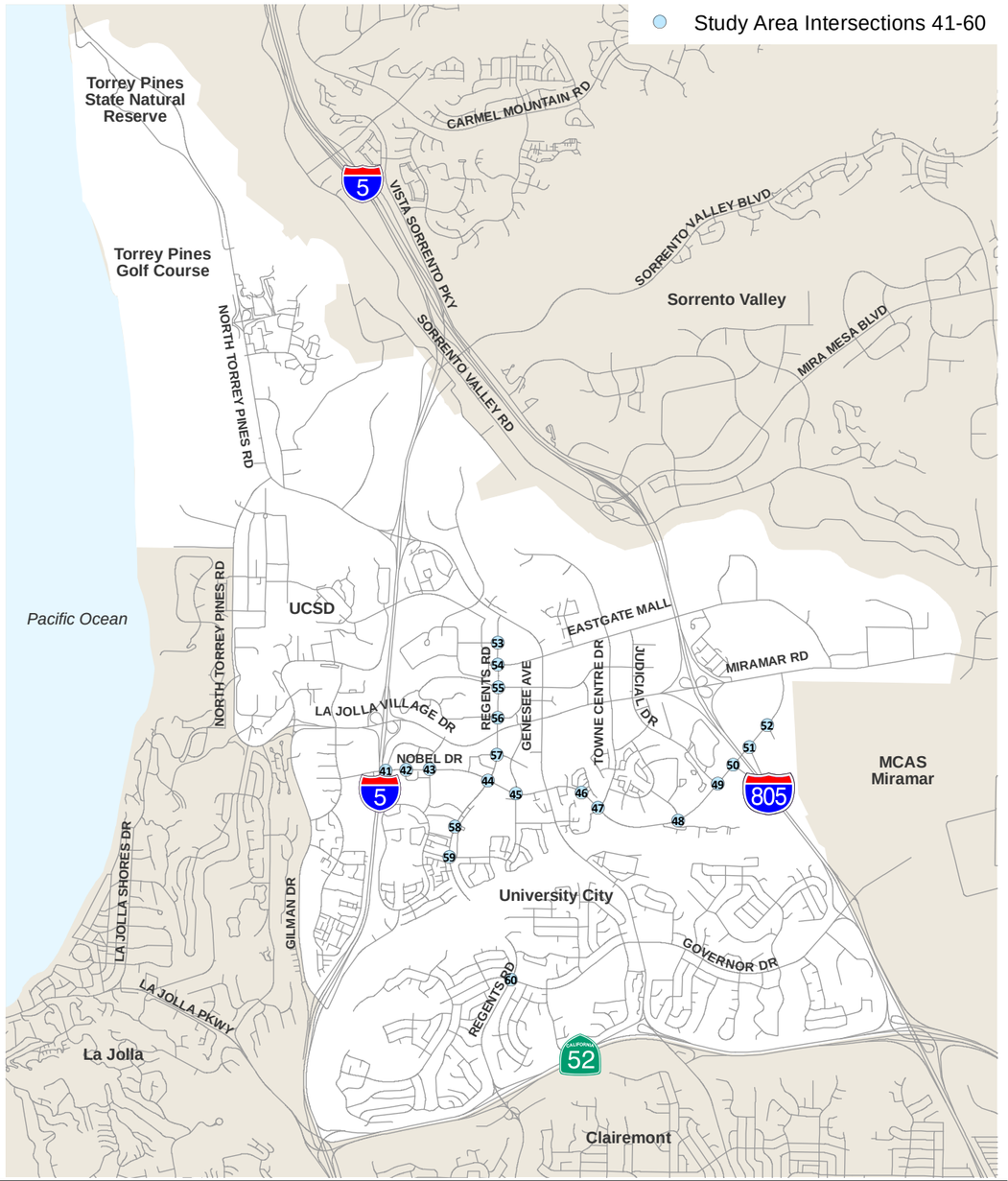
60

	15 / 2	
	43 / 36	
Regents Road	37 / 18	
12 / 12		
183 / 150		
43 / 34		

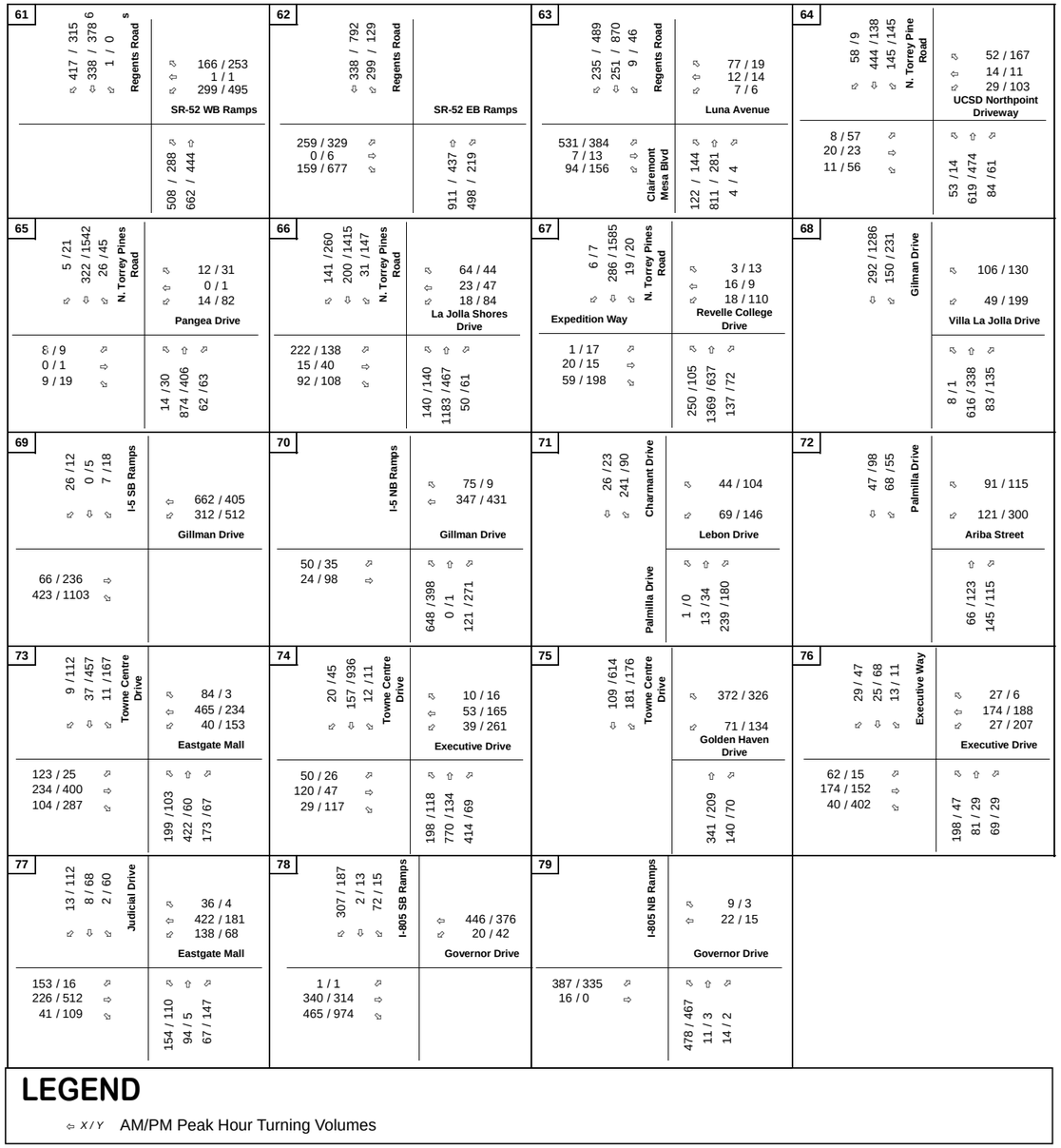
	6 / 7	
Governor Drive	150 / 227	
41 / 54	329 / 390	
75 / 81		
323 / 349		

LEGEND

⇦ X / Y AM/PM Peak Hour Turning Volumes

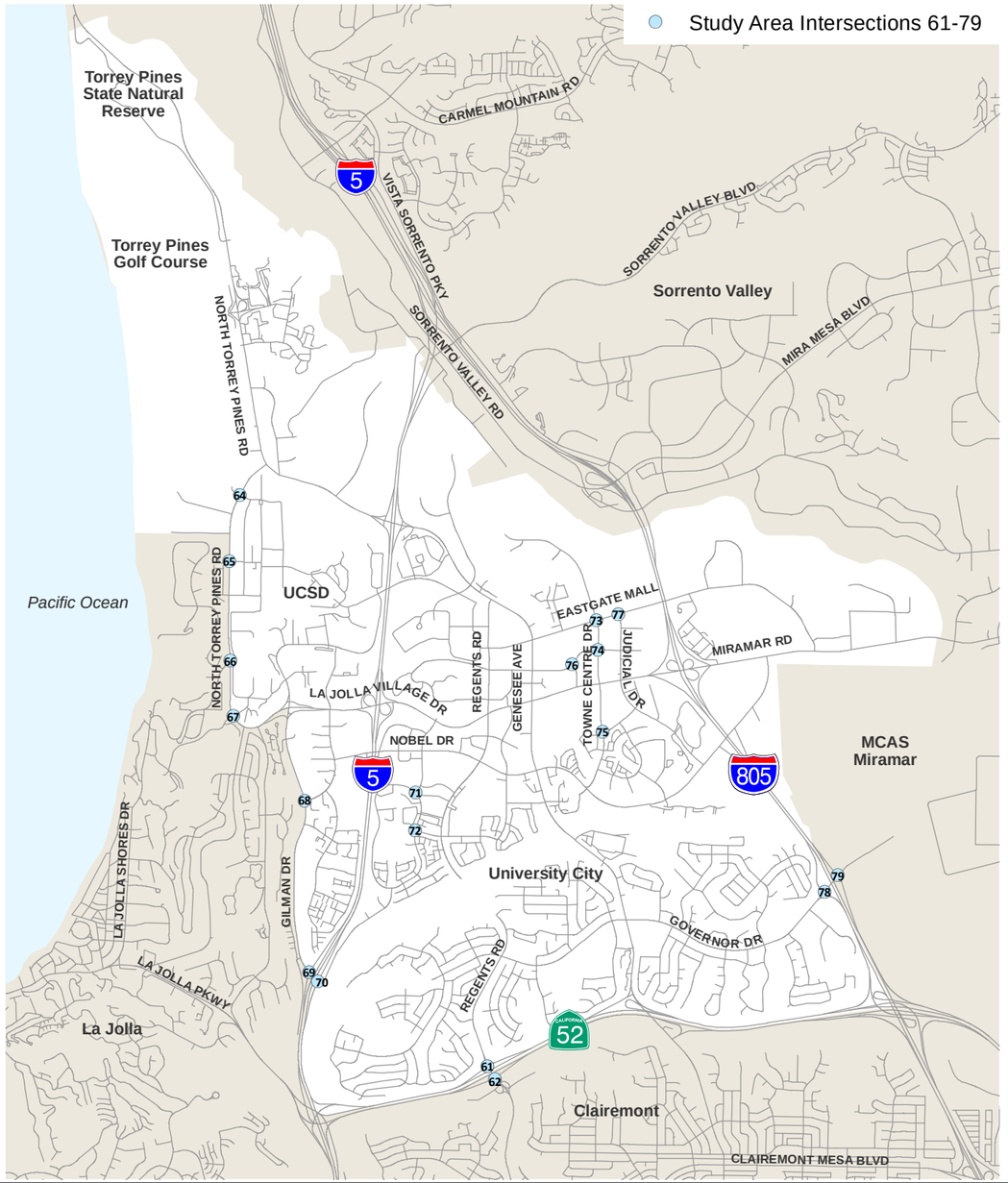


Existing AM and PM Peak-Hour Intersection Turning Movement Volumes Intersections 41-60



LEGEND

⇦ X / Y AM/PM Peak Hour Turning Volumes



Existing AM and PM Peak-Hour Intersection Turning Movement Volumes
Intersections 61-79

1

	⇧ 1100 ⇦ 386 **Genesee Avenue**	
130 ⇩ 285 ⇙ **N. Torrey Pines Road**		235 ⇙ 267 ⇘

2

39 ⇦ 286 ⇗ **John Hopkins Drive (S)**		⇗ 240 ⇧ 1408 **Genesee Avenue**
108 ⇦ 354 ⇩		

3

13 ⇦ 31 ⇗ **Science Center Drive**		⇗ 255 ⇧ 1657 ∩ 7 **Genesee Avenue**
50 ⇦ 574 ⇩		

4

522 ⇦ 698 ⇗ **I-5 SB Ramps**		⇧ 1174 ⇦ 145 **Genesee Avenue**
436 ⇩ 249 ⇙		

5

	I-5 NB Ramps	⇗ 887 ⇧ 1052 **Genesee Avenue**
800 ⇦ 231 ⇩		418 ⇗ 286 ⇘

6

302 ⇦ 912 ⇦ 28 ⊂ **Genesee Avenue**		
Scripps Hospital		
434 ⇦ 217 ⇗		114 ⇗ 867 ⇨

7

322 ⇦ 669 ⇦ 112 ⇗ **Genesee Avenue**		⇗ 126 ⇧ 20 ⇦ 115 **Campus Point Drive**
283 ⇦ 10 ⇩ 211 ⇗		254 ⇗ 665 ⇨ 162 ⇘

8

		⇧ 1226 ⇦ 50 **Genesee Avenue**
37 ∪ 878 ⇩ 96 ⇗ **Regents Road**		154 ⇗ 26 ⇘

9

123 ⇦ 691 ⇦ 40 ⇗ **Genesee Avenue**		⇗ 27 ⇧ 106 ⇦ 18 **Eastgate Mall**
112 ⇦ 103 ⇩ 215 ⇗		224 ⇗ 668 ⇨ 13 ⇘

10

30 ⇦ 734 ⇦ 79 ⇗ **Genesee Avenue**		⇗ 99 ⇧ 89 ⇦ 118 **Executive Drive**
26 ⇦ 76 ⇩ 48 ⇗		37 ⇗ 770 ⇨ 126 ⇘

11

19 ⇦ 882 ⇦ 14 ⇗ **Genesee Avenue**		⇗ 16 ⇧ 3 ⇦ 223 **Executive Square**
17 ⇦ 3 ⇩ 98 ⇗		77 ⇗ 914 ⇨ 117 ⇘

12

198 ⇦ 462 ⇦ 546 ⇗ **Genesee Avenue**		⇗ 315 ⇧ 618 ⇦ 336 **La Jolla Village Drive**
218 ⇦ 382 ⇩ 191 ⇗		195 ⇗ 564 ⇨ 212 ⇘

13

146 ⇦ 426 ⇦ 251 ⇗ **Genesee Avenue**		⇗ 200 ⇧ 30 ⇦ 133 **Esplanade Court**
179 ⇦ 21 ⇩ 67 ⇗		51 ⇗ 525 ⇨ 147 ⇘

14

112 ⇦ 698 ⇦ 137 ⇗ **Genesee Avenue**		⇗ 66 ⇧ 435 ⇦ 118 **Nobel Drive**
206 ⇦ 362 ⇩ 138 ⇗		211 ⇗ 488 ⇨ 120 ⇘

15

16 ⇦ 884 ⇦ 95 ⇗ **Genesee Avenue**		⇗ 122 ⇧ 5 ⇦ 17 **Decoro Street**
15 ⇦ 6 ⇩ 8 ⇗		21 ⇗ 708 ⇨ 44 ⇘

16

820 ⇦ 63 ⇗ **Genesee Avenue**		⇗ 26 ⇦ 85 **Centurion Square**
		721 ⇨ 63 ⇘

17

117 ⇦ 438 ⇦ 234 ⇗ **Genesee Avenue**		⇗ 141 ⇧ 219 ⇦ 224 **Governor Drive**
152 ⇦ 250 ⇩ 96 ⇗		117 ⇗ 427 ⇨ 170 ⇘

18

181 ⇦ 556 ⇦ **Genesee Avenue**		⇗ 220
SR-52 WB Ramps		
209 ⇗		178 ⇗ 591 ⇨

19

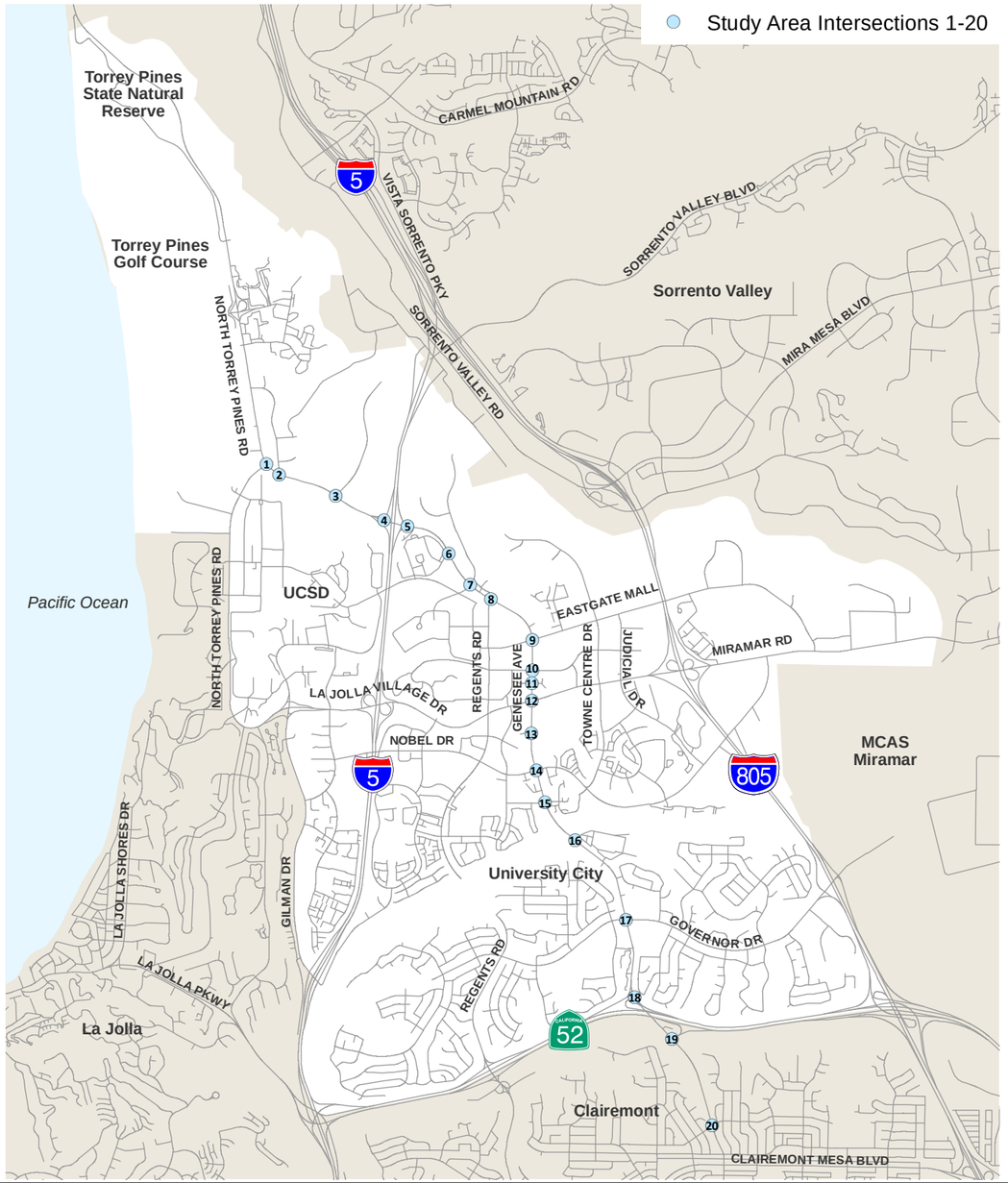
226 ⇦ 539 ⇗ **Genesee Avenue**		⇗ 169 ⇦ 186 **SR-52 EB Ramps**
		600 ⇨ 309 ⇘

20

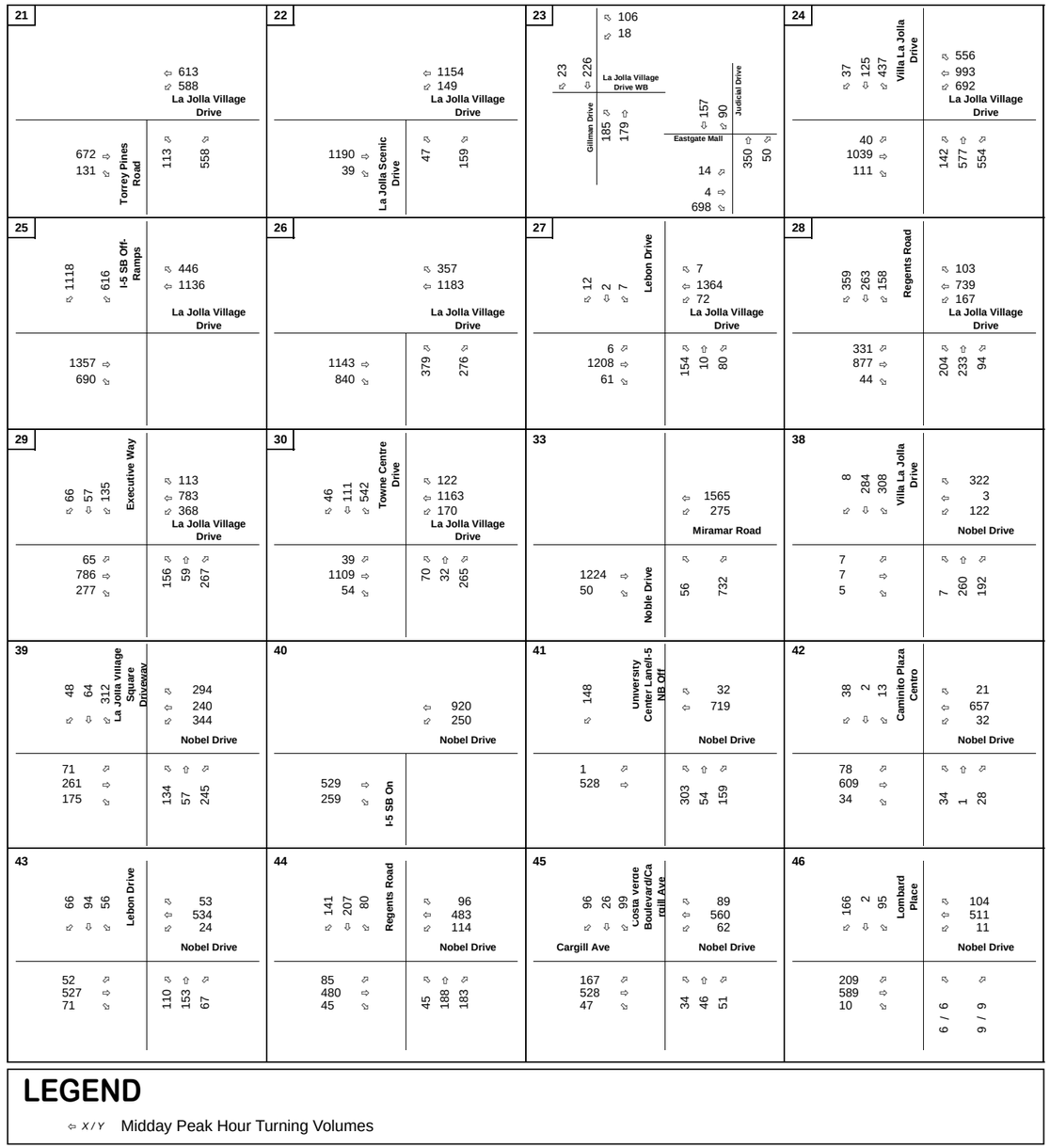
95 ⇦ 583 ⇦ 49 ⇗ **Genesee Avenue**		⇗ 100 ⇧ 26 ⇦ 18 **Appleton Street**
206 ⇦ 37 ⇩ 34 ⇗ **Lehrer Drive**		21 ⇗ 603 ⇨ 15 ⇘

LEGEND

⇦ X / Y Midday Peak Hour Turning Volumes

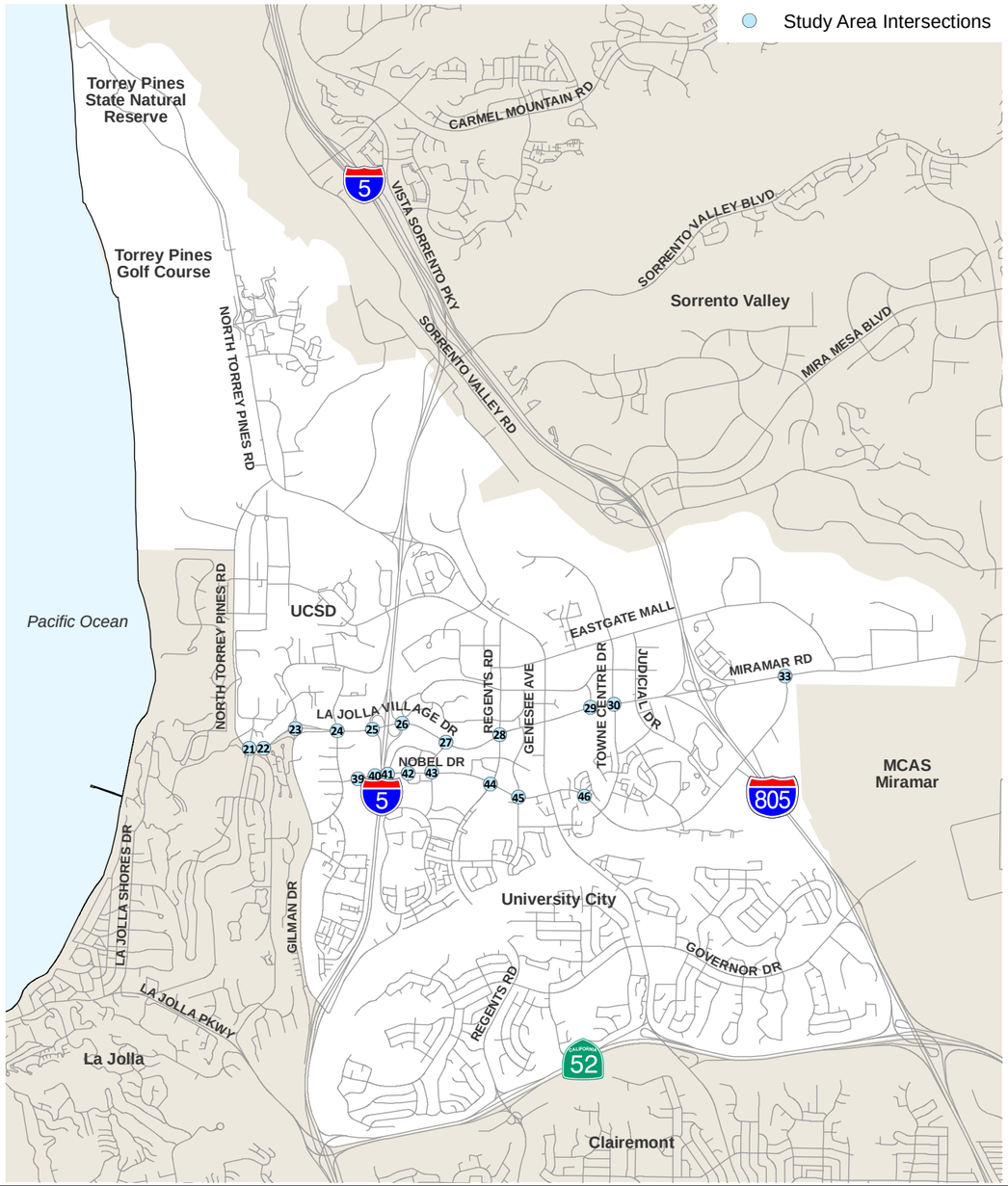


Existing Midday Peak-Hour Intersection Turning Movement Volumes
Intersections 1-20



LEGEND

⇦ X / Y Midday Peak Hour Turning Volumes



Existing Midday Peak-Hour Intersection Turning Movement Volumes
Intersections 21-46

47

Towne Centre Drive: 319 ⇦ 57 ⇩ 52 ⇙
Nobel Drive: 111 ⇗ 323 ⇧ 13 ⇖
303 ⇦ 331 ⇩ 17 ⇙
12 ⇗ 41 ⇧ 28 ⇖

48

Shoreline Drive: 25 ⇦ 2 ⇩ 85 ⇙
Nobel Drive: 78 ⇗ 410 ⇧ 12 ⇖
25 ⇦ 373 ⇩ 13 ⇙
12 ⇗ 4 ⇧ 16 ⇖

49

Judicial Drive: 66 ⇖ 229 ⇘
Nobel Drive: 240 ⇗ 382 ⇧
93 ⇦ 426 ⇩

50

Nobel Drive: 616 ⇩ 174 ⇙
I-805 SB On-Ramp: 208 ⇧ 464 ⇖

51

Nobel Drive: 342 ⇩
I-805 N Off-Ramp: 614 ⇗ 458 ⇖
198 ⇧

52

Nobel Drive: 321 ⇩ 19 ⇙
Avenue of Flags: 15 ⇗ 21 ⇖
776 ⇧ 36 ⇖

54

Regents Road: 340 ⇩ 63 ⇙
Eastgate Mall: 65 ⇗ 83 ⇖
320 ⇧ 79 ⇖

55

Regents Road: 12 ⇖ 350 ⇩ 37 ⇙
Executive Drive: 36 ⇗ 8 ⇧ 93 ⇖
4 ⇦ 8 ⇩ 11 ⇙
13 ⇗ 345 ⇧ 83 ⇖

56

Regents Road: 33 ⇖ 406 ⇩ 67 ⇙
Miramar Street: 86 ⇗ 7 ⇧ 143 ⇖
Regents Park Row
24 ⇦ 5 ⇩ 73 ⇙
61 ⇗ 387 ⇧ 126 ⇖

57

Regents Road: 25 ⇖ 377 ⇩ 54 ⇙
Plaza De Palmas: 119 ⇗ 19 ⇧ 32 ⇖
26 ⇦ 5 ⇩ 6 ⇙
13 ⇗ 343 ⇧ 33 ⇖

58

Regents Road: 261 ⇩ 77 ⇙
Berino Court: 2 ⇗ 11 ⇖
147 ⇧ 5 ⇖

59

Regents Road: 68 ⇖ 24 ⇩ 127 ⇙
Arriba Street: 26 ⇗ 80 ⇧ 2 ⇖
55 ⇦ 82 ⇩ 12 ⇙
5 ⇗ 7 ⇧ 9 ⇖

60

Regents Road: 7 ⇖ 25 ⇩ 21 ⇙
Governor Drive: 11 ⇗ 136 ⇧ 250 ⇖
9 / 9 ⇦ 99 / 99 ⇩ 32 / 32 ⇙
32 ⇗ 79 ⇧ 193 ⇖

61

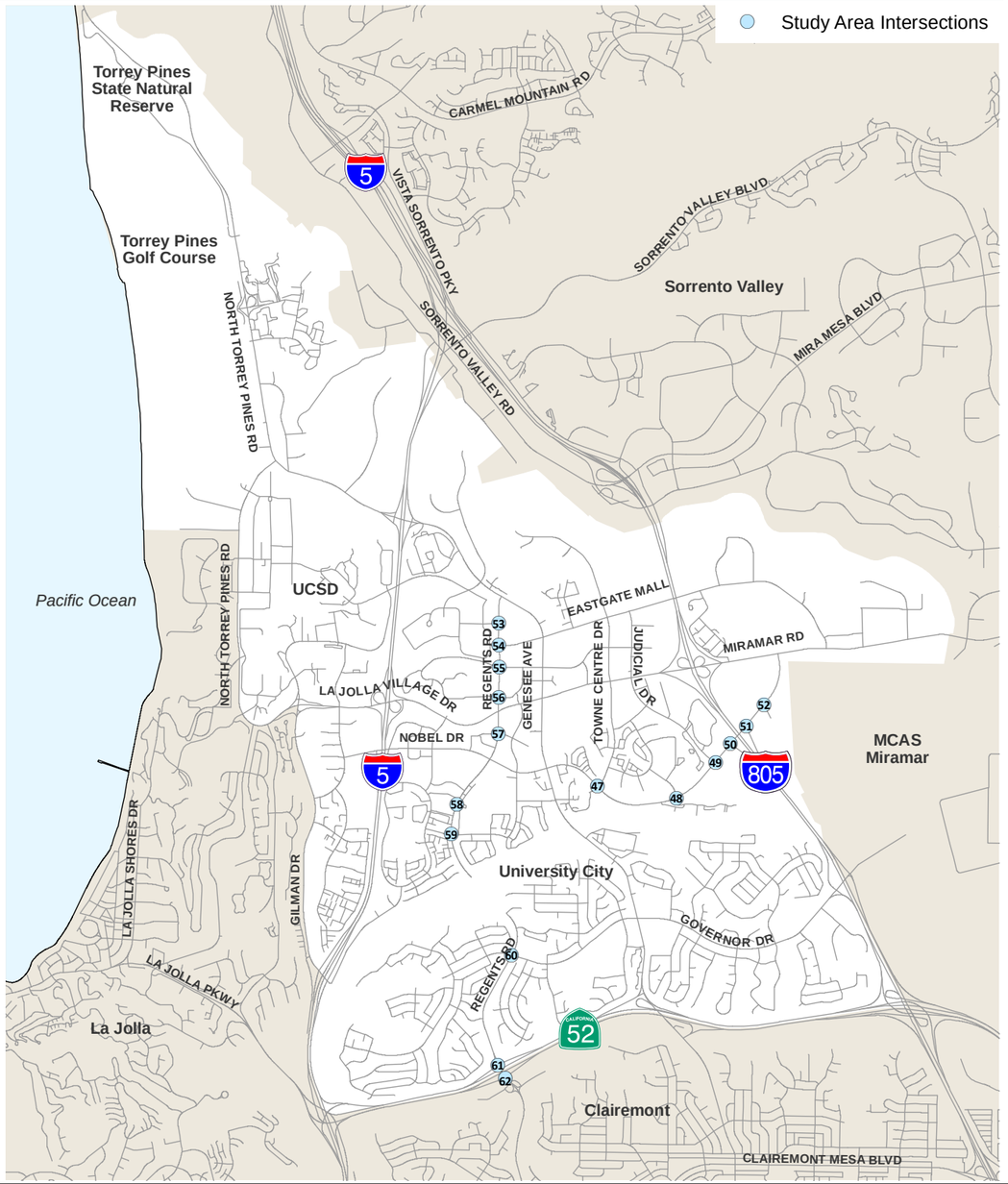
Regents Road: 204 ⇖ 302 ⇩
SR-52 WB Ramps: 147 ⇗ 2 ⇧ 290 ⇖
303 ⇦ 362 ⇩

62

Regents Road: 452 ⇩ 140 ⇙
SR-52 EB Ramps: 430 ⇧ 363 ⇖
235 ⇦ 3 ⇩ 297 ⇙

LEGEND

⇦ X / Y Midday Peak Hour Turning Volumes



Existing Midday Peak-Hour Intersection Turning Movement Volumes
Intersections 47-62

INTERSECTION ANALYSIS

Peak-hour LOS analyses were performed for the morning (AM) and afternoon (PM) peak hour at each of the intersections within the study area. A midday peak hour was also evaluated at intersections along Genesee Avenue, La Jolla Village Drive, Nobel Drive, and Regents Road. The analyses represent the one-hour timeframe that experiences the highest total intersection volume at each individual location.

The following locations have coordinated signal timing plans for the listed time of day;

- Genesee Avenue- All Intersections (AM, Midday, PM)
- La Jolla Village Drive- All Intersections (AM, Midday, PM)
- Miramar Road- Miramar Mall, Miramar Place and Camino Sante Fe (AM, Midday, PM)
- Regents Road- Regents Park Row (AM)
- Regents Road- Nobel Drive (AM, PM)
- Regents Road- Luna Avenue (AM, Midday, PM)
- Regents Road- Plaza De Palmas (PM)
- Nobel Drive- Costa Verde Boulevard, Caminito Plaza Centro, (AM, Midday, PM)
- Nobel Drive- I-5 Ramps (Midday, PM)
- N. Torrey Pines Road- Pangea Drive, UCSD Northpoint Driveway (AM, PM)
- N. Torrey Pines Road- La Jolla Shores Drive (PM)
- Gilman Drive- Villa La Jolla Drive (AM, PM)

Appendix D contains the LOS calculation worksheets. **Table 7-1** presents the LOS analysis results for the study intersections. **Figures 7-13** through **7-15** illustrate the morning, midday and afternoon peak-hour LOS results for each of the study area intersections.

As shown in the results,

- Genesee Avenue experiences poor LOS around the I-5 interchange and south of Nobel Drive to the SR-52 interchange during both the AM and PM peak periods;
- La Jolla Village Drive experiences poor LOS at the intersection of Villa La Jolla Drive and between Regents Road and the I-805 interchange during both the AM and PM peak periods;
- Miramar Road experiences poor LOS during the PM peak periods;
- Nobel Drive experiences some delay but maintains acceptable LOS;
- Regents Road experiences poor LOS at the SR-52 interchange during both the AM and PM peak periods
- Gilman Drive experiences poor LOS at the I-5 interchange during the PM peak hour;
- Governor Drive experiences poor LOS at the I-805 Northbound ramps during the PM peak hour.

Table 7-1 Existing Conditions Summary of Intersection Analysis

ID	Intersection	Control	Peak Hour	Existing	
				Delay (a)	LOS (b)
1	Genesee Ave & N. Torrey Pines Rd	Signal	AM	23.8	C
			MID	26.6	C
			PM	38.9	D
2	Genesee Ave & John Hopkins Dr (S)	Signal	AM	17.9	B
			MID	34.6	C
			PM	27.6	C
3	Genesee Ave & Science Center Dr	Signal	AM	12.4	B
			MID	8.1	A
			PM	13.6	B
4	Genesee Ave & I-5 SB Ramps	Signal	AM	66.3	**E**
			MID	30.9	C
			PM	69.7	**E**
5	Genesee Ave & I-5 NB Ramps	Signal	AM	43.7	D
			MID	145.2	**F**
			PM	ECL	**F**
6	Genesee Ave & Scripps Hospital	Signal	AM	20.2	C
			MID	23.7	C
			PM	21.3	C
7	Genesee Ave & Campus Point Dr	Signal	AM	28.9	C
			MID	29.4	C
			PM	42.0	D
8	Genesee Ave & Regents Rd	Signal	AM	29.6	C
			MID	13.7	B
			PM	12.6	B
9	Genesee Ave & Eastgate Mall	Signal	AM	36.6	D
			MID	42.4	D
			PM	34.0	C
10	Genesee Ave & Executive Dr	Signal	AM	19.2	B
			MID	19.8	B
			PM	31.4	C
11	Genesee Ave & Executive Square	Signal	AM	14.1	B
			MID	18.7	B
			PM	19.2	B
12	Genesee Ave & La Jolla Village Dr	Signal	AM	76.5	**E**
			MID	56.1	**E**
			PM	35.9	D

Notes:

Bold values indicate intersections operating at LOS E or F.
ECL = Exceeds Calculable Limit. Reported when delay exceeds 180 seconds.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.
(b) LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual* and performed using Synchro 9.0

Table 7-1 Existing Conditions Summary of Intersection Analysis (Continued)

ID	Intersection	Control	Peak Hour	Existing	
				Delay (a)	LOS (b)
13	Genesee Ave and Esplanade Ct	Signal	AM	21.4	C
			MID	36.2	D
			PM	38.2	D
14	Genesee Ave & Nobel Dr	Signal	AM	32.9	C
			MID	38.6	D
			PM	42.6	D
15	Genesee Ave & Decoro St	Signal	AM	28.6	C
			MID	17.6	B
			PM	119.8	**F**
16	Genesee Ave & Centurion Square	Signal	AM	66.6	**E**
			MID	13.2	B
			PM	14.3	B
17	Genesee Ave & Governor Dr	Signal	AM	67.4	**E**
			MID	28.6	C
			PM	66.5	**E**
18	Genesee Ave & SR-52 WB Ramps	SSSC	AM	27.5	D
			MID	13.2	B
			PM	371.8	**F**
19	Genesee Ave & SR-52 EB Ramps	Signal	AM	55.8	**E**
			MID	37.6	D
			PM	132.0	**F**
20	Genesee Ave & Appleton St/Lehrer Dr	Signal	AM	109.8	**F**
			MID	28.6	C
			PM	43.0	D
21	La Jolla Village Dr & Torrey Pines Rd	Signal	AM	27.4	C
			MID	30.0	C
			PM	106.2	**F**
22	La Jolla Village Dr & La Jolla Scenic Dr	Signal	AM	23.1	C
			MID	11.3	B
			PM	21.4	C
23a	La Jolla Village Dr WB & Gilman Dr	Signal	AM	14.8	B
			MID	11.6	B
			PM	20.0	C
23b	La Jolla Village Dr EB & Gilman Dr	SSSC	AM	13.0	B
			MID	10.4	B
			PM	24.5	C

Notes:

Bold values indicate intersections operating at LOS E or F.

SSSC = Side Street Stop Control

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual* and performed using Synchro 9.0

Table 7-1 Existing Conditions Summary of Intersection Analysis (Continued)

ID	Intersection	Control	Peak Hour	Existing	
				Delay (a)	LOS (b)
24	La Jolla Village Dr & Villa La Jolla Dr	Signal	AM	55.4	**E**
			MID	140.4	**F**
			PM	202.2	**F**
25	La Jolla Village Dr & I-5 SB Off-Ramps	Signal	AM	31.5	C
			MID	29.7	C
			PM	52.8	D
26	La Jolla Village Dr & I-5 NB Off-Ramps	Signal	AM	38.3	D
			MID	27.0	C
			PM	32.9	C
27	La Jolla Village Dr & Lebon Dr	Signal	AM	30.7	C
			MID	18.2	B
			PM	39.3	D
28	La Jolla Village Dr & Regents Rd	Signal	AM	55.0	D
			MID	48.4	D
			PM	132.4	**F**
29	La Jolla Village Dr & Executive Way	Signal	AM	18.9	B
			MID	35.7	D
			PM	62.6	**E**
30	La Jolla Village Dr & Towne Centre Dr	Signal	AM	80.6	**F**
			MID	49.3	D
			PM	124.2	**F**
31	La Jolla Village Dr & I-805 SB Ramps	Signal	AM	112.8	**F**
			PM	17.7	B
32	La Jolla Village Dr & I-805 NB Ramps	Signal	AM	34.0	C
			PM	41.4	D
33	Miramar Rd & Nobel Dr	Signal	AM	16.6	B
			MID	12.3	B
			PM	35.3	D
34	Miramar Rd & Eastgate Mall	Signal	AM	17.0	B
			PM	91.8	**F**
35	Miramar Rd & Miramar Mall	Signal	AM	16.7	B
			PM	13.1	B
36	Miramar Rd & Miramar Place	Signal	AM	18.8	B
			PM	7.3	A
37	Miramar Rd & Camino Santa Fe	Signal	AM	36.8	D
			PM	81.4	**F**

Notes:

Bold values indicate intersections operating at LOS E or F.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual* and performed using Synchro 9.0

Table 7-1 Existing Conditions Summary of Intersection Analysis (Continued)

ID	Intersection	Control	Peak Hour	Existing	
				Delay (a)	LOS (b)
38	Nobel Dr & Villa La Jolla Dr	Signal	AM	17.0	B
			MID	18.5	B
			PM	32.8	C
39	Nobel Dr & La Jolla Village Square Dwy	Signal	AM	19.8	B
			MID	33.7	C
			PM	45.4	D
40	Nobel Dr & I-5 SB On Ramp	Signal	AM	3.7	A
			MID	17.1	B
			PM	13.4	B
41	Nobel Dr & University Center Ln/I-5 NB Off-Ramp	Signal	AM	13.6	B
			MID	19.4	B
			PM	17.0	B
42	Nobel Dr & Caminito Plaza Centro	Signal	AM	13.9	B
			MID	11.4	B
			PM	15.3	B
43	Nobel Dr & Lebon Dr	Signal	AM	25.5	C
			MID	19.9	B
			PM	29.9	C
44	Nobel Dr & Regents Rd	Signal	AM	48.4	D
			MID	45.8	D
			PM	53.6	D
45	Nobel Dr & Costa Verde Blvd/Cargill Ave	Signal	AM	45.9	D
			MID	43.3	D
			PM	52.1	D
46	Nobel Dr & Lombard Place	Signal	AM	9.5	A
			MID	16.0	B
			PM	22.3	C
47	Nobel Dr & Towne Centre Dr	Signal	AM	22.8	C
			MID	20.0	C
			PM	30.5	C
48	Nobel Dr & Shoreline Dr	Signal	AM	35.0	C
			MID	13.9	B
			PM	19.6	B
49	Nobel Dr & Judicial Dr	Signal	AM	13.8	B
			MID	11.7	B
			PM	17.9	B

Notes:

Bold values indicate intersections operating at LOS E or F.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual* and performed using Synchro 9.0

Table 7-1 Existing Conditions Summary of Intersection Analysis (Continued)

ID	Intersection	Control	Peak Hour	Existing	
				Delay (a)	LOS (b)
50	Nobel Dr & I-805 SB On-Ramp	Signal	AM	3.2	A
			MID	4.0	A
			PM	3.7	A
51	Nobel Dr & I-805 NB Off-Ramp	Signal	AM	18.6	B
			MID	14.5	B
			PM	15.8	B
52	Nobel Dr & Avenue of Flags	Signal	AM	3.0	A
			MID	5.6	A
			PM	3.0	A
53	Regents Rd & County Day Ln/ Health Science Dr	Signal	AM	17.8	B
			MID	11.6	B
			PM	35.5	D
54	Regents Rd & Eastgate Mall	Signal	AM	12.3	B
			MID	5.6	A
			PM	16.2	B
55	Regents Rd & Executive Dr	Signal	AM	8.4	A
			MID	9.7	A
			PM	18.9	B
56	Regents Rd & Regents Park Row	Signal	AM	21.2	C
			MID	14.1	B
			PM	29.4	C
57	Regents Rd & Plaza De Palmas	Signal	AM	11.8	B
			MID	8.2	A
			PM	15.1	B
58	Regents Rd & Berino Ct	Signal	AM	24.7	C
			MID	5.7	A
			PM	11.3	B
59	Regents Rd & Arriba St	Signal	AM	27.6	C
			MID	14.3	B
			PM	25.2	C
60	Regents Rd & Governor Dr	Signal	AM	24.0	C
			MID	16.0	B
			PM	21.9	C
61	Regents Rd & SR-52 WB Ramps	Signal	AM	40.0	D
			MID	25.3	C
			PM	37.6	D
62	Regents Rd & SR-52 EB Ramps	Signal	AM	99.1	**F**
			MID	22.1	C
			PM	57.0	**E**

Notes:

Bold values indicate intersections operating at LOS E or F.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual* and performed using Synchro 9.0

Table 7-1 Existing Conditions Summary of Intersection Analysis (Continued)

ID	Intersection	Control	Peak Hour	Existing	
				Delay (a)	LOS (b)
63	Regents Rd & Luna Ave	Signal	AM	42.6	D
			PM	61.6	**E**
64	N. Torrey Pines Rd & UCSD Northpoint Dwy	Signal	AM	23.6	C
			PM	28.5	C
65	N. Torrey Pines Rd & Pangea Dr	Signal	AM	9.2	A
			PM	17.3	B
66	N. Torrey Pines Rd & La Jolla Shores Dr	Signal	AM	40.4	D
			PM	60.6	**E**
67	N. Torrey Pines Rd & Revelle College Dr	Signal	AM	17.5	B
			PM	30.1	C
68	Gilman Dr & Villa La Jolla Dr	Signal	AM	15.7	B
			PM	15.1	B
69	Gilman Dr & I-5 SB Ramps	Signal	AM	9.7	A
			PM	169.1	**F**
70	Gilman Dr & I-5 NB Ramps	Signal	AM	16.8	B
			PM	17.6	B
71	Palmilla Dr & Lebon Dr	Signal	AM	7.4	A
			PM	7.4	A
72	Palmilla Dr & Ariba St	Signal	AM	7.0	A
			PM	7.7	A
73	Towne Centre Dr & Eastgate Mall	Signal	AM	25.7	C
			PM	39.9	D
74	Towne Centre Dr & Executive Dr	Signal	AM	18.1	B
			PM	38.1	D
75	Towne Centre Dr & Golden Haven Dr	Signal	AM	13.2	B
			PM	11.4	B
76	Executive Way & Executive Dr	Signal	AM	12.3	B
			PM	13.4	B
77	Judicial Dr & Eastgate Mall	Signal	AM	23.0	C
			PM	25.9	C
78	Governor Dr & I-805 SB Ramps	SSSC	AM	14.7	B
			PM	14.6	B
79	Governor Dr & I-805 NB Ramps	SSSC	AM	ECL	**F**
			PM	ECL	**F**

Notes:

Bold values indicate intersections operating at LOS E or F.

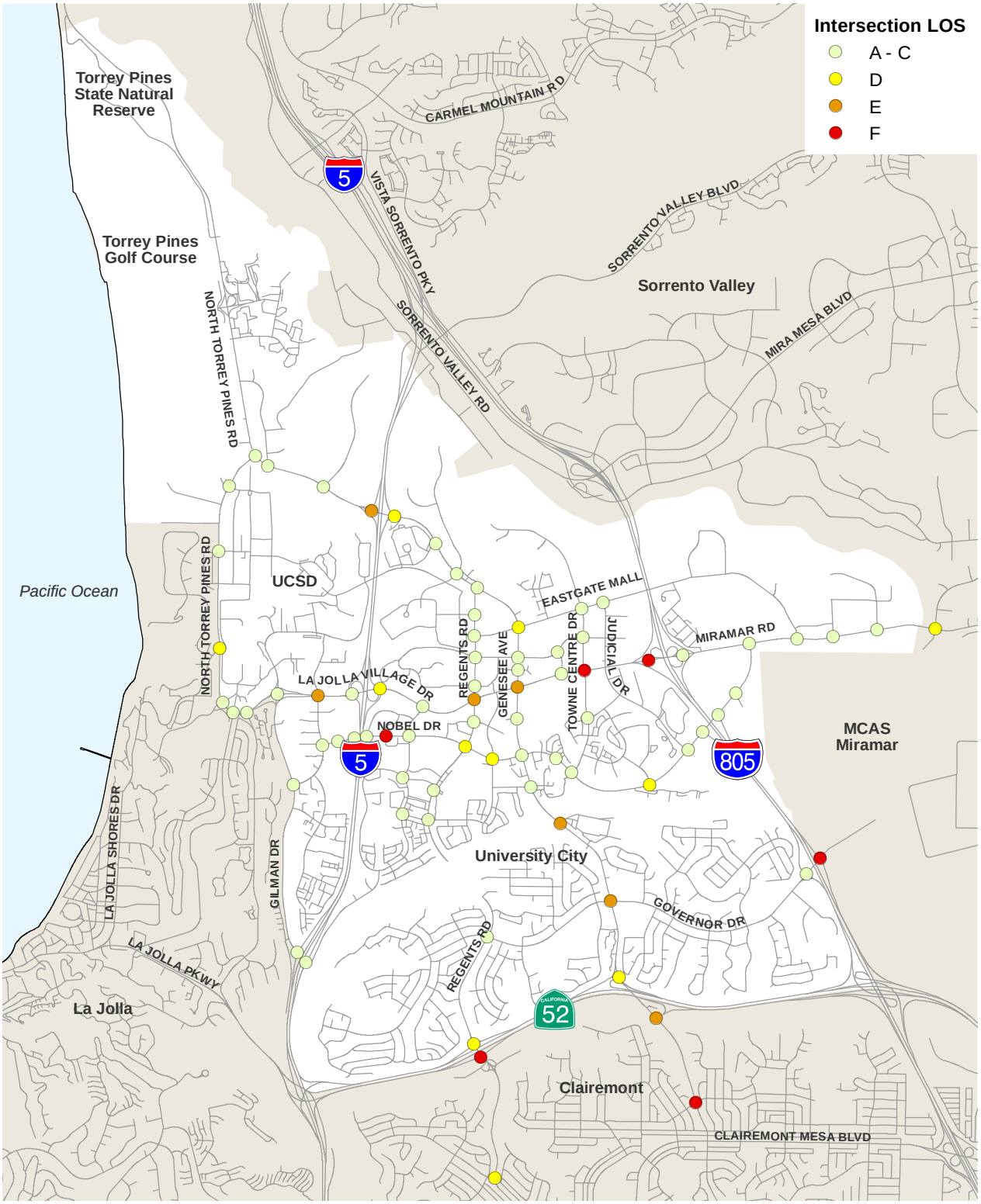
ECL = Exceeds Calculable Limit. Reported when delay exceeds 180 seconds.

SSSC = Side Street Stop Control

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.

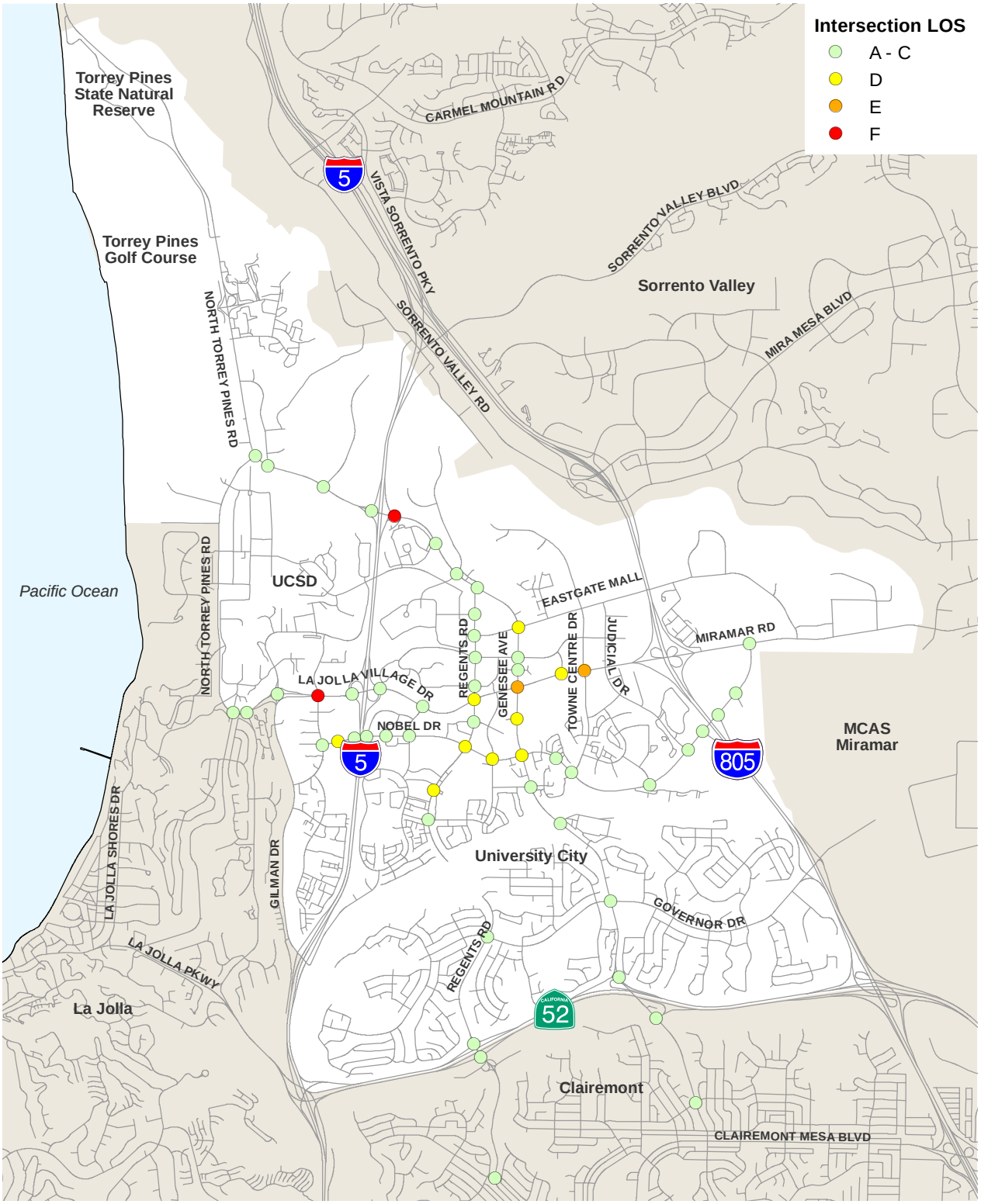
(b) LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual* and performed using Synchro 9.0

FIGURE 7-13



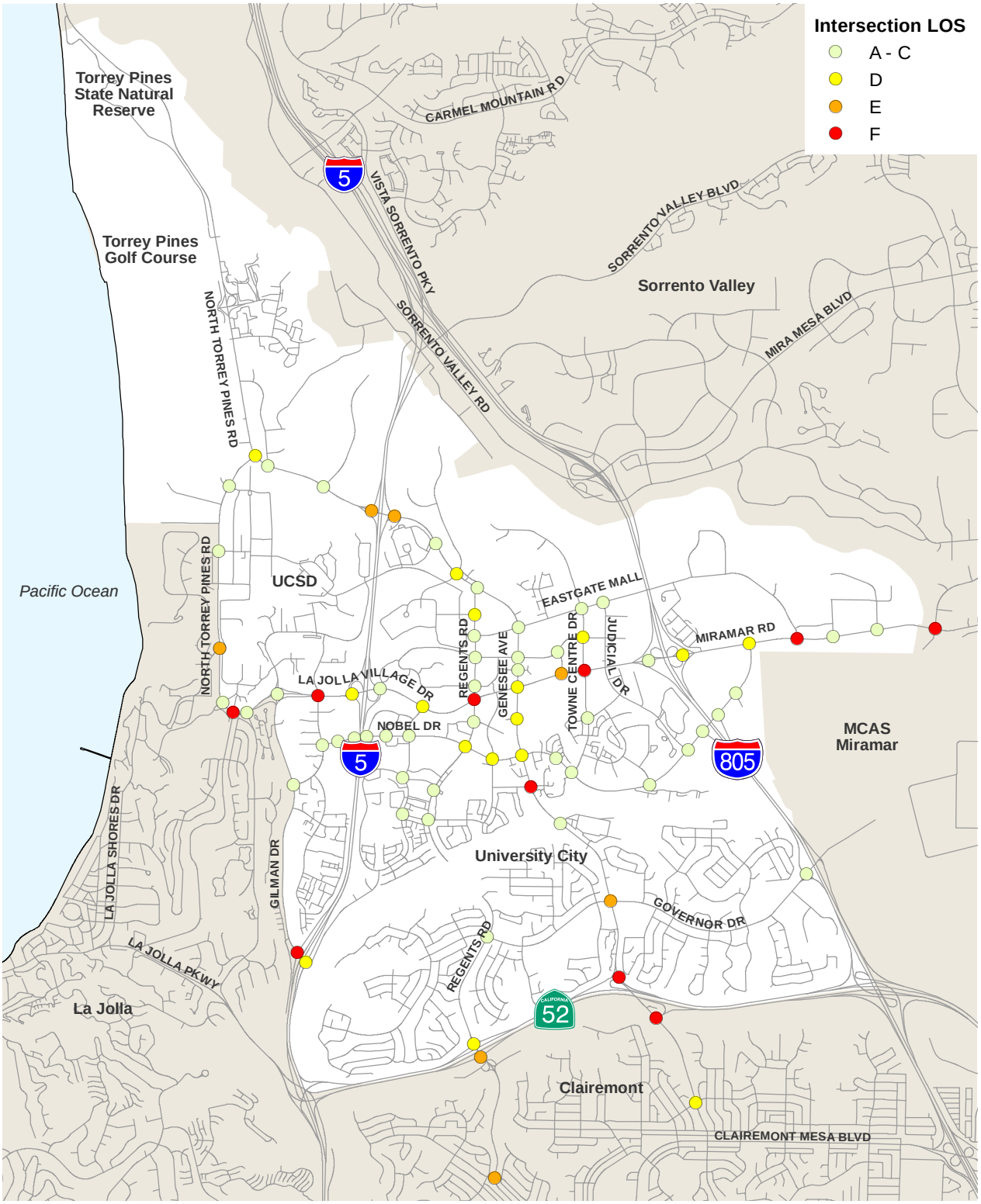
Existing AM Level of Service Summary

FIGURE 7-14



Existing Midday Level of Service Summary

FIGURE 7-15



Existing PM Level of Service Summary

As shown in the table and figures, the following intersections operate at LOS E or F during one or more peak periods:

4. **Genesee Avenue & I-5 SB Ramps**
    - LOS E – AM & PM Peaks
    - The intersection of Genesee and the I-5 SB Ramps was under construction at the time of this study. The traffic operations presented do not reflect the improvements taking place at this intersection.

5. **Genesee Avenue & I-5 NB Ramps**
    - LOS F – Midday and PM Peak
    - The intersection of Genesee and the I-5 NB Ramps was under construction at the time of this study. The traffic operations presented do not reflect the improvements taking place at this intersection.

12. **Genesee Avenue & La Jolla Village Drive**
    - LOS E – AM Peak and Midday
    - Traffic volumes were observed to be in excess of 1,200 vehicles per hour during the AM Peak in the eastbound, westbound and northbound directions.

15. **Genesee Avenue & Decoro Street**
    - LOS F – PM Peak
    - 245 vehicles were observed making the westbound left turn movement from Decoro Street on to Genesee Avenue in the PM peak. The high observed volume of left turns on this leg of Decoro Street compared to other movements can likely be attributed to traffic from Towne Centre Drive and La Jolla Village Drive using Decoro Street to access Genesee Avenue

16. **Genesee Avenue & Centurion Square**
    - LOS E – AM Peak
    - During the AM peak, University City High School drop-off resulted in 512 vehicles on the westbound approach in the AM peak. These traffic volumes are observed for 30 minutes each school day.

17. **Genesee Avenue & Governor Drive**
    - LOS E – AM & PM Peaks
    - Eastbound and westbound left turn volumes create queues that exceed the available storage lengths. During the AM, northbound through movement queue lengths exceed 1000 feet, leading to approach delays in excess of 70 seconds.

18. **Genesee Avenue & SR-52 WB Ramps**
    - LOS F – PM Peak
    - The intersection of Genesee Avenue and the SR-52 WB ramps are unsignalized with a northbound left turn movement that must yield to the southbound through movement. During the PM peak, the southbound through movement served over 1,500 vehicles, while 331 northbound vehicles attempted to make the left turn onto the SR-52 WB on ramp. The heavy conflicting southbound movement contributed to the high delay for northbound drivers waiting for an appropriate gap to make a left turn. Delay was also observed on the SR-52 westbound off ramp, where vehicle are required to merge with the heavy southbound movement.

19. **Genesee Avenue & SR-52 EB Ramps**
    - LOS E – AM Peak, LOS F – PM Peak

- There is a high volume of southbound left turns from Genesee Avenue to SR-52 Eastbound during both peak periods. The single left turn lane cannot adequately handle the volume and is the main reason for the poor LOS for the intersection.

20. Genesee Avenue & Appleton Street/Lehrer Drive

- LOS F – AM Peak
- During the AM period, a heavy permissive left turn movement from the single lane serving all three movements of eastbound Lehrer Drive is leading to excessive queue lengths as drivers wait for vehicles making the eastbound through and right movements and the westbound through movements.
- This intersection is in the Clairemont Mesa community.

21. La Jolla Village Drive & Torrey Pines Road

- LOS F – PM Peak
- Conflicting heavy traffic volumes on the westbound left turn and eastbound through movement, both above 1000 vehicles during the PM peak, cause excessive queue lengths and high delay for those movements.

24. La Jolla Village Drive & Villa La Jolla Drive

- LOS E – AM Peak, LOS F – Midday and PM Peak
- Heavy demand for the north and southbound left turn movements results in traffic queues in excess of available storage in the left turn lane.
- Additionally, there were 49 U-turns made during PM Peak.

28. La Jolla Village Drive & Regents Road

- LOS F – PM Peak
- During the PM Peak there are heavy left turn volumes on all approaches that lead to queue lengths in excess of the left turn lanes storage space. The southbound through movement is also observed to have an unmet demand leading to delays in excess of 60 seconds.
- Additionally, in the PM peak there is also 32 vehicles making a U-turn movement on the eastbound approach.

29. La Jolla Village Drive & Executive Way

- LOS E - PM Peak
- There are 614 vehicles at the southbound approach and 415 vehicles at the northbound approach in the PM peak. The northbound and southbound movements are split phased.

30. La Jolla Village Drive & Towne Centre Drive

- LOS F AM & PM Peaks, LOS E Midday
- There is unmet demand on the eastbound and westbound through and left turn movements, and on the southbound left turn movements.

31. La Jolla Village Drive & I-805 SB Ramps

- LOS F – AM Peak
- Conflicting demands between the southbound right turn movement and westbound through movement lead to high delay on these approaches during the AM Peak.

34. Miramar Road & Eastgate Mall

- LOS F – PM Peak
- A large number of vehicles were observed at all approaches. Specifically in the PM peak, there are a total of 4520 vehicles traveling eastbound and westbound on Miramar Road.

37. Miramar Road & Camino Santa Fe

- LOS F – PM Peak

- In the PM peak, there are a total of 1620 vehicles on the southbound approach. The northbound and southbound movements are split phased. The large amount of vehicles at the southbound approach coupled with the large amount of vehicles on Miramar Road causes poor LOS in the PM peak.
- This intersection is in the Mira Mesa Community.

62. Regents Road & SR-52 EB Ramps

- LOS F – AM Peak & LOS E – PM Peak
- In the AM peak, there are 498 vehicles making the northbound right turn movement and 299 vehicles making the southbound left turn movement.
- In the PM peak, there is a large number of vehicles exiting the freeway. There are a total of 1012 vehicles at the eastbound approach, including 677 vehicles making the eastbound right turn movement.

63. Regents Road & Luna Avenue

- LOS E – PM Peak
- The southbound approach was observed to have over 1,400 vehicles. As a result, high delay values were calculated for the southbound approach.
- Additionally, the eastbound shared through/left lane has high delay due to the need to yield to westbound through traffic.
- This intersection is in the Clairemont Mesa community.

66. North Torrey Pines Road & La Jolla Shores Drive

- LOS E – PM Peak
- There are a large number of vehicles at all approaches in the PM peak. The intersection is over capacity.

69. Gilman Drive & I-5 SB Ramps

- LOS F – PM Peak
- There are a large number of vehicles entering the freeway on the On Ramp. A total of 1103 vehicles are making the eastbound right movement and 512 making the westbound left movement in the PM peak.

79. Governor Drive & I-805 NB Ramps

- LOS F – PM Peaks
- There are 335 vehicles making the eastbound left movement in the PM peak. This movement is stopped controlled which means vehicles must wait for an adequate gap in the northbound traffic stream. In the PM peak there is 470 vehicles traveling northbound off of the freeway at high speeds. The poor LOS is caused by the small number of acceptable gaps in the traffic stream for the eastbound vehicles to turn onto the On Ramp

ROADWAY SEGMENT ADT BASED ANALYSIS

Each roadway segment in the study area was evaluated by comparing the daily traffic volume with the roadway's theoretical capacity based on its classification. The capacity represents the maximum daily volume before the roadway is expected to begin to operate at a LOS E. This volume-to-capacity comparison (v/c ratio) is a planning tool used to determine the general traffic demand on a segment and its sensitivity to delays.

Table 7-2 presents the results of the roadway segment analysis for a typical weekday. As shown in the table, it is estimated that all roadway segments function at an acceptable LOS D or better in the study area, except for the following segments.

- Eastgate Mall – between Judicial Drive and Eastgate Drive
  - 2 Lane Collector, Freeway Overpass (LOS F)
- Eastgate Mall – between Eastgate Drive and Miramar Road
  - 2 Lane Collector (LOS E)
- Genesee Avenue – between I-5 SB Ramps and I-5 NB Ramps
  - 6 Lane Prime Arterial (LOS F)
- La Jolla Village Drive – between Villa La Jolla Drive and I-5 SB Ramps
  - 6 Lane Prime Arterial (LOS F)
- La Jolla Village Drive – between I-5 SB Ramps and I-5 NB Ramps
  - 6 Lane Major Arterial (LOS F)
- La Jolla Village Drive – between Genesee Avenue and Towne Centre Drive
  - 6 Lane Major Arterial (LOS E)
- La Jolla Village Drive – between Towne Centre Drive and I-805 SB Ramps
  - 7 Lane Major Arterial (LOS F)
- Miramar Road – between I-805 SB Ramps and I-805 NB Ramps
  - 6 Lane Major Arterial (LOS F)
- Miramar Road – between Eastgate Mall and Camino Santa Fe
  - 6 Lane Prime Arterial (LOS F)

Figure 7-16 illustrates the existing LOS results for each of the roadway segments in the study area based on the volume-to-capacity analysis methodology. The segments with LOS E or F have volumes above their theoretical capacity, typically resulting in periods of congestion.

Table 7-2 Existing Conditions Summary of Roadway Segment ADT Based Analysis

ROADWAY SEGMENT	ROADWAY CLASSIFICATION (a)	LOS E CAPACITY	ADT (b)	V/C RATIO (c)	LOS
Eastgate Mall					
Regents Rd to Genesee Ave	2 Lane Collector (continuous left-turn lane)	15,000	6,187	0.412	B
Genesee Ave to Easter Way	4 Lane Collector	30,000	14,767	0.492	C
Easter Way to Judicial Dr	4 Lane Major Arterial	40,000	11,115	0.278	A
Judicial Dr to Eastgate Dr (Freeway Overpass)	2 Lane Collector (no fronting property)	10,000	10,096	1.010	**F**
Eastgate Dr to Miramar Rd	2 Lane Collector (continuous left-turn lane)	15,000	14,668	0.978	**E**
Executive Drive					
Regents Rd to Genesee Ave	4 Lane Collector (no center lane)	15,000	4,397	0.293	A
Genesee Ave to Judicial Dr	4 Lane Collector	30,000	5,914	0.197	A
Executive Way					
Executive Dr to La Jolla Village Dr	4 Lane Collector	30,000	5,923	0.197	A
Genesee Avenue					
N. Torrey Pines Rd to I-5 SB Ramps	6 Lane Prime Arterial	60,000	35,124	0.585	C
I-5 SB Ramps to I-5 NB Ramps	4 Lane Major Arterial	40,000	49,051	1.226	**F**
I-5 NB Ramps to Regents Rd	6 Lane Prime Arterial	60,000	48,542	0.809	C
Regents Rd to La Jolla Village Dr	6 Lane Prime Arterial	60,000	29,457	0.491	B
La Jolla Village Dr to Esplande Ct	4 Lane Major Arterial	40,000	28,054	0.701	C
Esplande Ct to Nobel Dr	6 Lane Major Arterial	50,000	23,744	0.475	B
Nobel Dr to Centurion Square	4 Lane Major Arterial	40,000	30,922	0.773	D
Centurion Square to SR-52 WB Ramps	4 Lane Major Arterial	40,000	30,325	0.758	D
SR-52 WB Ramps to SR-52 EB Ramps	4 Lane Major Arterial	40,000	31,170	0.779	D
SR-52 EB Ramps to Lehrer Dr	4 Lane Major Arterial	40,000	30,581	0.765	D
Gilman Drive					
UCSD Campus to La Jolla Village Dr	4 Lane Collector	30,000	10,069	0.336	B
La Jolla Village Dr to Via Alicante	4 Lane Collector	30,000	15,095	0.503	C
Via Alicante to I-5 SB Ramps	4 Lane Major Arterial	40,000	17,138	0.428	B
I-5 SB Ramps to I-5 NB Ramps	4 Lane Major Arterial	40,000	11,873	0.297	A
Golden Haven Drive					
Towne Centre Dr to Judicial Dr	4 Lane Major Arterial	40,000	6,712	0.168	A

Notes:
Bold values indicate roadway segments operating at LOS E or F.
(a) Existing road classifications are based on field work conducted May 13, 2015.
(b) Average Daily Traffic (ADT) volumes for the roadway segments were provided by Accurate Video Counts Inc and measured in April and May 2015.
(c) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.

Table 7-2 Existing Conditions Summary of Roadway Segment ADT Based Analysis (Continued)

ROADWAY SEGMENT	ROADWAY CLASSIFICATION (a)	LOS E CAPACITY	ADT (b)	V/C RATIO (c)	LOS
Governor Drive					
Regents Rd to Genesee Ave	4 Lane Major Arterial	40,000	16,796	0.420	B
Genesee Ave to I-805 SB Ramps	4 Lane Major Arterial	40,000	19,737	0.493	B
I-805 SB Ramps to I-805 NB Ramps	4 Lane Major Arterial	40,000	10,417	0.260	A
Judicial Drive					
Eastgate Mall to La Jolla Village Dr	4 Lane Major Arterial	40,000	4,828	0.121	A
La Jolla Village Dr to Nobel Dr	4 Lane Major Arterial	40,000	6,574	0.164	A
La Jolla Scenic Drive					
La Jolla Village Dr to community boundary	4 Lane Major Arterial	40,000	7,928	0.198	A
La Jolla Village Drive					
Revelle College Dr to Villa La Jolla Dr	6 Lane Prime Arterial	60,000	44,520	0.742	C
Villa La Jolla Dr to I-5 SB Ramps	6 Lane Prime Arterial	60,000	62,258	1.038	**F**
I-5 SB Ramps to I-5 NB Ramps	6 Lane Major Arterial	50,000	51,391	1.028	**F**
I-5 NB Ramps to Lebon Dr	6 Lane Major Arterial	50,000	44,335	0.887	D
Lebon Dr to Regents Rd	6 Lane Major Arterial	50,000	42,863	0.857	D
Regents Rd to Genesee Ave	6 Lane Major Arterial	50,000	38,474	0.769	C
Genesee Ave to Towne Centre Dr	6 Lane Major Arterial	50,000	45,117	0.902	**E**
Towne Centre Dr to I-805 SB Ramps	7 Lane Major Arterial	55,000	58,833	1.070	**F**
Lebon Drive					
Palmilla Drive to Nobel Dr	4 Lane Major Arterial	40,000	11,192	0.280	A
Nobel Drive to La Jolla Village Dr	5 Lane Major Arterial	45,000	9,212	0.205	A
Miramar Road					
I-805 SB Ramps to I-805 NB Ramps	6 Lane Major Arterial	50,000	66,139	1.323	**F**
I-805 NB Ramps to Nobel Dr	8 Lane Prime Arterial	80,000	47,991	0.600	B
Nobel Dr to Eastgate Mall	8 Lane Prime Arterial	80,000	64,557	0.807	C
Eastgate Mall to Camino Santa Fe	6 Lane Prime Arterial	60,000	67,748	1.129	**F**
North Torrey Pines Road					
Science Park Rd to Genesee Ave	6 Lane Prime Arterial	60,000	29,303	0.488	B
Genesee Ave to Revelle College Dr	4 Lane Major Arterial	40,000	21,760	0.544	C

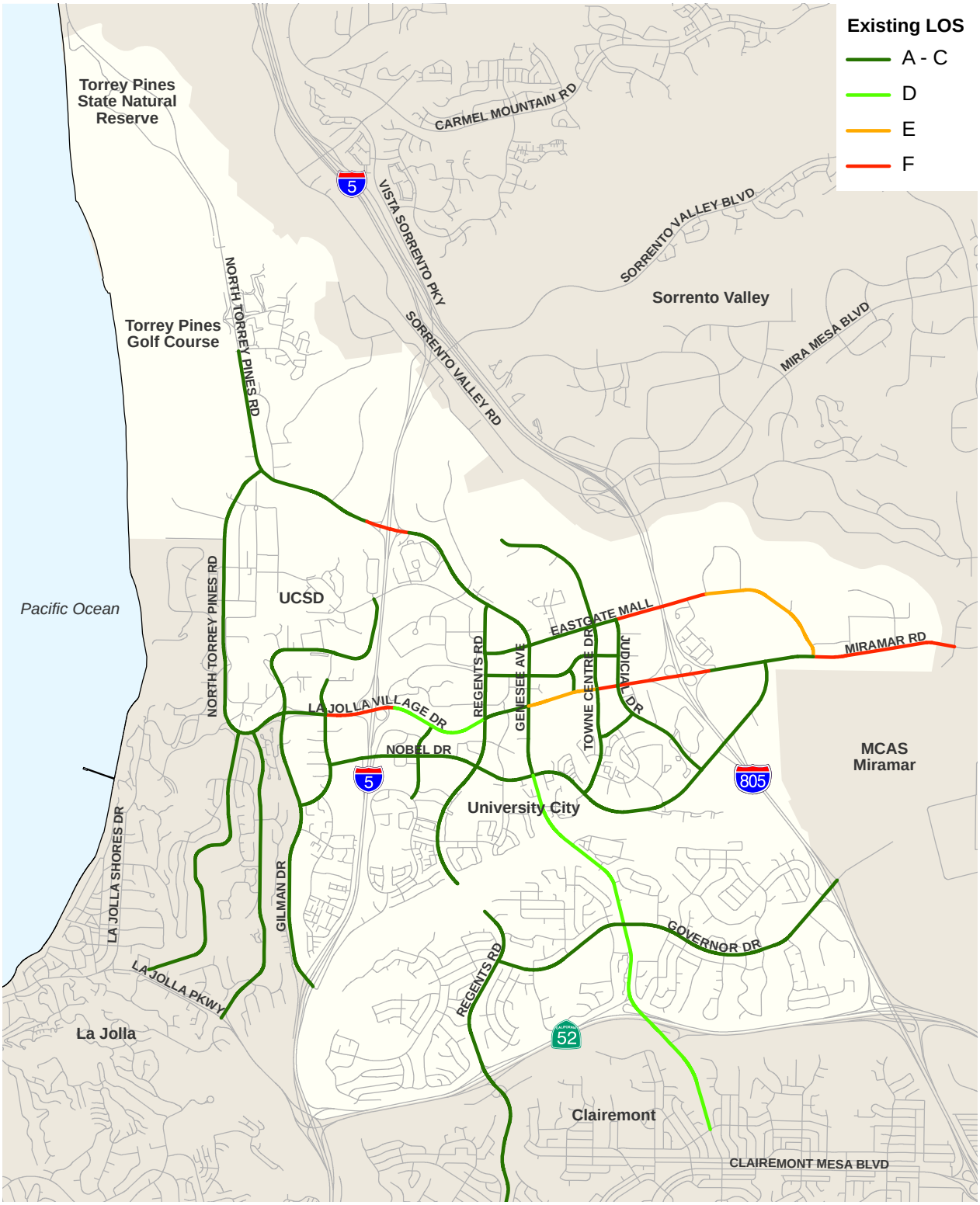
Notes:
Bold values indicate roadway segments operating at LOS E or F.
(a) Existing road classifications are based on field work conducted May 13, 2015.
(b) Average Daily Traffic (ADT) volumes for the roadway segments were provided by Accurate Video Counts Inc and measured in April and May 2015.
(c) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.

Table 7-2 Existing Conditions Summary of Roadway Segment ADT Based Analysis (Continued)

ROADWAY SEGMENT	ROADWAY CLASSIFICATION (a)	LOS E CAPACITY	ADT (b)	V/C RATIO (c)	LOS
Nobel Drive					
Villa La Jolla Dr to I-5 SB On Ramp	4 Lane Major Arterial	40,000	26,284	0.657	C
I-5 SB On Ramp to I-5 NB Off Ramp/University Center Lane	4 Lane Major Arterial	40,000	27,642	0.691	C
I-5 NB Off Ramp/University Center Lane to Lebon Dr	6 Lane Major Arterial	50,000	21,546	0.431	B
Lebon Dr to Regents Rd	6 Lane Prime Arterial	60,000	21,256	0.354	A
Regents Rd to Genesee Ave	6 Lane Prime Arterial	60,000	19,772	0.33	A
Genesee Ave to Towne Centre Dr	4 Lane Major Arterial	40,000	18,484	0.462	B
Towne Centre Dr to Judicial Dr	6 Lane Prime Arterial	60,000	17,261	0.288	A
Judicial Dr to Avenue of Flags	5 Lane Major Arterial	45,000	24,125	0.536	B
Avenue of Flags to Miramar Rd	4 Lane Major Arterial	40,000	20,648	0.516	B
Regents Road					
Genesee Ave to Eastgate Mall	2 Lane Collector (continuous left-turn lane)	15,000	6,260	0.417	B
Eastgate Mall to La Jolla Village Dr	4 Lane Collector	30,000	15,245	0.508	C
La Jolla Village Dr to Nobel Dr	5 Lane Major Arterial	45,000	16,525	0.367	A
Nobel Dr to Rose Canyon (end)	4 Lane Major Arterial	40,000	10,688	0.267	A
Rose Canyon (end) to Governor Dr	2 Lane Collector (no fronting property)	10,000	1,940	0.194	A
Governor Dr to SR-52 WB Ramps	4 Lane Major Arterial	40,000	16,181	0.405	B
SR-52 WB Ramps to SR-52 EB Ramps	4 Lane Major Arterial	40,000	19,957	0.499	B
SR-52 EB Ramps to Luna Ave	4 Lane Major Arterial	40,000	21,268	0.532	C
Torrey Pines Road					
La Jolla Village Drive to community boundary	4 Lane Major Arterial	40,000	26,620	0.666	C
Towne Centre Drive					
End to La Jolla Village Dr	4 Lane Major Arterial	40,000	20,121	0.503	B
La Jolla Village Dr to Nobel Dr	4 Lane Major Arterial	40,000	13,785	0.345	A
Villa La Jolla Drive					
Gilman Dr (South) to Nobel Dr	4 Lane Major Arterial	40,000	6,896	0.172	A
Nobel Dr to La Jolla Village Dr	4 Lane Major Arterial	40,000	16,011	0.400	B
La Jolla Village Dr to VA Medical Center	4 Lane Major Arterial	40,000	19,865	0.497	B

Notes: **Bold** values indicate roadway segments operating at LOS E or F.
(a) Existing road classifications are based on field work conducted May 13, 2015.
(b) Average Daily Traffic (ADT) volumes for the roadway segments were provided by Accurate Video Counts Inc and measured in April and May 2015.
(c) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.

FIGURE 7-16



Existing Average Daily Traffic Level of Service Summary

CORRIDOR SPEED BASED ANALYSIS

A speed-based travel time analysis of key corridors within the University community was conducted during peak hours of the day. This analysis evaluates the roadway segment LOS perceived by auto users based on the average speed a vehicle maintains along the corridor. The following corridors were evaluated:

- Genesee Avenue (Lehrer Drive to North Torrey Pines Road)
- La Jolla Village Drive (Torrey Pines Road to Camino Santa Fe)
- Nobel Drive (La Jolla Village Square to Miramar Road)
- Regents Road (Genesee Avenue to Arriba Street, and Governor Drive to Luna Avenue)

The travel time information along each corridor was calculated using Synchro software and actual travel time information. A comparison of the two methods is provided to depict how well the simulation reflects actual travel times. This comparison is helpful in determining the accuracy of future travel time simulations.

The "floating car" method was used in the field to document actual travel times. These travel time runs can vary depending on where the vehicle falls within the progression bands along these segments. Vehicles within a progression band do not have to stop at several consecutive traffic signals. The simulation depicts the average travel time for all vehicles, which includes those that do not fall into progression bands. Additional supporting information on the travel times is provided in **Appendix E**.

Individual corridor analysis results are provided in **Figures 7-17 through 7-21** and discussed in this section**.** A summary of speed-based LOS along all four corridors are presented at the end of the section in **Figures 7-22** through **7-24**.

In general, the simulated travel times were longer than observed travel times because the simulation uses average approach delay, which does not account for the timed signal progression that occurs in the community. Also, the observed travel times represent an average time of several runs within a 2-hour timeframe, while the simulation uses the highest 1-hour volume at each intersection.

Genesee Avenue

Figure 7-17 displays the morning and afternoon peak travel time results for Genesee Avenue using a speed-based analysis. **Table 7-3** summarizes the total travel time, average speed, and resulting LOS for traveling from one end of the community to the other on Genesee Avenue. The table includes both field observed travel times and the simulated travel times. Midday speed analysis and additional corridor speed information is provided in **Appendix E**.

The Genesee Avenue corridor is approximately 4.5 miles and goes through 18 traffic signals. The average speed along Genesee between North Torrey Pines Road and Lehrer Drive is estimated to be about 20 miles per hour during both peak periods and in both directions. Below 20 mph is equivalent to a LOS E. The travel time and the simulation were fairly consistent in their findings.

In the morning peak, congestion is shown near Executive Square, new Campus Point Drive, and at the I-5 ramps. In the afternoon peak, congestion occurs consistently from Decoro Street to Eastgate Mall.

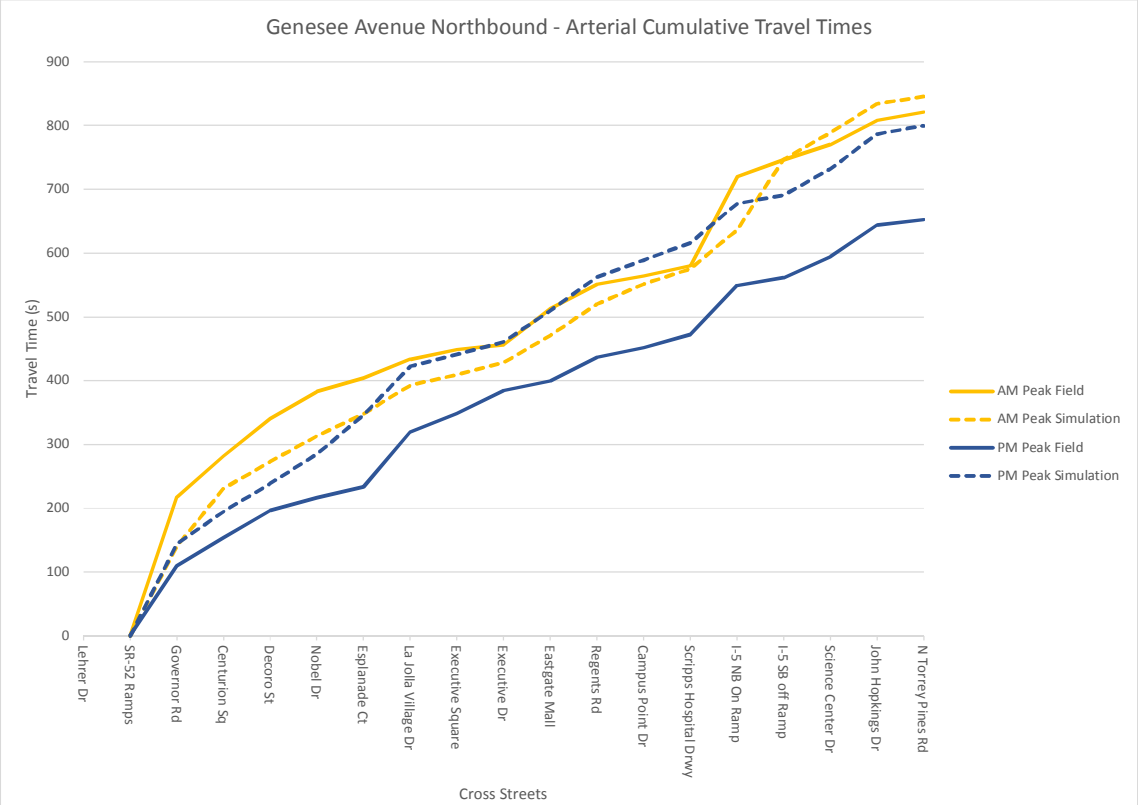
It should be noted that the interchange at I-5 was under construction at the time of these travel times for interchange improvements that will ultimately improve operations in that vicinity. However, the construction did not significantly affect the travel time runs.

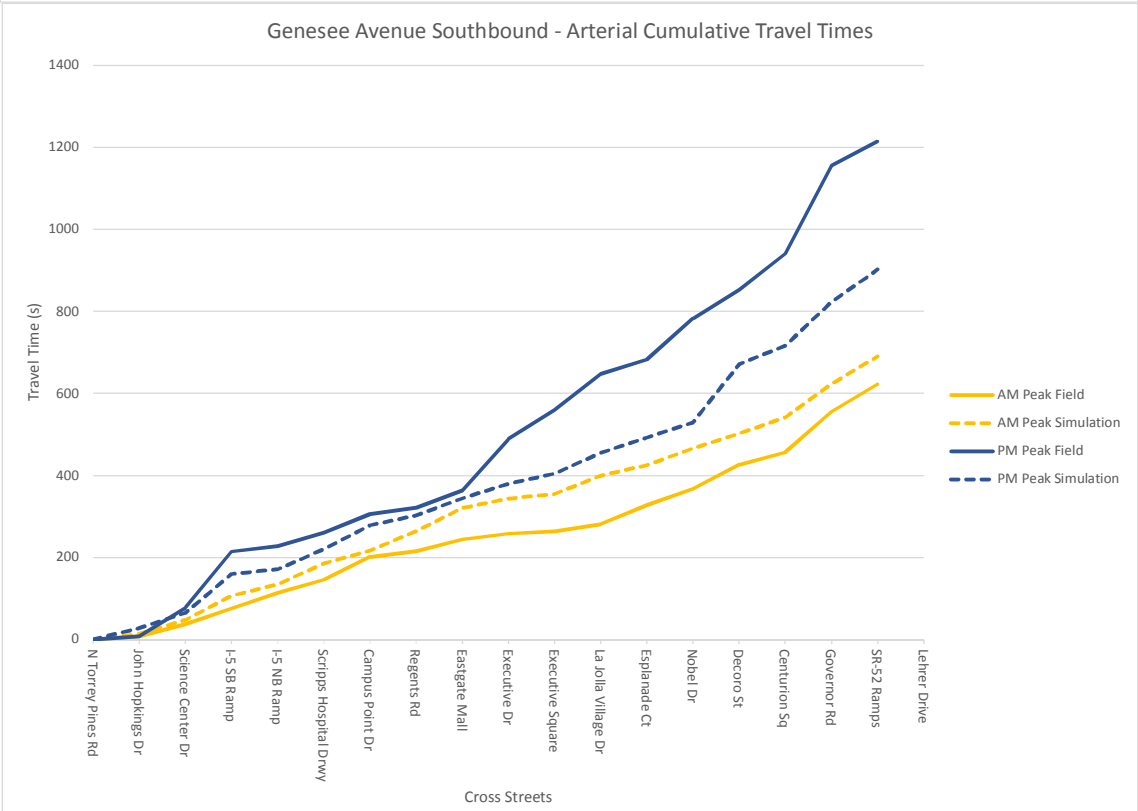
Table 7-3 Genesee Avenue Based Analysis

Corridor	Direction	Peak	Travel Time (sec)	Speed (mph)	LOS
Genesee Avenue					
SR-52 Ramps - N Torrey Pines Road	Northbound	AM Travel Time	821	19.6	**E**
		AM Simulation	845	19.0	**E**
		PM Travel Time	655	20.0	**E**
		PM Simulation	800	24.5	D
N Torrey Pines Road – SR-52 Ramps	Southbound	AM Travel Time	626	25.2	D
		AM Simulation	677	23.3	D
		PM Travel Time	1216	17.9	**E**
		PM Simulation	875	19.1	**E**

Notes:
Travel Time = Average value from field based travel time runs
Simulation = Synchro analysis value

Figure 7-17 Genesee Avenue Travel Times





La Jolla Village Drive/Miramar Road

Figure 7-18 displays the morning and afternoon peak travel time results for La Jolla Village Avenue using a speed-based analysis. **Table 7-4** summarizes the total travel time, average speed, and resulting LOS for traveling from one end of the community to the other on La Jolla Village Drive. The table includes both field observed travel times and the simulated travel times. Midday speed analysis and additional corridor speed information is provided in **Appendix E**.

The La Jolla Village Drive corridor is approximately 4.2 miles and goes through 17 traffic signals. The travel times were found to be faster than the estimated simulation times.

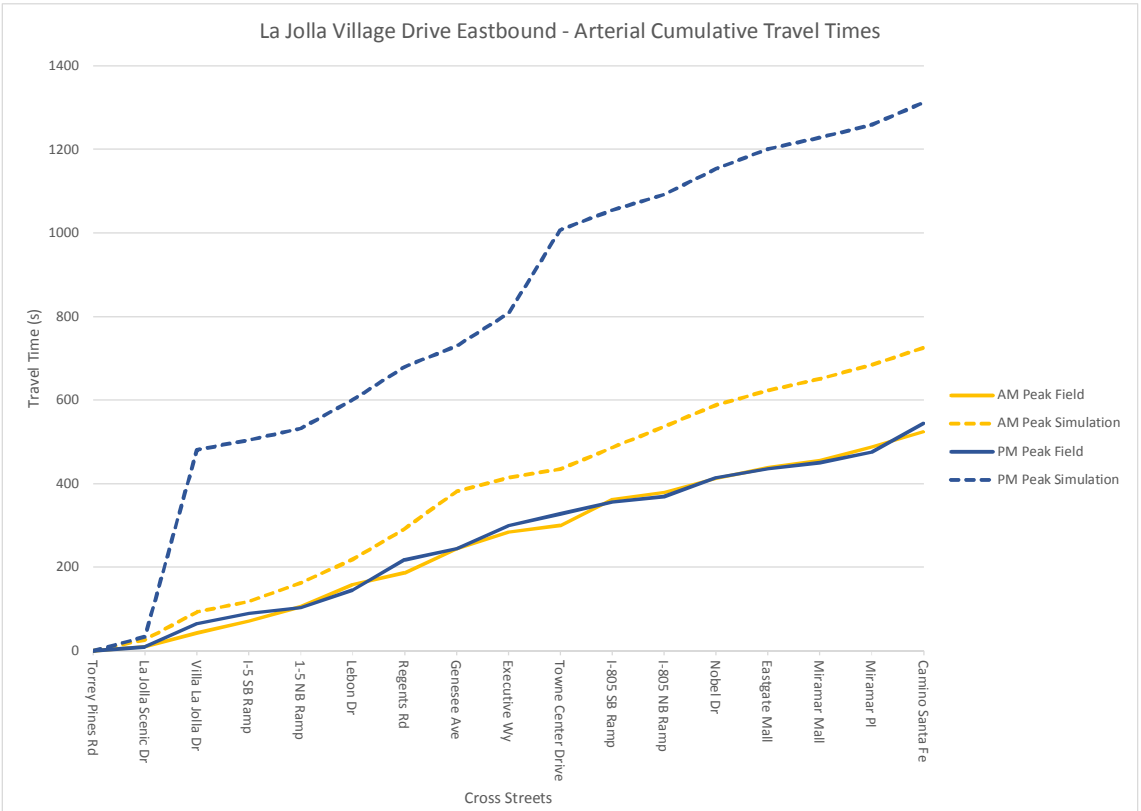
In the morning peak, the average speed along La Jolla Village Drive/Miramar Road is estimated to be around 20 miles per hour in the eastbound direction and less than 15 miles per hour in the westbound direction. The actual travel times were about 8 miles per hour faster on average. The westbound direction has major congestion between the I-805 ramps and Genesee Avenue, and again near the I-5 ramps. The eastbound direction has noticeable congestion between the I-5 ramps and Genesee Avenue

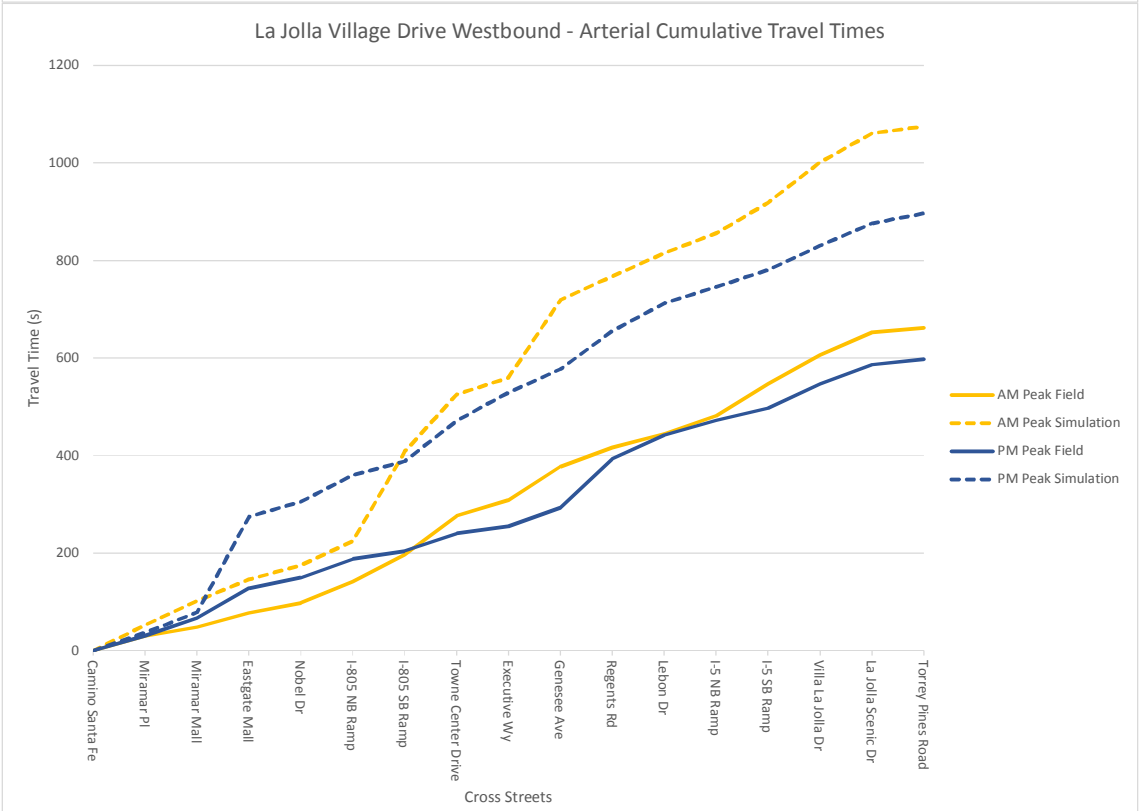
In the afternoon peak, the average speed along La Jolla Village Drive/Miramar Road is estimated in the simulation to be about 12 miles per hour in the eastbound direction and 17 miles per hour in the westbound direction. The travel times showed an average speed of just under 30 miles per hour in both directions. Congestion at a couple key intersections significantly reduce travel speeds on the corridor. In the eastbound direction, the Towne Centre Drive intersection shows extreme congestion; in the westbound direction, Miramar Mall shows extreme congestion.

Table 7-4 La Jolla Village Drive Speed Based Analysis

Corridor	Direction	Peak	Travel Time (sec)	Speed (mph)	LOS
La Jolla Village Drive / Miramar Road					
N Torrey Pines Rd - Camino Santa Fe	Eastbound	AM Travel Time AM Simulation	526 725	28.7 20.8	C **E**
		PM Travel Time PM Simulation	546 1313	27.6 11.5	C **F**
Camino Santa Fe - N Torrey Pines Rd	Westbound	AM Travel Time AM Simulation	663 1074	22.8 14.0	D **F**
		PM Travel Time PM Simulation	567 897	26.6 16.8	D **E**

Figure 7-18 La Jolla Village Drive Travel Times





Nobel Drive

Figure 7-19 displays the morning and afternoon peak travel time results for Nobel Drive using a speed-based analysis. **Table 7-5** summarizes the total travel time, average speed, and resulting LOS for traveling from one end of the community to the other on Nobel Drive. The table includes both field observed travel times and the simulated travel times. Midday speed analysis and additional corridor speed information is provided in **Appendix E**.

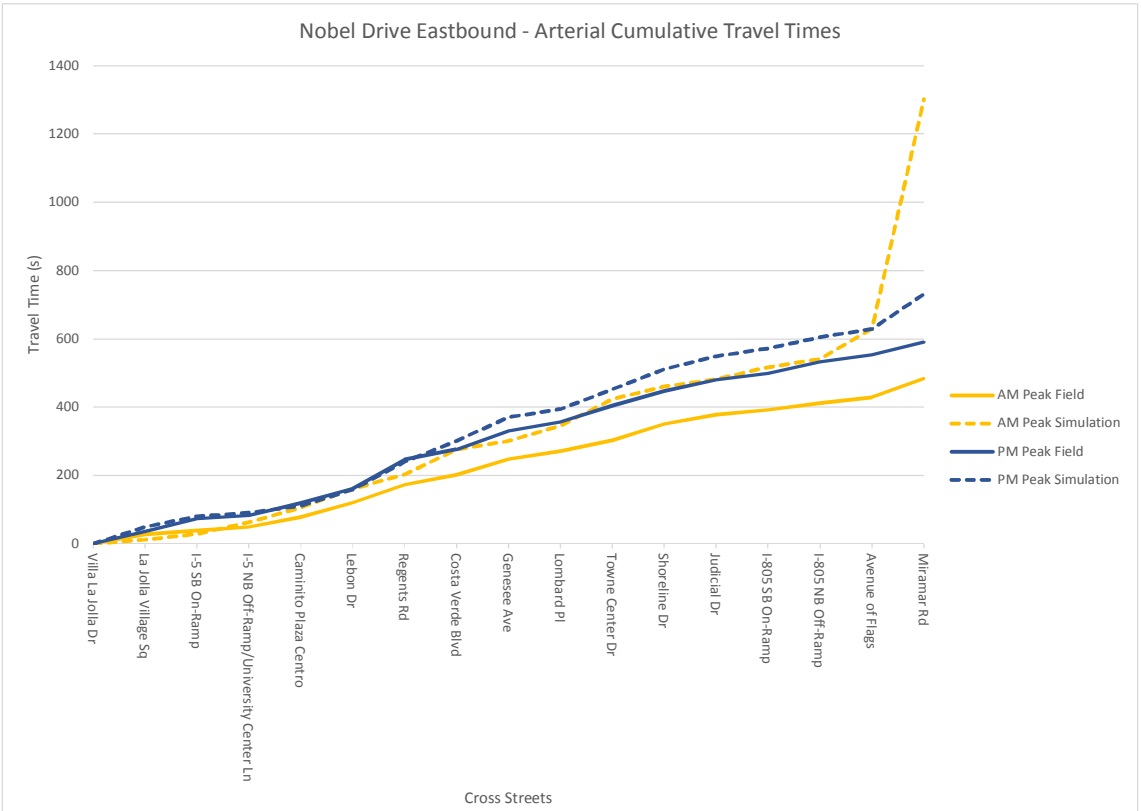
The Nobel Drive corridor is approximately 3.0 miles and goes through 16 traffic signals. The average speed along Nobel Drive between La Jolla Village Square and Miramar Road is estimated to be about 20 miles per hour in the morning peak period and closer to 15 miles per hour during the afternoon peak. Below 20 mph is equivalent to a LOS E. The travel time and the simulation were fairly consistent in their findings.

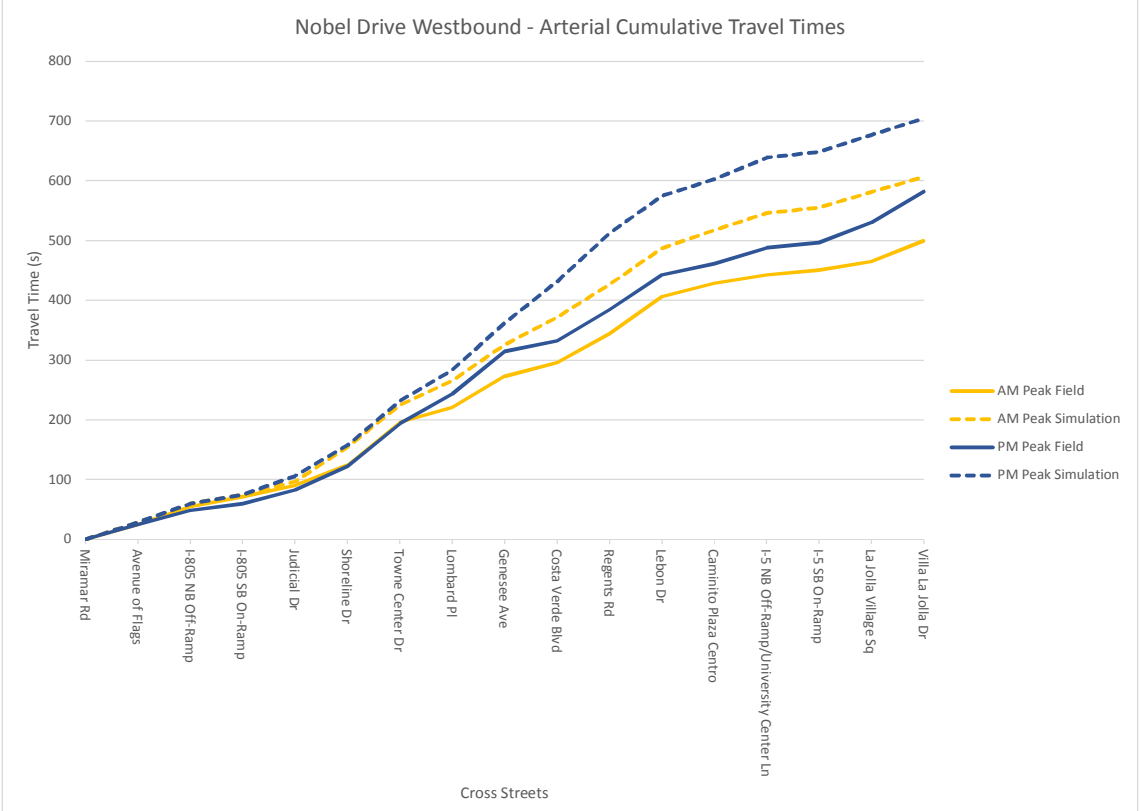
Congestion is shown near the I-5 interchange, Genesee Avenue, and the I-805 interchange during both peak periods. During the field-collected travel time runs there were additional delays and congestion along Nobel Drive during the midday peak, especially near the commercial areas near Villa La Jolla.

Table 7-5 Nobel Drive Speed Based Analysis

Corridor	Direction	Peak	Travel Time (sec)	Speed (mph)	LOS
Nobel Drive					
La Jolla Village Sq – Miramar Rd	Eastbound	AM Travel Time AM Simulation	458 630	22.8 16.6	C **E**
		PM Travel Time PM Simulation	554 682	15.4 19.0	**E** D
Miramar Rd – La Jolla Village Sq	Westbound	AM Travel Time AM Simulation	466 578	21.4 17.2	D D
		PM Travel Time PM Simulation	531 676	18.8 14.8	D **E**

Figure 7-19 Nobel Drive Travel Times





Regents Road

Figures 7-20 and 7-21 display the morning and afternoon peak travel time results for Regents Road using a speed-based analysis. **Tables 7-6 and 7-7** summarize the total travel time, average speed, and resulting LOS for traveling from one end of the community to the other on Regents Road. The tables include both field observed travel times and the simulated travel times. Midday speed analysis and additional corridor speed information is provided in **Appendix E**.

The northern section of the Regents Road corridor is approximately 1.5 miles and goes through 9 traffic signals. The average speed along Regents Road between Arriba Street and Genesee Avenue is estimated to be about 15 miles per hour in both peak periods and both directions. Below 15 mph is equivalent to a LOS F. The travel time and the simulation were fairly consistent in their findings. During the field-collected travel time runs for the northern section, the travel time runs along Regents Road were slower from traffic associated with the La Jolla Country Day School and UCSD's Health Sciences building. The pavement conditions of Regents Road on the northern end was severely degraded and decreased vehicle speeds.

The southern section of the Regents Road corridor is approximately 1.5 miles and goes through 3 traffic signals. Travel times documented in the field were much higher than the simulation. During the field-collected travel time runs for the southern section there were additional delays and congestion along Nobel Drive during the midday peak, especially near the commercial areas near Villa La Jolla.

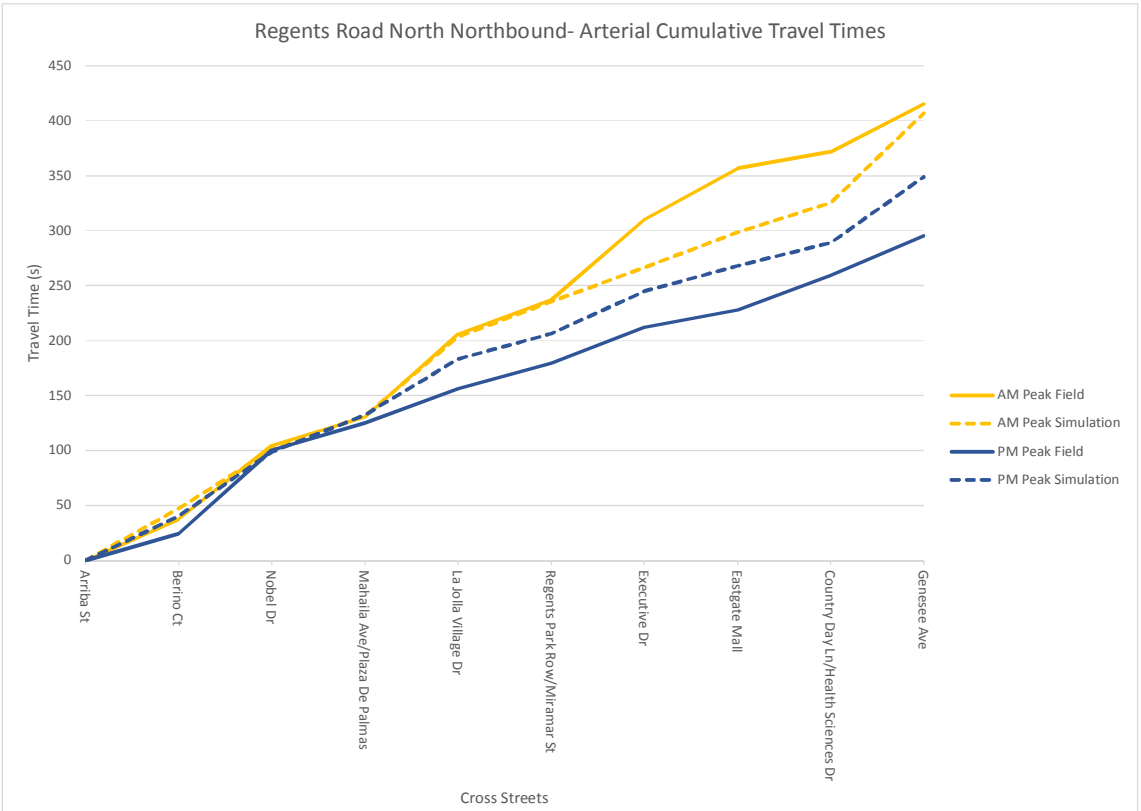
Table 7-6 Regents Road (Northern Section) Based Analysis

Corridor	Direction	Peak	Travel Time (sec)	Speed (mph)	LOS
Regents Road (Northern Section)					
Arriba St – Genesee Ave	Northbound	AM Travel Time	416	12.2	**E**
		AM Simulation	407	12.5	**E**
		PM Travel Time	296	17.1	D
		PM Simulation	349	14.5	**E**
Genesee Ave – Arriba St	Southbound	AM Travel Time	289	17.6	D
		AM Simulation	343	14.8	**E**
		PM Travel Time	385	13.2	**E**
		PM Simulation	390	13.0	**F**

Table 7-7 Regents Road (Southern Section) Based Analysis

Corridor	Direction	Peak	Travel Time (sec)	Speed (mph)	LOS
Regents Road (Southern Section)					
Luna Ave – Governor Dr	Northbound	AM Travel Time	131	40.7	A
		AM Simulation	373	14.3	D
		PM Travel Time	125	42.6	A
		PM Simulation	253	21.0	C
Governor Dr – Luna Ave	Southbound	AM Travel Time	102	52.2	A
		AM Simulation	256	20.8	D
		PM Travel Time	116	25.2	B
		PM Simulation	308	17.3	D

Figure 7-20 Regents Road (Northern Section) Travel Times



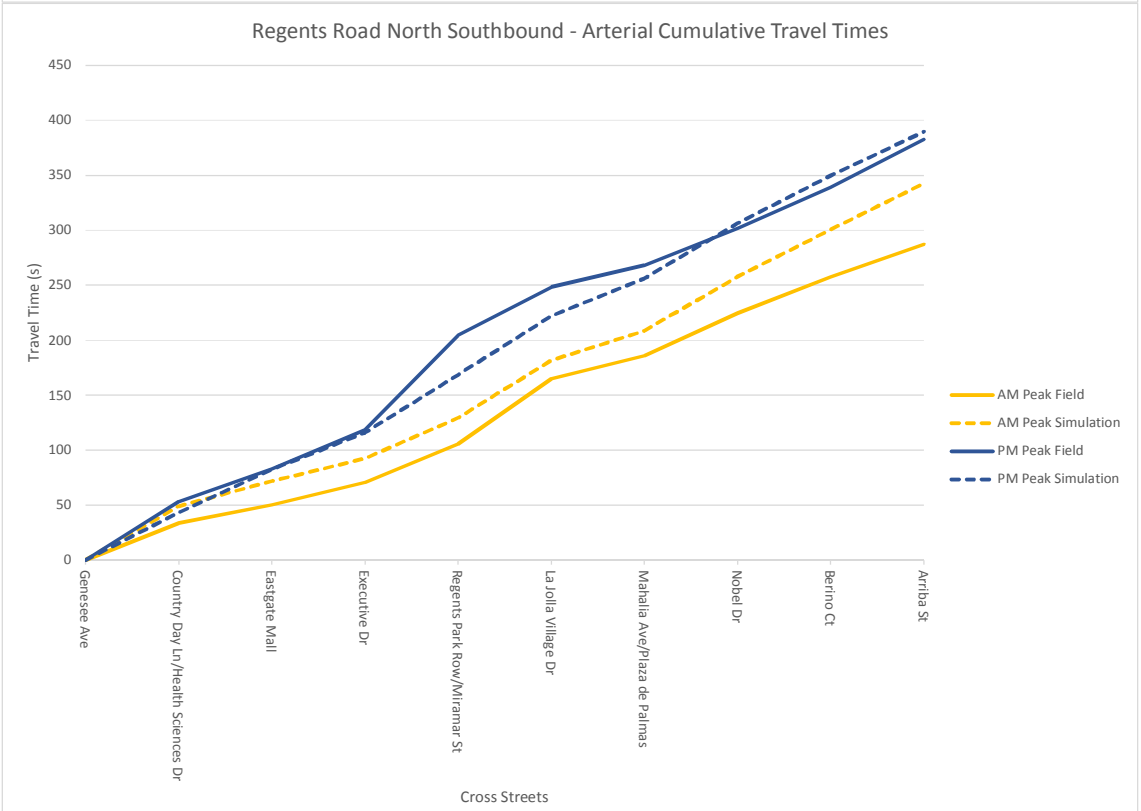
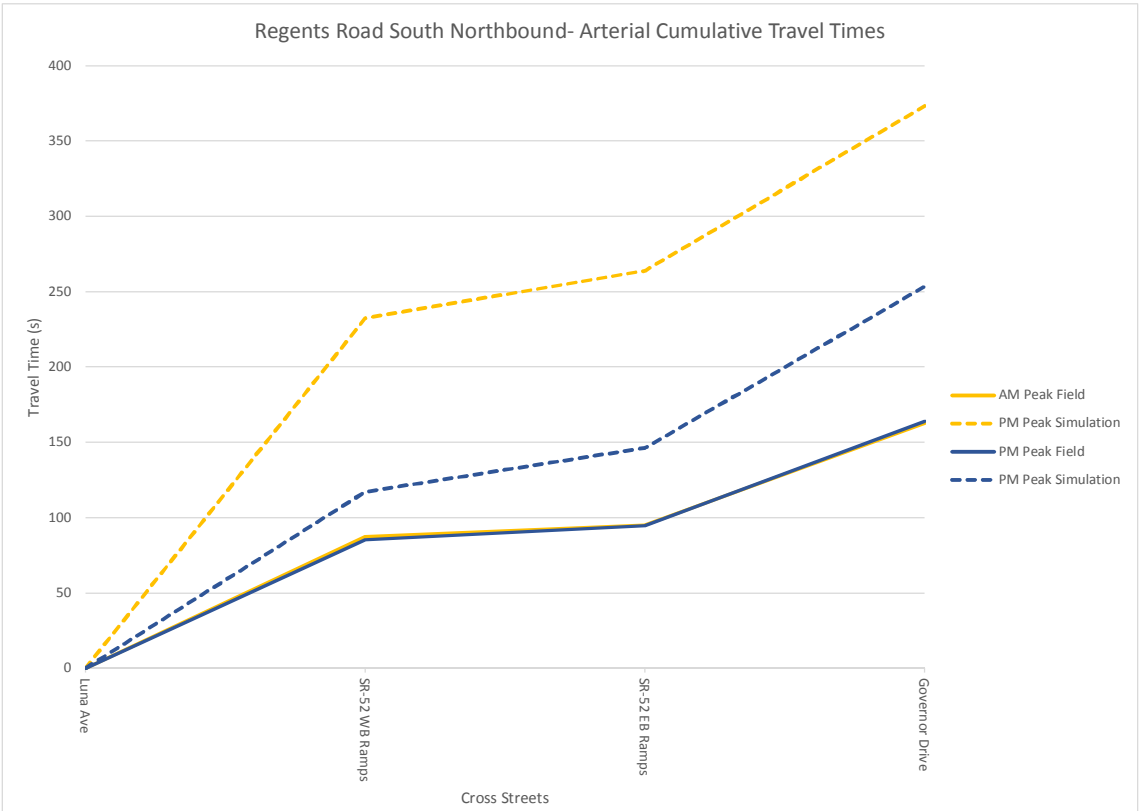


Figure 7-21 Regents Road (Southern Section) Travel Times



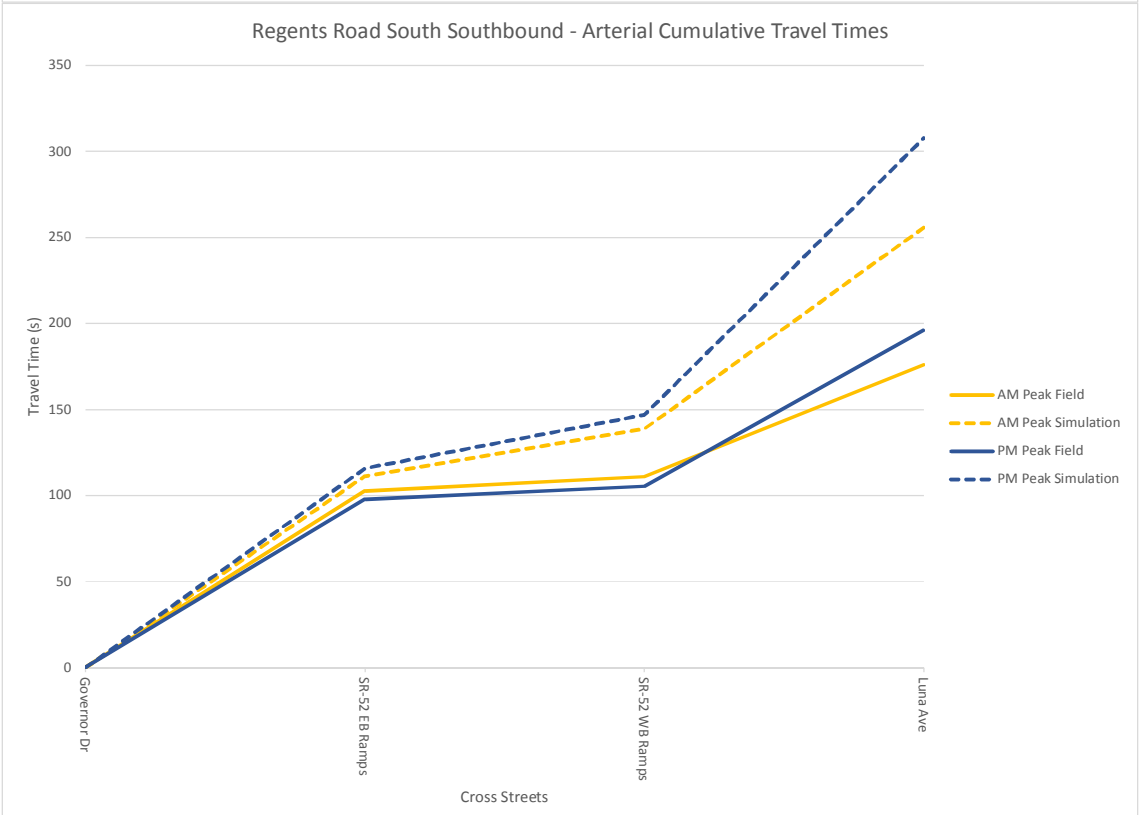
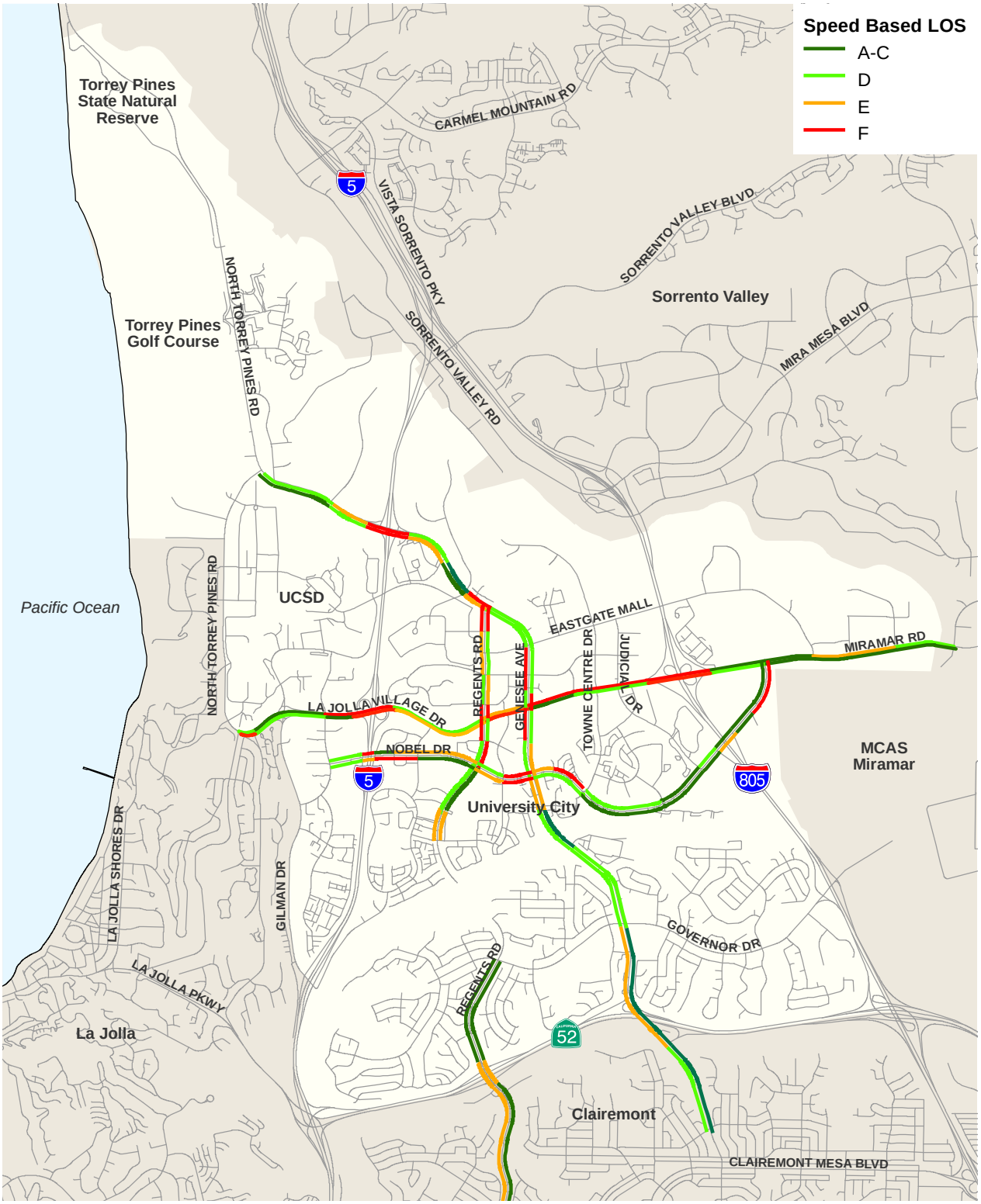
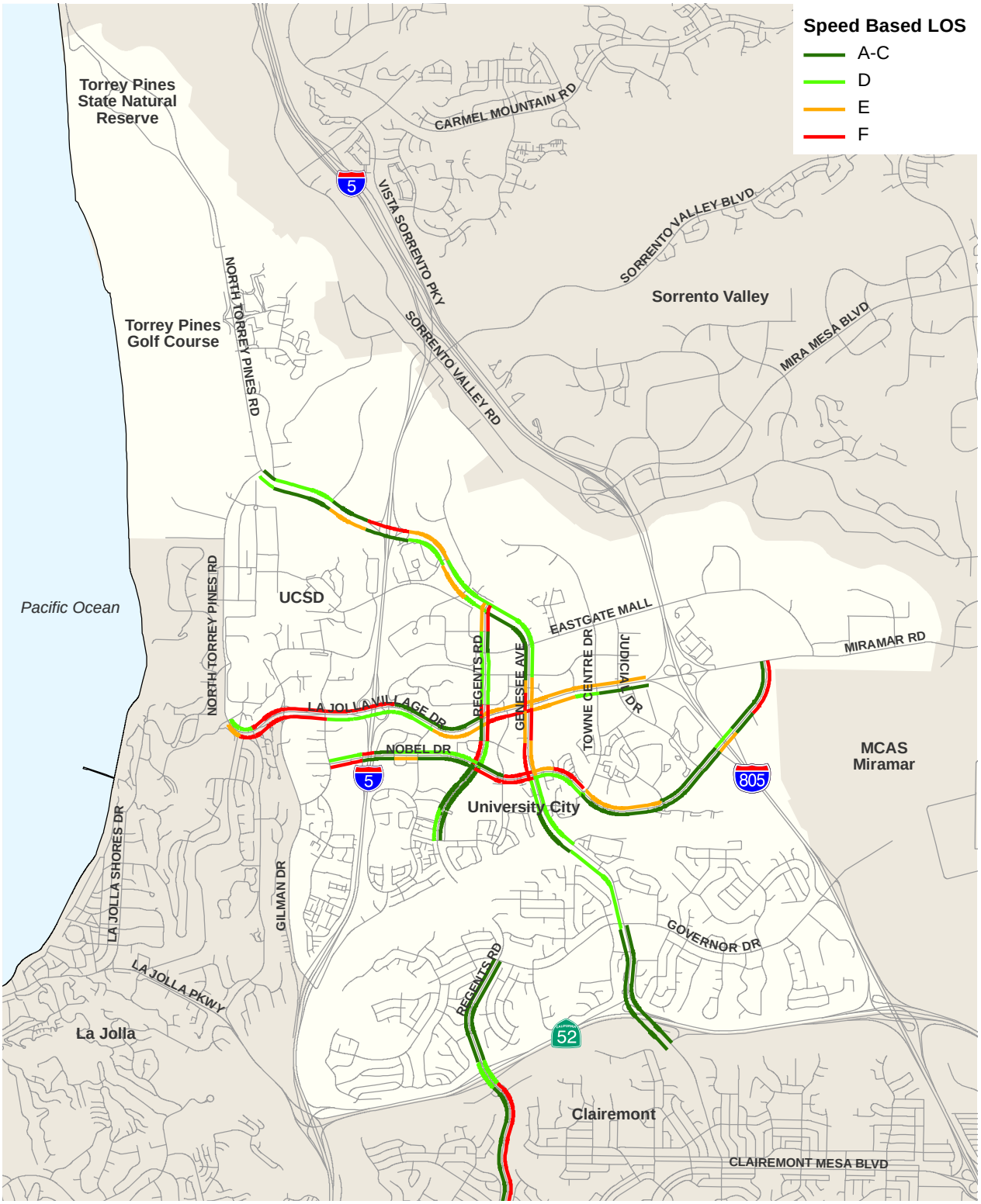


FIGURE 7-22



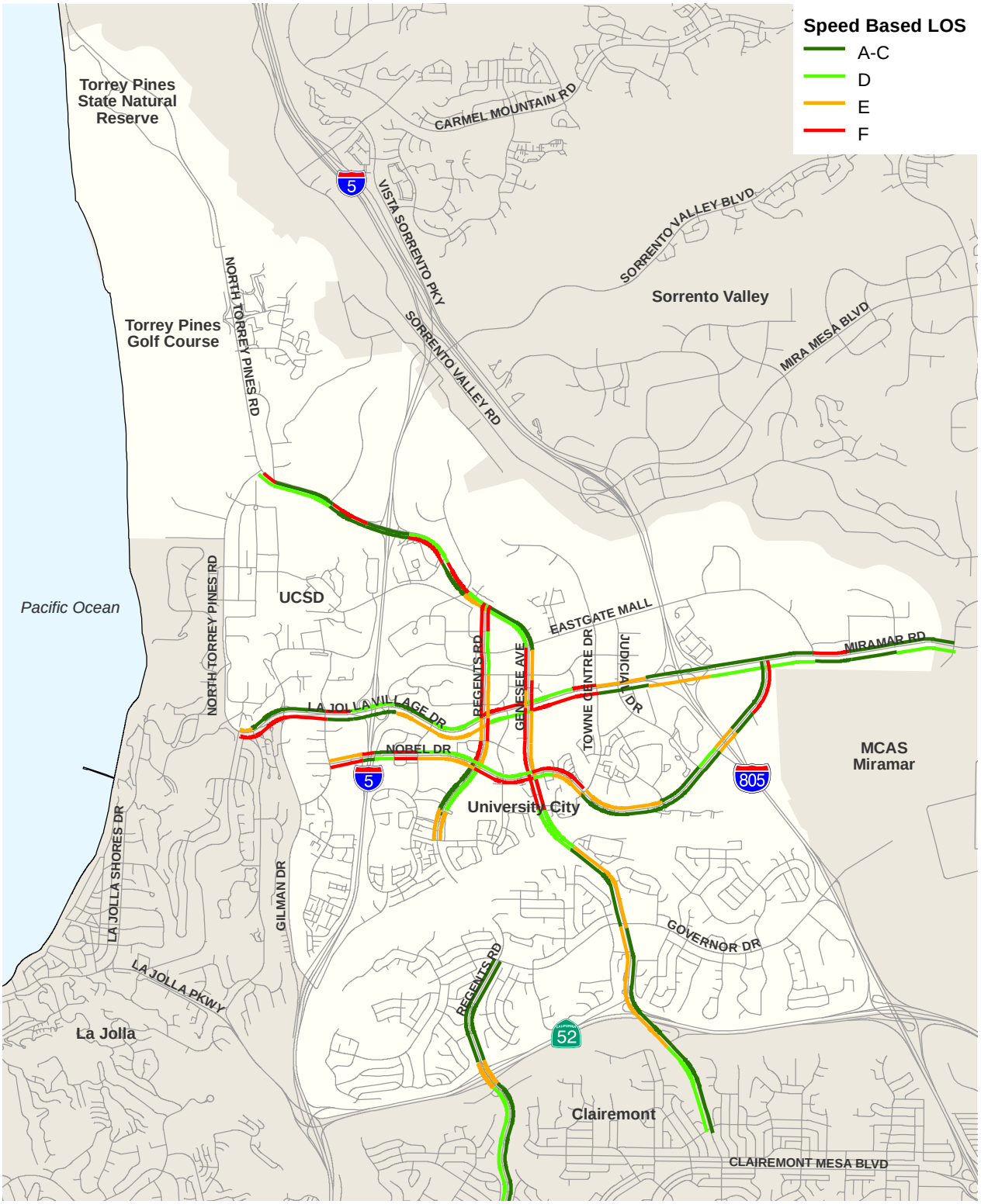
Existing AM Roadway Segment Speed Based Level of Service Summary

FIGURE 7-23



Existing Midday Roadway Segment Speed Based Level of Service Summary

FIGURE 7-24



Existing PM Roadway Segment Speed Based Level of Service Summary

8 FREEWAYS

This section includes the results of existing conditions analyses at the study area freeway segments and ramps.

FREEWAY SEGMENTS

Freeway volumes were obtained from Caltrans and reflect the latest Year 2013 volumes that had been collected at the time of this report. The freeways were evaluated using procedures for a freeway mainline as outlined in the HCM.

Table 8-1 displays the LOS analysis results for the freeway segments adjacent to the community during the morning and afternoon peak hours. As shown in the table, the freeway segments surrounding the University community operate with an LOS D or better for all segments except the following:

- Interstate 5 shows LOS E and F between SR-52 and Gilman Drive during the AM and PM peak, respectively. During the AM peak, the failing LOS appears in the northbound direction, in the PM peak the failing LOS appears in the southbound direction.
- Interstate 805 shows LOS E or F at each of the study segments in both peak periods. The failing LOS shows up in the northbound direction during the AM peak and in the southbound direction during the PM peak.
- State Route 52 shows LOS E for the segment between Genesee Avenue and I-805 during the AM peak and LOS F between the segments of Regents Road and I-805 during the PM peak. All failing segments are in the eastbound direction.

In general, the failing segments are those that move traffic towards the University community in the morning and away from the University community in the afternoon. **Figure 8-1** illustrates the LOS along the freeways during the morning peak. **Figure 8-2** illustrates the LOS along the freeways during the afternoon peak. **Appendix F** includes the "k" and "d" factors published by Caltrans that are included in the analysis.

FREEWAY ENTRANCE RAMPS

Freeway entrance ramps that currently have ramp meters installed and in operation were evaluated to determine the delay and queue associated with the ramp meters. Calculations were made using the peak hour demand at the entrance ramp and the current meter rate to quantify the number and frequency of vehicles that are processed through the meter. The excess demand not being processed is then quantified along with its respective queue length. Ramp volumes were obtained from the intersection turning movements collected in May 2015. **Appendix F** contains the ramp meter rates provided by Caltrans.

Table 8-2 displays the results of the freeway ramp meters in the study area. It should be noted that the I-5/Genesee Avenue interchange was under construction at the time of this study and ramp meters were removed and not operating. As shown in the table, the meter rate adequately controls the expected demand with delays resulting in less than 15 minutes, except at the following location:

- I-805 SB & Nobel Drive, PM peak (21 minute delay)

It is expected that delays over 15 minutes lead people to use an alternate route or choose to use the ramp during a different time period. The existing ramp meter rate at this location is 229 vehicles per hour per lane. If the ramp meter rate was adjusted to be 240 vehicles per hour per lane or more, then the delays would be reduced to less than 15-minutes.

Figure 8-1 illustrates the ramps that are over capacity during the morning peak. Figure 8-2 illustrates the ramps that are over capacity during the afternoon peak. As shown in the figures, the same ramps are over capacity in both the morning and evening peaks. The existing freeway ramps over capacity in both peak periods include:

- I-5 SB & La Jolla Village Dr (EB to SB)
- I-805 & Nobel Dr
- I-805 SB and Governor Dr

Field observations were made at each of the entrance ramp locations to evaluate whether calculation results were accurate. Where calculation results were not accurate, the meter rate used in the calculations was adjusted to reflect queue lengths from field observations.

Table 8-1 Existing Summary of Freeway Segment Level of Service

	Freeway Segment	Dir	Number of Lanes	Peak-Hour Volume (a)		Speed (mph) (b)		Density (pc/mi/ln)		LOS (c)	
				AM	PM	AM	PM	AM	PM	AM	PM
I-5	SR-52 to Gilman Dr	NB	4	8,785	6,154	56	56	44.4	31.1	**E**	D
		SB	4	5,120	8,970	56	56	28.8	45.4	D	**F**
	Gilman Dr to Nobel Dr	NB	4	5,424	6,449	61	60	26.5	30.3	D	D
		SB	4	6,565	5,687	60	61	30.9	26.5	D	D
	Nobel Dr to La Jolla Village Dr	NB	4	4,795	5,702	56	56	28.8	28.9	D	D
		SB	4	5,804	5,028	56	56	29.4	28.8	D	D
	La Jolla Village Dr to Genesee Ave	NB	4	5,225	6,213	56	56	28.8	31.4	D	D
		SB	4	6,325	5,479	56	56	32.0	28.8	D	D
I-805	SR-52 to Governor Dr	NB	4	8,560	6,066	56	56	43.3	30.7	**E**	D
		SB	4	3,142	9,834	56	56	28.8	49.8	D	**F**
	Governor Dr to Nobel Dr	NB	4	9,272	5,618	56	56	46.7	28.8	**F**	D
		SB	4	3,745	8,505	56	56	28.8	42.8	D	**E**
	Nobel Dr to La Jolla Village Dr	NB	4	8,316	5,039	56	56	42.1	28.8	**E**	D
		SB	4	3,359	7,628	56	53	28.8	41.1	D	**E**
	La Jolla Village Dr to Mira Mesa Blvd	NB	4	8,269	5,010	56	56	41.8	28.8	**E**	D
		SB	4	3,340	7,584	56	53	28.8	40.7	D	**E**
SR-52	I-5 to Regents Rd	EB	3	2,483	4,468	55	55	29.6	30.7	D	D
		WB	3	3,757	2,804	55	55	29.6	29.6	D	D
	Regents Rd to Genesee Ave	EB	2	3,199	4,316	53	53	33.9	45.7	D	**F**
		WB	2	3,564	2,945	53	53	32.1	32.1	D	D
	Genesee Ave to I-805	EB	2	3,486	4,704	56	57	35.2	46.7	**E**	**F**
		WB	2	3,884	3,210	57	57	28.4	28.4	D	D

Notes:

(a) Peak-hour volumes were estimated by applying the K and D factors to the published 2013 Caltrans AADT volumes.

(b) The speed was calculated from a base free-flow speed (BFFS) of 65 mph.

(c) The LOS for the respective freeway segments were based on the methodologies contained in Chapter 23 of the *2000 Highway Capacity Manual.*

Table 8-2 Existing Summary of Freeway Ramp Metering Operations

On-Ramp	Peak Hour	Number of Lanes		Storage Length (ft)		Meter Rate (veh/hr/ln) (a)	Ramp Volume (per lane)			Excess Demand (veh/hr)		Delay (min) (c)		Queue Length (ft/ln)	
		GP	HOV	GP	HOV		Total	GP	HOV	GP	HOV	GP	HOV	GP	HOV
I-5 SB & Gilman Dr	AM	2	1	570	570	n/a	735	294	147						
	PM					635 *	1615	646	323	22	0	2	0	275	0
I-5 SB & Nobel Dr	AM	2	1	490	370	n/a	407	163	81						
	PM					528	1162	465	232	0	0	0	0	0	0
I-5 NB & La Jolla Village Dr (WB to NB)	AM	1	0	715	n/a	n/a	488	390	98						
	PM					555	544	435	109	0	0	0	0	0	0
I-5 NB & La Jolla Village Dr (EB to NB)	AM	1	1	410	410	n/a	844	675	169						
	PM					n/a (b)	1248	998	250						
I-5 SB & La Jolla Village Dr (WB to SB)	AM	1	1	535	475	n/a	314	251	63						
	PM					865 *	1095	876	219	11	0	1	0	275	0
I-5 SB & La Jolla Village Dr (EB to SB)	AM	1	1	355	265	n/a	221	177	44						
	PM					570 *	820	656	164	86	0	9	0	2150	0
I-805 NB & La Jolla Village Dr (WB to NB)	AM	1	1	1850	1090	804	481	385	96	0	0	0	0	0	0
	PM					n/a	446	357	89						
I-805 NB & La Jolla Village Dr (EB to NB)	AM	1	1	780	780	746	802	642	160	0	0	0	0	0	0
	PM					n/a	1371	1097	274						
I-805 SB & La Jolla Village Dr (WB to SB)	AM	1	1	1290	1290	n/a	497	398	99						
	PM					704	640	512	128	0	0	0	0	0	0
I-805 SB & La Jolla Village Dr (EB to SB)	AM	2	1	2220	920	n/a	441	177	88						
	PM					593	1016	407	203	0	0	0	0	0	0
I-805 SB & Nobel Dr	AM	2	1	915	915	n/a	680	272	136						
	PM					229	671	269	134	80	0	**21**	0	1000	0
I-805 NB Governor Dr	AM	1	1	485	485	385	395	316	79	0	0	0	0	0	0
	PM					n/a	337	270	67						
I-805 SB & Governor Dr	AM	1	0	515	n/a	n/a	484	387	97						
	PM					768	1015	812	203	44	0	3	0	1100	0

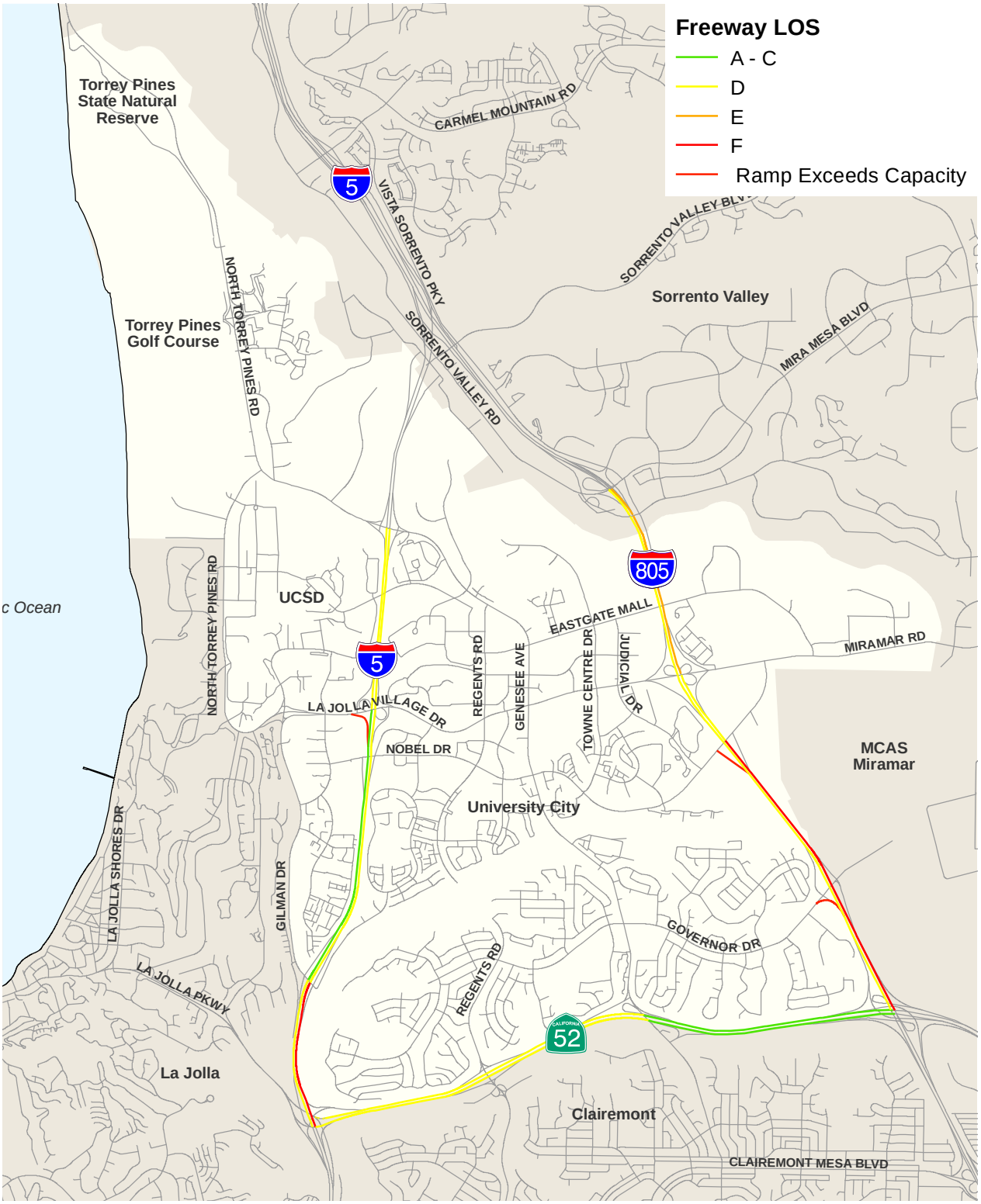
Notes:

(a) The ramp meter rate represents the most restrictive rate obtained from Caltrans. Cells that contain an "*" indicate meter rates that were manually adjusted to reflect queue lengths from field observations.

(b) A ramp meter rate ranging between 643 to 996 veh/hr/ln was provided by Caltrans, but field observations indicated that the ramp was not turned on.

(c) Delays exceeding 15-minutes are shown in **bold** font.

FIGURE 8-1



Existing AM Freeway Operations

FIGURE 8-2

Existing PM Freeway Operations

9 INTELLIGENT TRANSPORTATION SYSTEMS

Use of Intelligent Transportation Systems (ITS) can provide many benefits to a mobility network, including improving travel time, providing transit bypass methods, helping relay valuable traffic-related information to vehicular and non-vehicular users, and providing guidance to key destinations.

Coordinated traffic signals is an example of an ITS strategy that helps improve roadway operations, and can be found in the University community. Traffic signals have coordinated timing plans and information is relayed between traffic signals in real-time. The traffic signals typically communicate using underground copper or fiber optic wires. Having traffic signals coordinated helps to maximize the efficiency of the traffic signal system on that roadway. The following roadways within the study area have coordinated traffic signal timing plans:

- Genesee Avenue
- La Jolla Village Drive
- Miramar Road
- North Torrey Pines Road

Transit signal priority is an ITS strategy that allows a public transit vehicle, such as an MTS bus, to send information to an upcoming traffic signal to activate advanced transitioning to a green signal for its approach. Queue bypass lanes for transit are another form of transit signal priority that can be coupled with signal priority. There are a few instances of transit priority measures currently in place in the community. As part of the Superloop rapid bus route, a total of 40 intersection have transit signal priority. This includes 31 City operated intersections, seven UCSD operated intersections, and two Caltrans operated intersections. There are no other transit signal priority intersections outside of the SuperLoop route within the University community. A list of the intersections with transit signal priority along the SuperLoop route is included in Appendix B.

10 TRANSPORTATION DEMAND MANAGEMENT

The goal of the City's Transportation Demand Management (TDM) program is to improve mobility, reduce congestion and air pollution, and provide options for employees and residents to commute to and from work. Typical TDM strategies include promoting teleworking, alternative work schedules, walking, bicycling, carpooling, vanpooling, transit, carsharing, mixed-use development, and other transportation options. TDM measures improve the efficiency of our transportation system by helping to reduce vehicle trips during peak periods of demand.

The San Diego Association of Governments (SANDAG) performed a survey of some of the major employers in the community to help assess effectiveness of TDM measures currently in place and to help strategize future TDM efforts for the community. The survey provided an insight to the current mode split in the community:

SANDAG has an established program called iCommute that serves as the administrator for TDM in the region. iCommute provides the following services:

- RideMatcher – resources for finding carpool partners or available vanpool seats
- SchoolPool – a program that enrolls schools to encourage parents to carpool
- Transit Information - provides a linkage to transit service provider web pages
- Bicycle Information – provides a link to SANDAG's Regional Bikeway Master Plan, which has been updated to show bicycle paths, lanes and routes in the region.
- Guaranteed Ride Home – a program that allows vanpool riders affordable rides home to deal with emergency meetings or illness

The City of San Diego's Municipal Code requires new development to provide sufficient bicycle parking stalls, carpool parking and motorcycle facilities to encourage the use of alternative modes of transportation. As new developments enter the community, TDM measures most likely will be required. Examples of recent TDM measures requested for development in the community include:

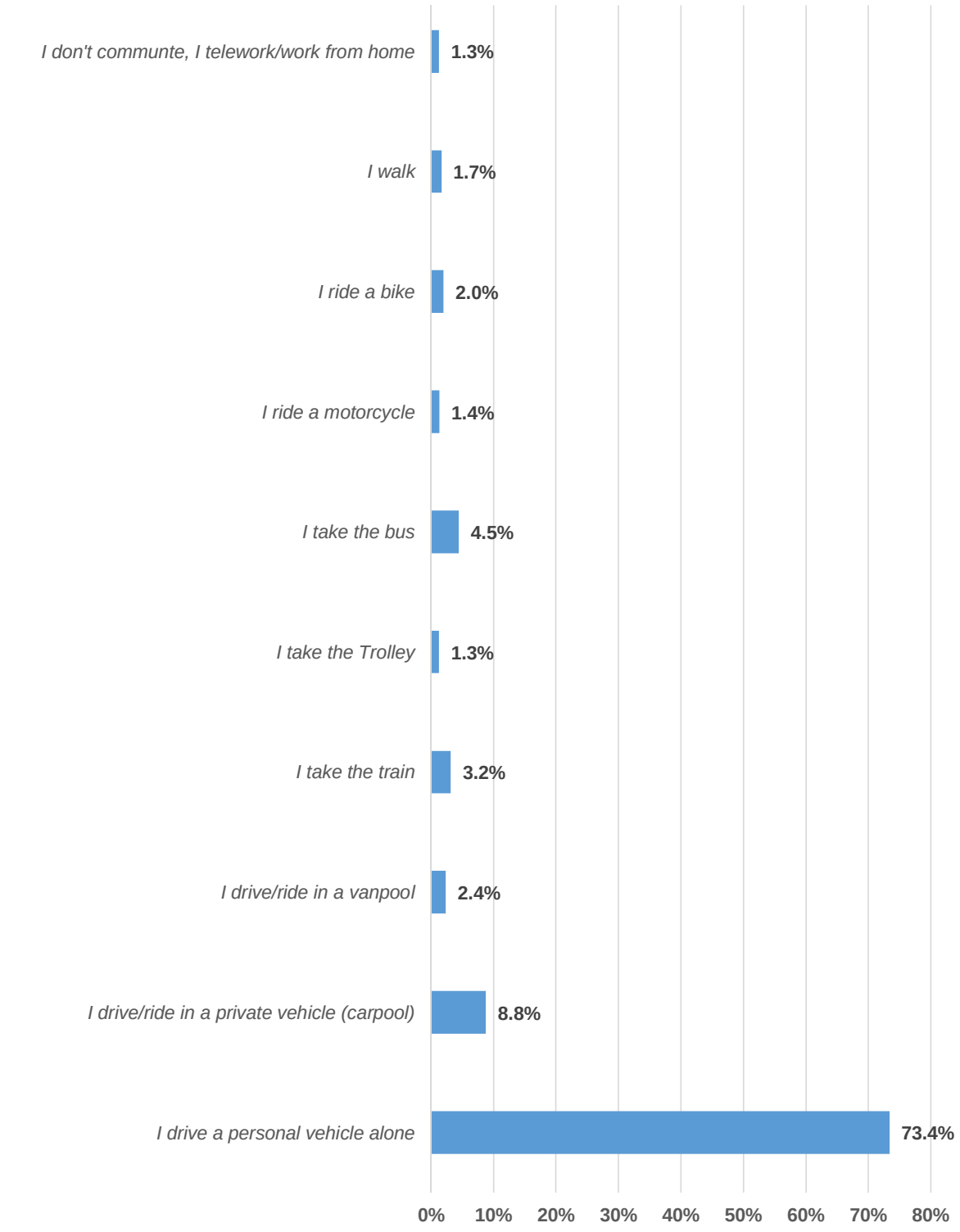
- Partially (or fully) subsidize transit passes
- Provide bicycle lockers
- Provide on-site shower facilities
- Provide reserved parking spaces for carpool/vanpool/low emission vehicles
- Provide transit/carpool/vanpool information kiosks

Caltrans owns and/or maintains several park-and-ride lots in the region that are used to promote carpool activity. There are currently two park-and-ride locations within the community, located at:

- Gilman Drive, just west of Interstate 5 and
- Governor Drive, just west of Interstate 805

Pricing strategies are also used to reduce demand on the transportation system. Managed lanes along Interstate 805 and Interstate 5 adjacent to the community are included in the 2050 RTP. These facilities will be available for carpools, vanpools, buses, and for single occupant drivers who pay a toll. The amount of carpooling activity is expected to increase as the system of high occupancy lanes and managed lanes increase in the region.

FIGURE 10-1



Source: U.S. Census Bureau 2014

Existing Mode Split Based on Survey Data

11 PARKING MANAGEMENT

Parking in the University community is primarily off-street parking. In the commercial areas, off-street parking lots are provided for the adjacent uses. In residential areas, off-street parking is mostly provided as well, with on-street parking sparingly used as overflow parking for residents and visitors. For on-street parking in the community, there are no permit parking areas and time-restricted and metered parking is used infrequently.

Portions of some of the key corridors in the community currently provide on-street parking:

- La Jolla Village Drive
- Governor Drive
- Regents Road
- Nobel Drive

Connectivity in the community may benefit from the conversion of on-street parking to transit or bicycle facilities. Providing enough off-street parking to accommodate the adjacent land uses and repurposing the roadways to accommodate other modes of travel may be needed to capture future growth. The effect of removing on-street parking will need to be considered on an individual project basis.

The number of off-street parking spaces for future development should follow the municipal code regulations, including requirements for reserved parking spaces for carpool and zero emission vehicles. Bicycle parking should also be provided for commercial uses. Near major transit stations and stops, reduced parking requirements should be considered to encourage transit use and discourage single occupancy vehicle use.

12 AIRPORTS

The closest passenger airport serving the University community is the San Diego International Airport (Lindbergh Field). There currently are not any direct public transit options that connect the community to the airport. Commuter air travel and corporate air travel is also available at McClellan-Palomar Airport, in Carlsbad, California to the north of the community. Montgomery Field is a general aviation airport located southeast of the community in Kearny Mesa. Miramar Marine Corps Air Station, is a military air field located adjacent to the eastern portion of the University community.

13 PASSENGER RAIL

Passenger rail is defined as train serving destinations outside of the San Diego Region. AMTRAK provides train service from San Diego to other parts of California and a majority of the United States. The main route serving San Diego is the Pacific Surfliner, which travels via Orange and Los Angeles Counties to the California central coast. The Pacific Surfliner stops in Los Angeles, which functions as a transfer point to access destinations across the nationwide AMTRAK service area. The main AMTRAK station in San Diego is Union Station (commonly known as Santa Fe Depot), located in downtown San Diego. The closest AMTRAK station to the University community is the Sorrento Valley station. Only three trains per day (in each direction) stop at this location on both weekdays and weekends.

NCTD provides commuter rail service (the COASTER) from Oceanside to downtown San Diego through the University community. The closet COASTER station to the University community is also the Sorrento Valley Station. Eleven trains per day (in each direction) stop at this location during the week and four trains per day (in each direction) stop on the weekend.

14 GOODS MOVEMENT & FREIGHT

The movement of goods in San Diego and the region is supported by an integrated intermodal freight infrastructure consisting of the use of trucks/roadways, rail/railroads, ports/maritime shipping, and air cargo/airports. The University community has no freight rail service, ports, or airports located within their boundary. However, freight service is provided along the LOSSAN corridor through the community, but does not stop within the community. Commercial good movements are limited to local deliveries to businesses and through travel on freeways.