CHAPTER 3: EXISTING CONDITIONS ASSESSMENT

This chapter of the University Avenue Mobility Study will focus on an assessment of the existing state of mobility for all modes of transportation and identify areas where short term improvements should be considered. To complete this assessment, the corridor was evaluated to determine the existing traffic operating conditions, the availability of transit, the pedestrian facilities and accessibility, and the bicycle access and circulation. A review of the on-street parking was also conducted to determine the location of the existing parking along the corridor.

3.1 EXISTING CONDITIONS

The University Avenue Corridor extends from 54th Street to 69th Street. In total, the corridor is approximately 1.9 miles long with nine (9) signalized and approximately eight (8) unsignalized intersections. Figure 3-1 illustrates the limits of the study area.

Several field reviews of the area surrounding the University Avenue Corridor were conducted to identify the existing conditions of the intersections and roadway segments along the corridor. During the field reviews features such as the roadway cross-sections, intersection geometrics, presence or lack of sidewalks, number of available on-street parking spaces, identification of ADA compliant curbs ramps, etc., were identified. "ADA compliant curb ramps" refers to curb ramps that meet the current 1990 ADA and 2010 ADA standards. Curb ramps that have been considered "non-compliant" are previously conforming curb ramps that no longer meet the current ADA and California Title 24 requirements.

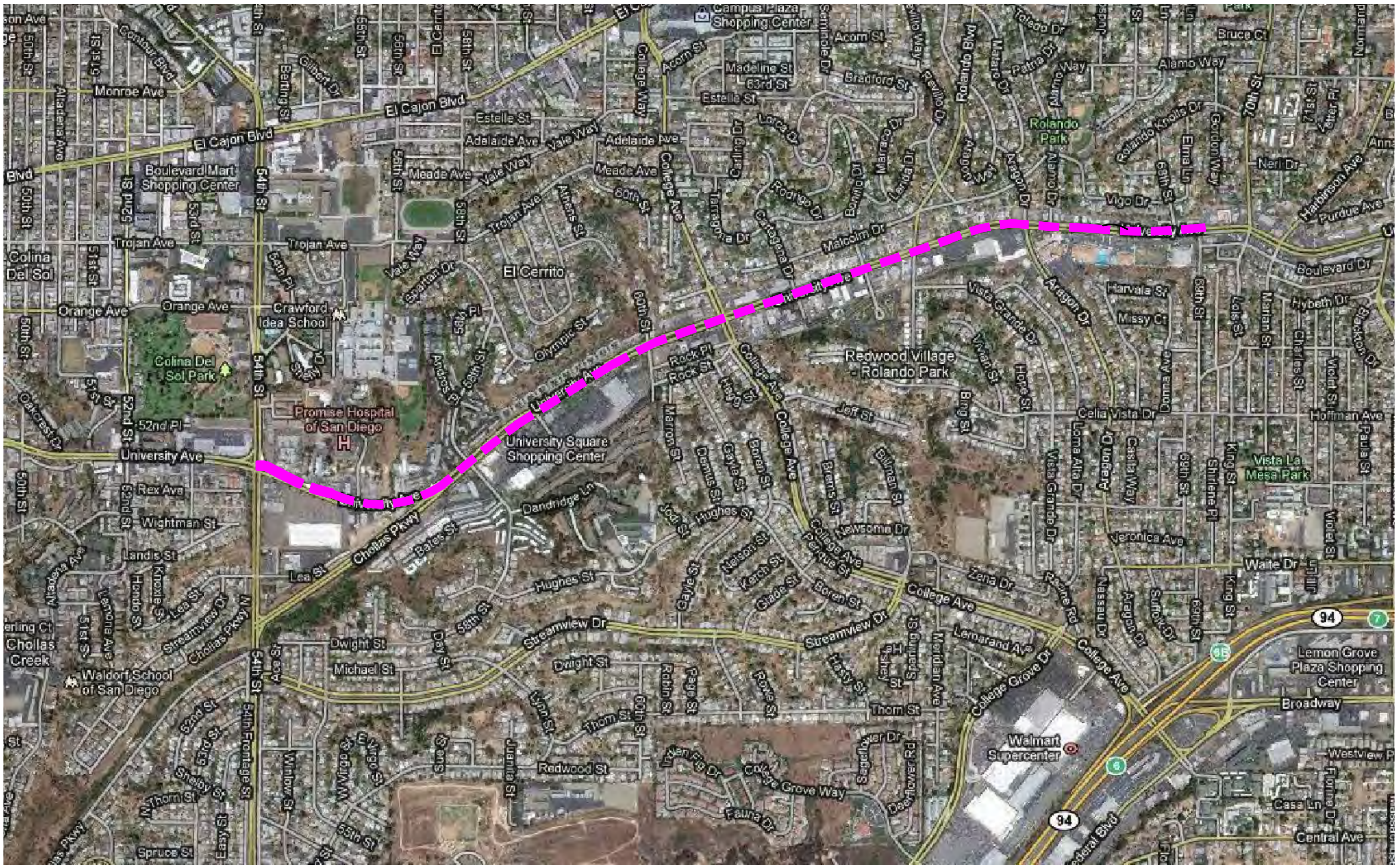
This section of the report concentrates on the roadway and intersection geometrics. The other features identified during the field reviews will be discussed later on in this report.

Existing Roadway Characteristics

The existing cross-sections of University Avenue varies throughout the corridor. Figure 3-2 illustrates the existing roadway classifications for the segments within project study area. A general description of the University Avenue Corridor is provided below.

University Avenue - From 54th Street to Chollas Parkway: This stretch of University Avenue is a four-(4) lane divided roadway with two (2) travel lanes in each direction. The center median is raised from 54th Street until approximately 500 feet (500') east of 54th Street. From approximately 500 feet (500') east of 54th Street to Chollas Parkway the center median is painted. Parking is generally permitted along both the north and south sides of University Avenue, with the exception of where the westbound right turn lane is provided at 54th Street and where the bus stops are located. The posted speed limit along this segment of University Avenue is 40 miles per hour (40 mph). The University Avenue/54th Street intersection is signalized while the University Avenue/Chollas Parkway Avenue is stop-controlled for the westbound left turn movement to Chollas Parkway.

University Avenue - From Chollas Parkway to 58th Street: This stretch of University Avenue is a five-(5) lane divided roadway with three (3) eastbound travel lanes and two (2) westbound travel lanes, and a raised median. Parking is generally permitted along both the north and south sides of University Avenue with the exception of where the eastbound right turn lane is provided at 58th Street and where the bus stops are located. The posted speed limit along this segment of University Avenue is 40 mph. The University Avenue/58th Street intersection is signalized.



LEGEND

- STUDY AREA LIMITS

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FIGURE 3-1

VICINITY MAP, UNIVERSITY AVENUE MOBILITY STUDY AREA

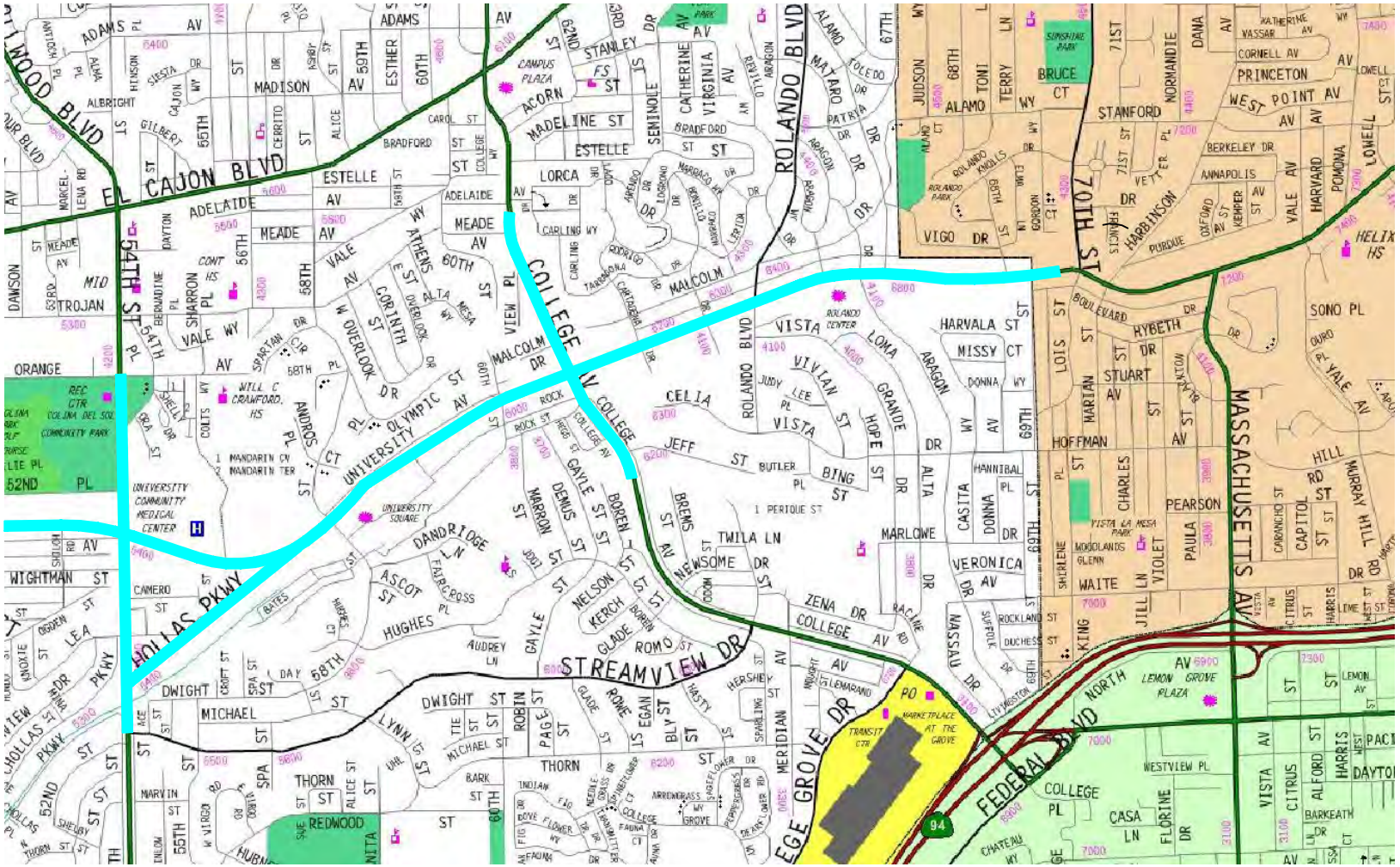

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FIGURE 3–2

EXISTING ROADWAY CLASSIFICATIONS

University Avenue - From 58th Street to 60th Street: This stretch of University Avenue is a five-(5) lane divided roadway with three (3) eastbound travel lanes and two (2) westbound travel lanes, and a raised median. Parking is generally permitted along both the north and south sides of University Avenue with the exception of where the bus stops are located. The posted speed limit along this segment of University Avenue is 40 mph. Signalized intersections are provided at 58th Street, University Square Driveway, and 60th Street.

University Avenue - From 60th Street to College Avenue: This stretch of University Avenue is a five-(5) lane divided roadway with three (3) eastbound travel lanes and two (2) westbound travel lanes, and a raised median. The third eastbound travel lane turns into a right turn only lane at College Avenue. Parking is generally permitted along both the north and south sides of University Avenue with the exception of where the bus stops are located. The posted speed limit along this segment of University Avenue is 40 mph. Signalized intersections are provided at 60th Street and College Avenue.

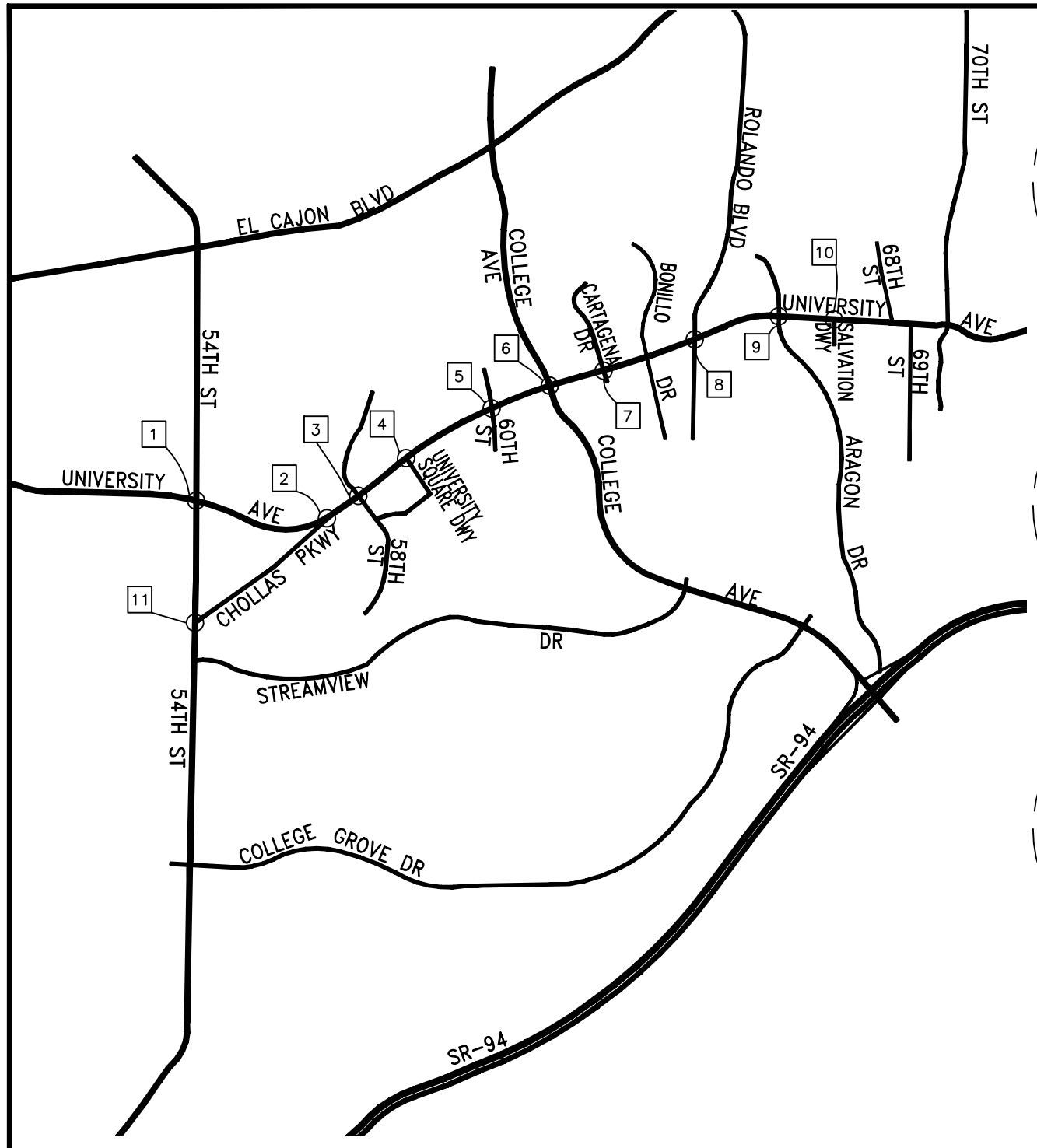
University Avenue - From College Avenue to Aragon Drive: This stretch of University Avenue is a-four (4) lane divided roadway with two (2) travel lanes in each direction and a painted median. The center median is raised for approximately 150 feet to the west of Rolando Boulevard; for approximately 240 feet to the east of Rolando Boulevard; and for approximately 90 feet to the west of Aragon Drive. Parking is generally permitted on both the north and south sides of University Avenue; however, intermittent parking restrictions are provided especially near the intersection of Bonillo Drive and between Rolando Boulevard and Aragon Drive to accommodate not only bus stops but driveways. The posted speed limit along this segment of University Avenue is 40 mph west of Rolando Boulevard and 35 mph east of Rolando Boulevard. Signalized intersections are provided at Rolando Boulevard and Aragon Drive.

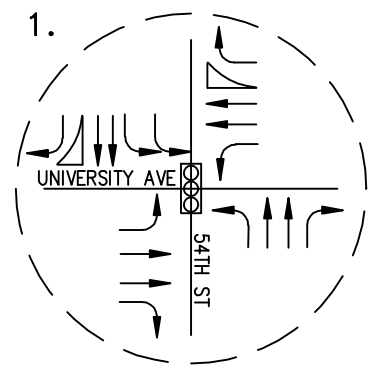
University Avenue - From Aragon Drive to 69th Street: This stretch of University Avenue is a four (4)-lane divided roadway with two (2) travel lanes in each direction and a raised median. Parking is generally permitted on both the north and south sides of the segment of University Avenue between Aragon Drive and 68th Street, with intermittent parking restrictions provided to accommodate driveways and bus stops. No parking is allowed on either side of the street between 68th Street and 69th Street to accommodate the bus stops. The posted speed limit along this segment of University Avenue is 35 mph. Signalized intersections are provided at Aragon Drive and the Salvation Driveway.

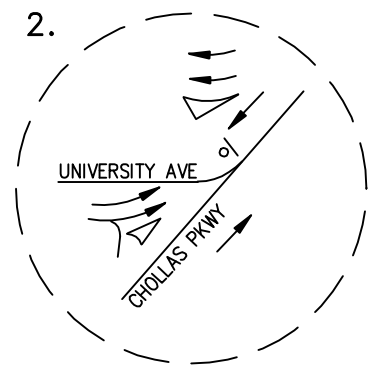
Existing Intersection Characteristics

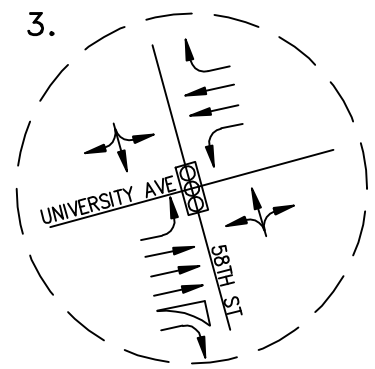
Figure 3-3 provides intersection configurations and traffic control for the key intersections along the study corridor. The key intersections analyzed include:

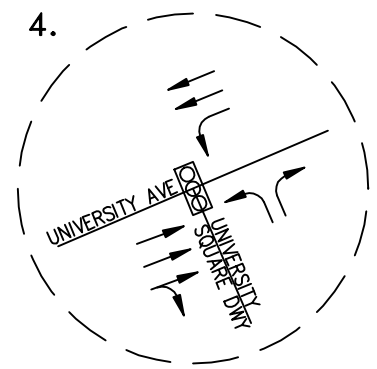
- University Avenue/54th Street (signalized);
- University Avenue/Chollas Parkway (westbound left turn movement is stop-sign controlled);
- University Avenue/58th Street (signalized);
- University Avenue/University Square Driveway (signalized);
- University Avenue/60th Street (signalized);
- University Avenue/College Avenue (signalized);
- University Avenue/Rolando Boulevard (signalized);
- University Avenue/Aragon Drive (signalized);
- University Avenue/Salvation Driveway (signalized); and
- 54th Street/Chollas Parkway (one-way stop-sign controlled).

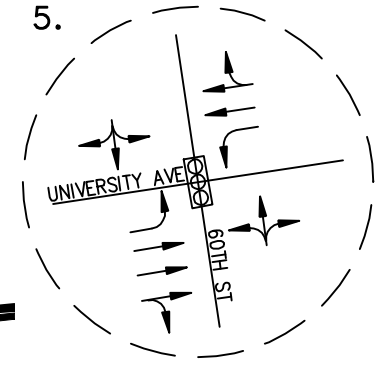


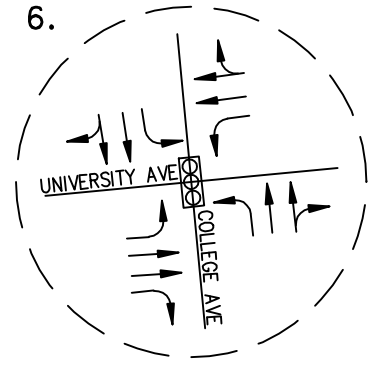


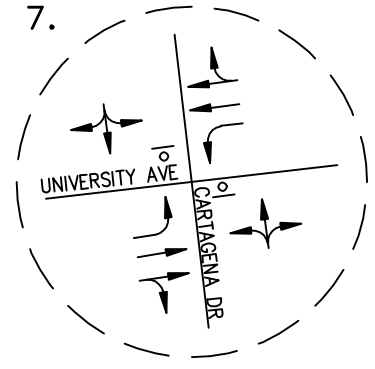


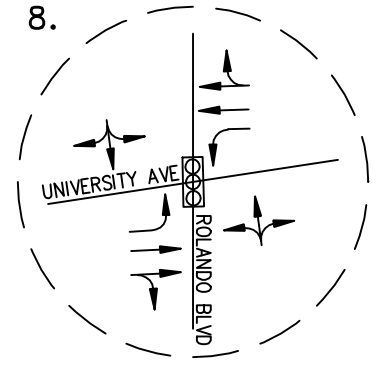


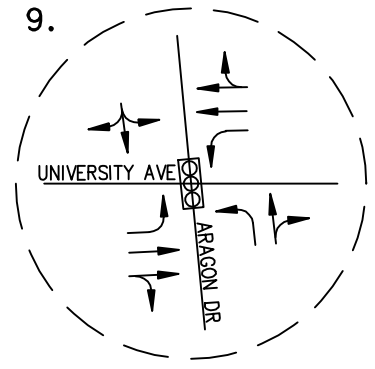


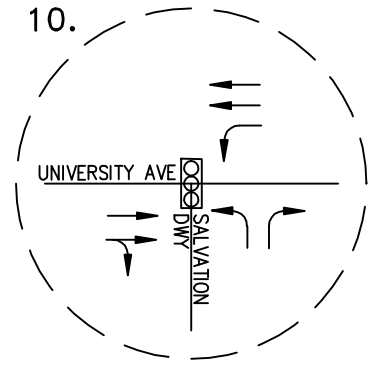


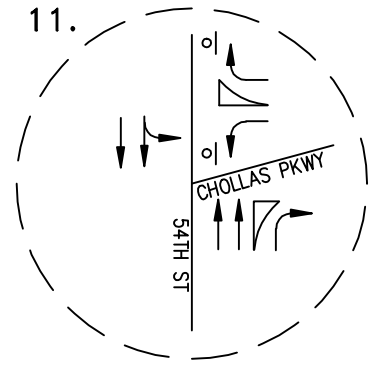












LEGEND

→ – TRAVEL LANE

▣ – TRAFFIC SIGNAL

o| – STOP SIGN

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FIGURE 3-3

EXISTING INTERSECTION GEOMETRICS

3.2 TRAFFIC DATA COLLECTION

Existing Roadway Segment Daily Traffic

Twenty-four (24)-hour machine counts were collected at the twelve (12) study segments along the University Avenue Corridor. The key study segments where counts were collected are:

1) University Avenue: West of 54th Street;
2) University Avenue: 54th Street to 58th Street;
3) University Avenue: 58th Street to 60th Street;
4) University Avenue: 60th Street to College Avenue;
5) University Avenue: College Avenue to Cartagena Drive;
6) University Avenue: Cartagena Drive to Rolando Boulevard;
7) University Avenue: Rolando Boulevard to Aragon Drive;
8) 54th Street: North of University Avenue;
9) 54th Street: South of University Avenue;
10) College Avenue: North of University Avenue;
11) College Avenue: South of University Avenue; and
12) Chollas Parkway: South of University Avenue.

The daily machine counts were collected for a period of one-week (7 days) beginning on Tuesday, November 30, 2010, through Monday, December 6, 2010. The existing Average weekday daily traffic volumes are illustrated in Figure 3-4. Copies of the existing count sheets are provided in Appendix A.

Existing Intersection Traffic Counts

Morning and afternoon peak hour traffic counts were collected at the key intersections in the study area on Wednesday, December 12, 2010, between the hours of 6:30 AM to 9:00 AM and 3:30 PM to 6:00 PM. All intersection turn counts included vehicular turning movements, pedestrian crossings, and bicycle crossings. Figures 3-5 and 3-6 illustrate the existing peak hour intersection traffic volumes and the existing pedestrian and bicycle crossings for the morning and afternoon peak periods. Copies of the existing count sheets are provided in Appendix A.

Existing Travel Speeds

In addition to existing traffic volume data, speed surveys were collected along University Avenue at the following five (5) locations:

1) University Avenue: 54th Street to 58th Street;
2) University Avenue: 58th Street to College Avenue;
3) University Avenue: College Avenue to Rolando Boulevard;
4) University Avenue: Rolando Boulevard to Aragon Drive; and
5) University Avenue: Aragon Drive to Salvation Driveway.

Speed surveys were collected between 1:00 PM and 3:30 PM. The speed survey data was reported for a minimum of 98 vehicles per direction over a period of not less than one-half (1/2) hour. Figure 3-7 illustrates 85th percentile (prevailing) speeds that were observed on each segment during the off peak hours. Speed survey summary sheets are provided in Appendix A.

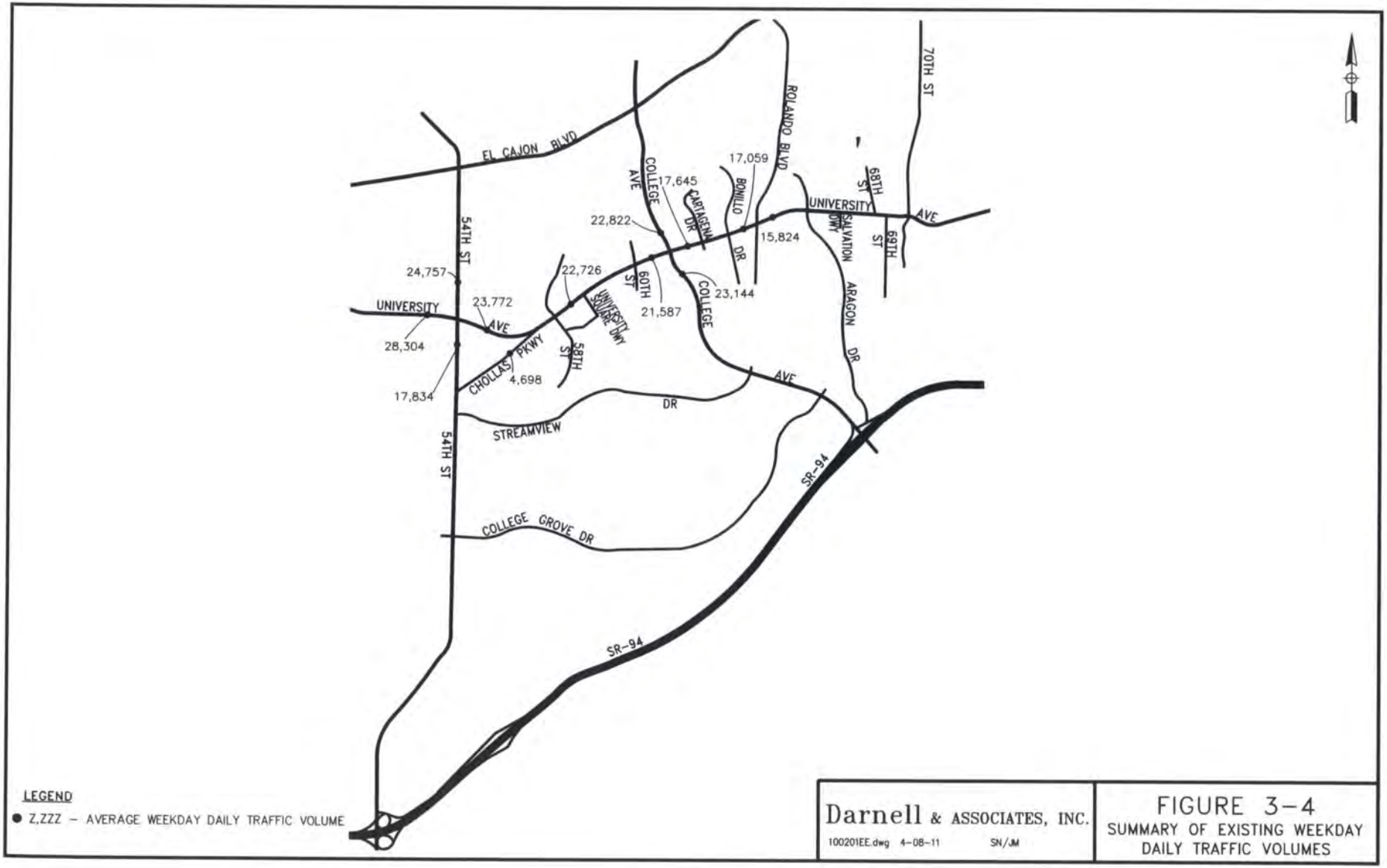
EL CAJON BLVD
54TH ST
COLLEGE AVE
ROLANDO BLVD
70TH ST
17,059
17,645
CARTAGENA DR
BONILLO DR
68TH ST
UNIVERSITY AVE
SALVATION WAY
22,822
15,824
24,757
22,726
60TH ST
UNIVERSITY SQUARE DWY
23,144
21,587
COLLEGE AVE
ARAGON DR
23,772
UNIVERSITY AVE
28,304
58TH ST
CHOLLAS PKWY
4,698
17,834
STREAMVIEW DR
SR-94
COLLEGE GROVE DR
LEGEND
● Z,ZZZ – AVERAGE WEEKDAY DAILY TRAFFIC VOLUME
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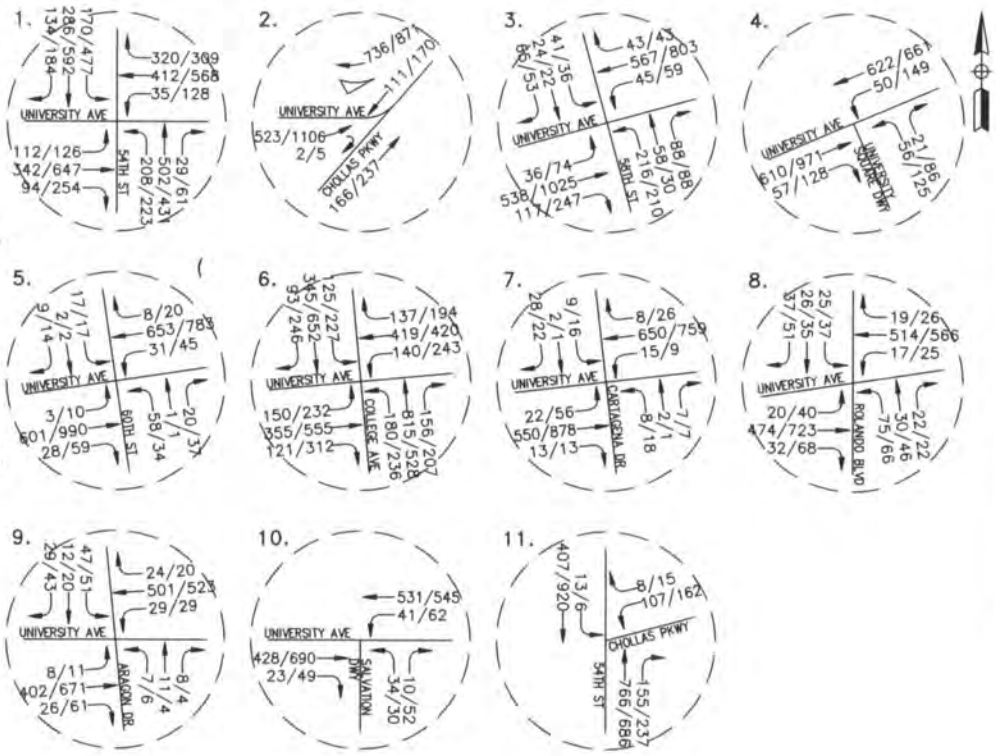
FIGURE 3-4
SUMMARY OF EXISTING WEEKDAY DAILY TRAFFIC VOLUMES



LEGEND

→ – DIRECTION OF TRAVEL

VV/WW – AM/PM PEAK HOUR TRAFFIC VOLUME

NOTE: AM PEAK HOUR TRAFFIC OCCURS BETWEEN 7:45–8:45 AM & PM PEAK HOUR TRAFFIC OCCURS BETWEEN 4:30–5:30 PM

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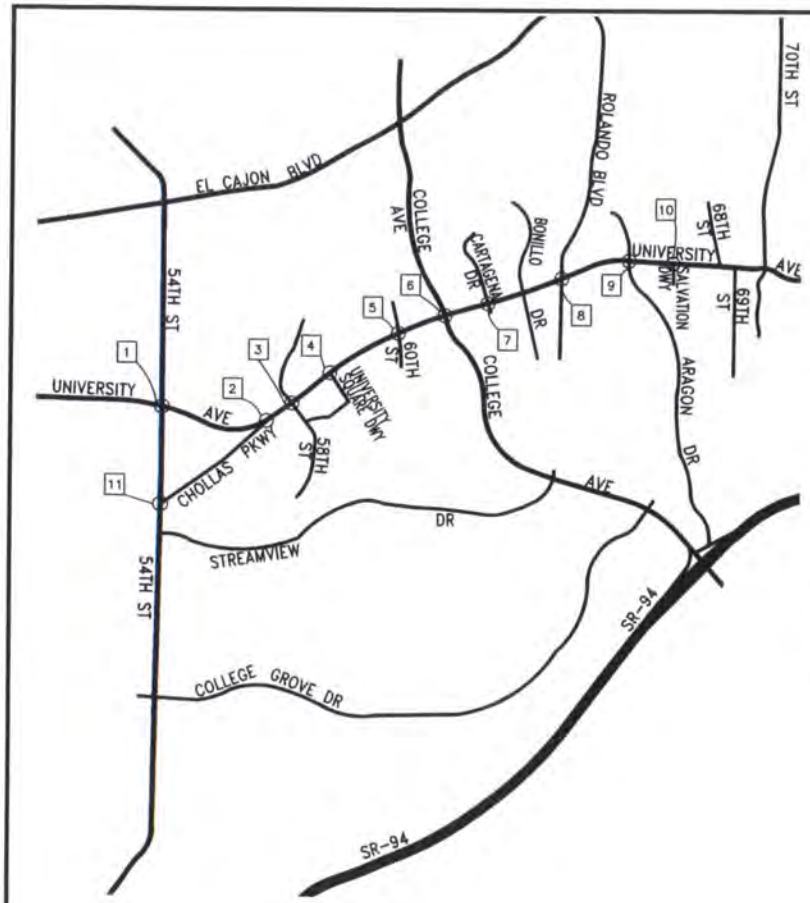
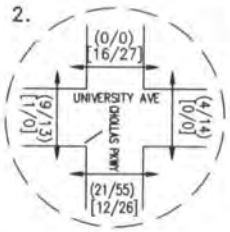
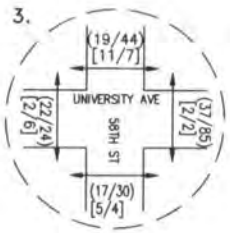
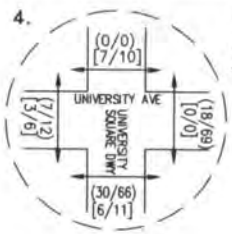
FIGURE 3–5

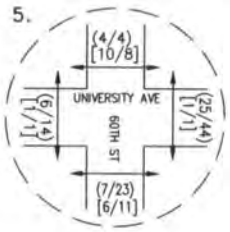
SUMMARY OF EXISTING PEAK HOUR TRAFFIC VOLUMES

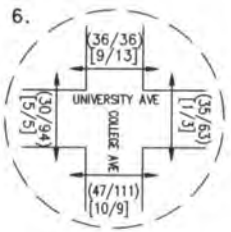


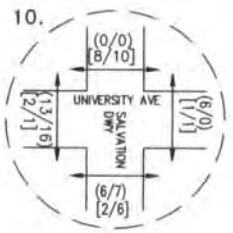


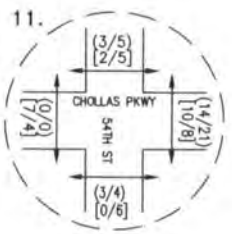












LEGEND

⟷ – CROSSING APPROACH/DIRECTION OF TRAVEL
(VV/WW) – AM/PM PEAK PEDESTRIAN CROSSING
[XX/YY] – AM/PM BICYCLE CROSSING
NOTE: AM PEDESTRIAN & BYCYCLE CROSSING ARE FROM 6:30–9:00 AM
PM PEDESTRIAN & BICYCLE CROSSING ARE FROM 3:30–6:00 PM

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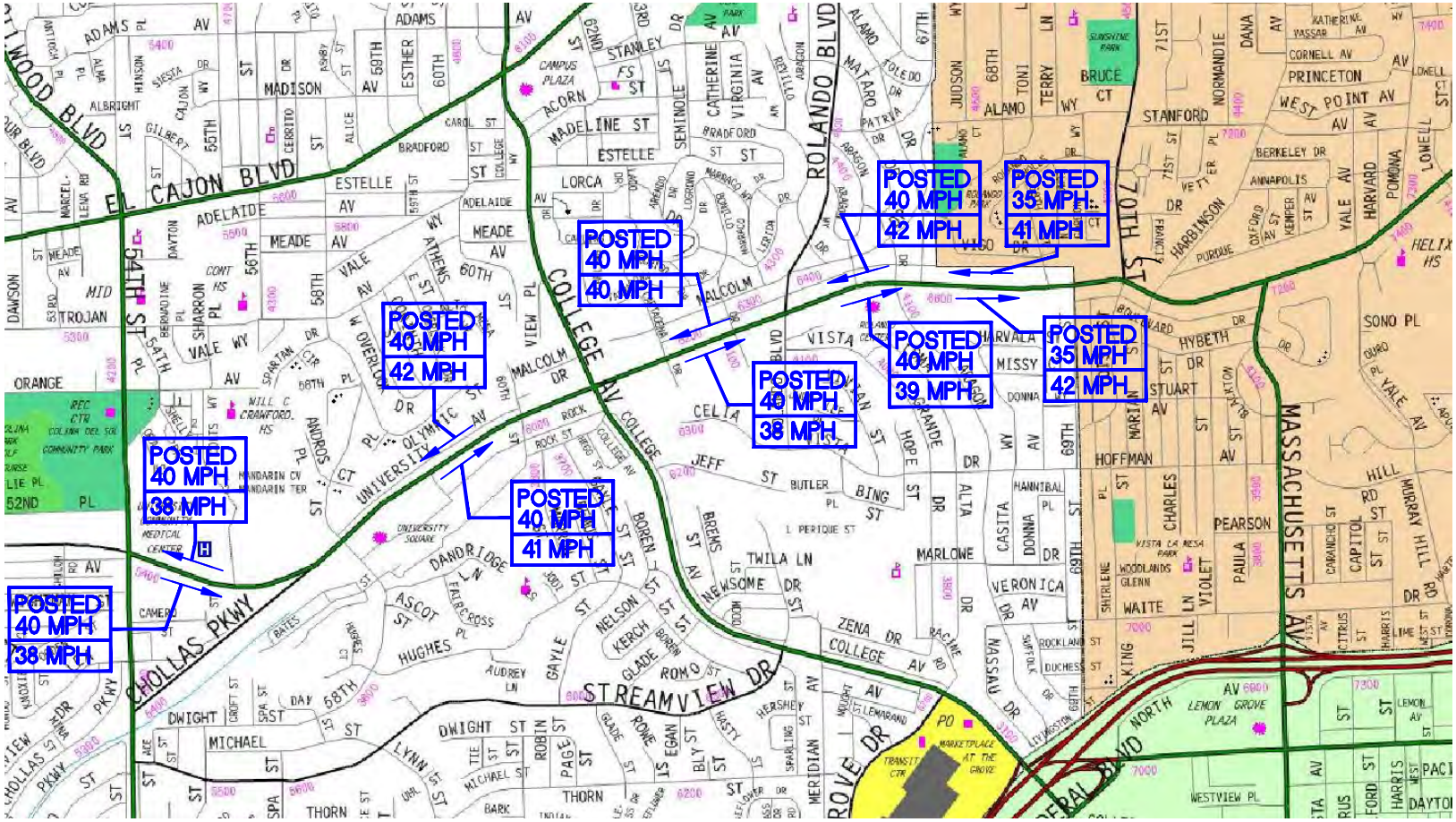
FIGURE 3–6
SUMMARY OF EXISTING AM & PM PEDESTRIAN & BICYCLE CROSSINGS



LEGEND

→ - DIRECTION OF TRAVEL

POSTED XX MPH - POSTED SPEED

YY MPH - 85TH PERCENTILE TRAVEL SPEED

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FIGURE 3–7

EXISTING 85TH PERCENTILE TRAVEL SPEEDS (PREVAILING SPEEDS)

Existing Travel Times

To supplement the speed survey data and the Synchro analysis, floating car surveys were conducted to document the travel time along the corridor during the peak period. Travel time runs were conducted for both eastbound and westbound University Avenue during the AM and PM peak periods (i.e. 7:15 AM-8:30 AM and 4:00 PM to 5:30 PM). Figure 3-8 illustrates the existing travel times and the associated Average travel speeds along the University Avenue Corridor during the peak periods. A summary of the floating car surveys is provided in Appendix A.

3.3 TRAFFIC OPERATIONAL ANALYSIS

Existing Roadway Segment Level of Service Analysis

The roadway segments levels of service along the study corridor were determined by comparing, the existing daily traffic volumes of the roadway segments City of San Diego classification thresholds, based on the existing cross-sections of the roadways as observed in the field. Based on the current cross-sections, University Avenue within the study corridor has the capacity equivalent to that of a 4-lane Major Arterial (capacity of 40,000 average daily trips [ADT] at LOS E). The existing roadway classifications used in the analysis were previously illustrated in Figure 3-2. The results of the roadway segment level of service analysis are summarized in Table 3-1 and illustrated in Figure 3-9.

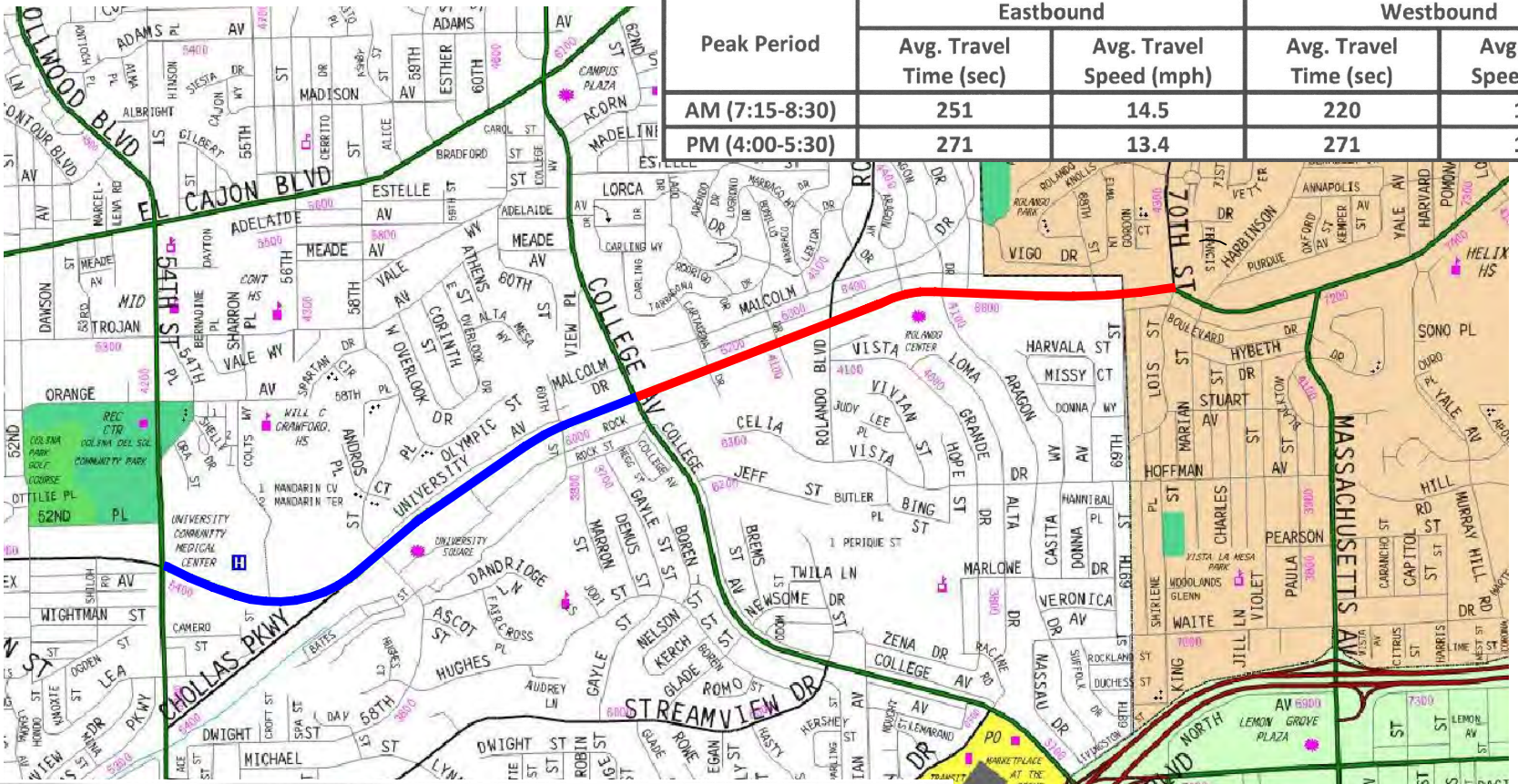
Table 3-1 - Existing Roadway Segment Level of Service Summary

Segment	Class	# of Lanes	LOS E Capacity	Average Weekday ADT		
				ADT	V/C	LOS
University Avenue						
West of 54th Street	4-Lane Major Arterial	4	40,000	28,304	0.71	C
54th Street to 58th Street	4-Lane Major Arterial	4	40,000	23,772	0.59	C
58th Street to 60th Street	4-Lane Major Arterial	5	40,000	22,726	0.57	C
60th Street to College Avenue	4-Lane Major Arterial	5	40,000	21,587	0.54	C
College Avenue to Cartagena Drive	4-Lane Major Arterial	4	40,000	17,645	0.44	B
Cartagena Drive to Rolando Boulevard	4-Lane Major Arterial	4	40,000	17,059	0.43	B
Rolando Boulevard to Aragon Drive	4-Lane Major Arterial	4	40,000	15,824	0.40	B
54th Street						
North of University Avenue	4-Lane Major Arterial	4	40,000	24,757	0.62	C
South of University Avenue	4-Lane Major Arterial	4	40,000	17,834	0.45	B
College Avenue						
North of University Avenue	4-Lane Major Arterial	4	40,000	22,822	0.57	C
South of University Avenue	4-Lane Major Arterial	4	40,000	23,144	0.58	C
Chollas Parkway						
South of University Avenue	4-Lane Major Arterial	4	40,000	4,698	0.12	A

Class = roadway classification; ADT = average daily traffic/trips; V/C = volume to LOS E capacity; LOS = level of service

As summarized in Table 3-1 and Figure 3-9, based on Average daily capacity, the segment of University Avenue from West of 54th Street to College Avenue currently operates a LOS C, and the segment of University Avenue between College Avenue and Aragon Drive currently operates at LOS B.

The future classification for the segments of University Avenue between 54th Street and Chollas Parkway, and between College Avenue and 69th Street, per the Mid-Cities Community Plan is a 4-Lane Major Arterial which is consistent with the existing roadway classification. The future classification for the segment of University Avenue between Chollas Parkway and College Avenue per the Mid-Cities Community Plan is a 5-Lane Major Arterial. As noted in Table 3-1, this segment of University Avenue currently already has 5 lanes; however, it was analyzed with the capacity of a 4-Lane Major Arterial.



Segment 2: College Ave to 70th St (1.01 Miles)				
Peak Period	Eastbound		Westbound	
	Avg. Travel Time (sec)	Avg. Travel Speed (mph)	Avg. Travel Time (sec)	Avg. Travel Speed (mph)
AM (7:15-8:30)	251	14.5	220	16.5
PM (4:00-5:30)	271	13.4	271	13.4

Segment 1: 54th St to College Ave (0.99 Miles)				
Peak Period	Eastbound		Westbound	
	Avg. Travel Time (sec)	Avg. Travel Speed (mph)	Avg. Travel Time (sec)	Avg. Travel Speed (mph)
AM (7:15-8:30)	221	16.1	208	17.1
PM (4:00-5:30)	244	14.6	280	12.7

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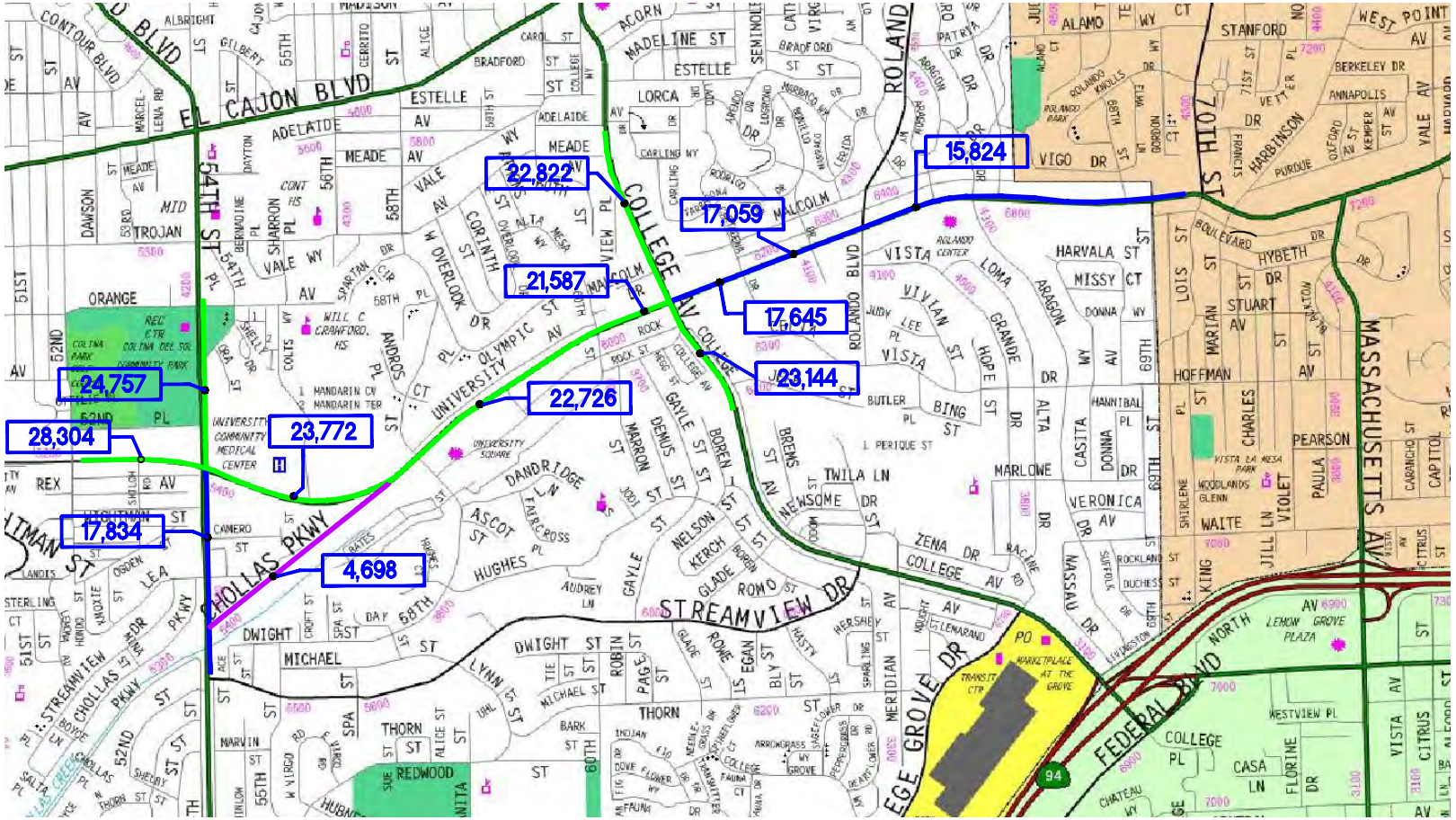
FIGURE 3–8

EXISTING TRAVEL TIMES



LEGEND

- LOS A
- LOS B
- LOS C

Z,ZZZ - AVERAGE DAILY TRAFFIC

CAPACITY AT LOS E - MAJOR ARTERIAL (4-LANES)-40,000

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FIGURE 3-9

SUMMARY OF EXISTING ROADWAY SEGMENTS LEVELS OF SERVICE

Existing Intersection Level of Service Analysis

As discussed in Chapter 2, the Synchro, version 6.0, software (which is based on the methodology outlined in the 2000 Highway Capacity Manual) was utilized to analyze the key intersections in the vicinity of the project.

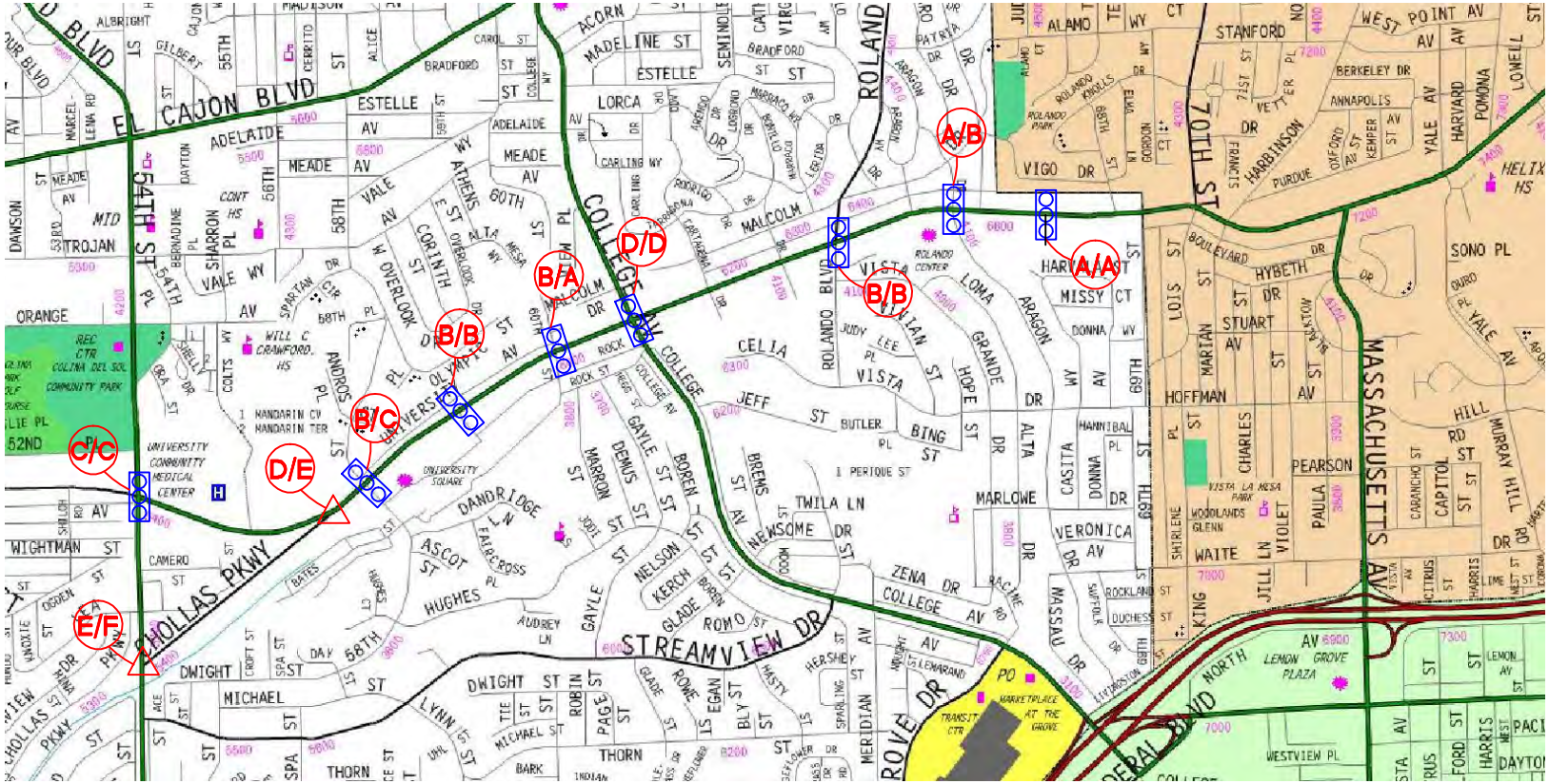
The intersections levels of service were analyzed based on the existing intersection geometry previously illustrated in Figure 3-3 and existing traffic volumes depicted in Figure 3-5. Existing signal timings for the study corridor were obtained from the City of San Diego Transportation Engineering and were utilized for the existing conditions analysis. The results of the level of service analysis are presented in Table 3-2 and graphically illustrated in Figure 3-10. The Synchro analysis worksheets are provided in Appendix D.

As shown in Table 3-2 and Figure 3-10, all signalized intersections along the study corridor currently operate at LOS D or better during both the AM and PM peak hours. The stop-controlled intersections of University Avenue/Chollas Parkway, and 54th Street/Chollas Parkway; however, have critical movements which currently operate at LOS E or F during the AM and PM peak hours.

Table 3-2 - Existing Intersection Level of Service Summary

Intersection	Traffic Control	Critical Movement	AM Peak Hour		PM Peak Hour	
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
University Ave. (E-W) @ 54th St. (N-S)	Signalized	Intersection	28.2	C	34.3	C
University Ave. (E-W) @ Chollas Pkwy. (N-S)	OWSC	WBL	25.2	D	**40.6**	**E**
University Ave. (E-W) @ 58th St.(N-S)	Signalized	Intersection	20.2	C	21.5	C
University Ave. (E-W) @ University Square Dwy. (N-S)	Signalized	Intersection	9.2	A	16.2	B
University Ave. (E-W) @ 60th St. (N-S)	Signalized	Intersection	13.5	B	7.5	A
University Ave. (E-W) @ College Ave. (N-S)	Signalized	Intersection	41.5	D	53.8	D
University Ave. (E-W) @ Rolando Blvd. (N-S)	Signalized	Intersection	14.7	B	16.5	B
University Ave. (E-W) @ Aragon Dr. (N-S)	Signalized	Intersection	10.3	B	10.9	B
University Ave. (E-W) @ Salvation Dwy. (N-S)	Signalized	Intersection	7.0	A	8.6	A
Chollas Pkwy.(E-W) @ 54th St. (N-S)	OWSC	WB	**35.5**	**E**	**133.7**	**F**

sec/veh = seconds of delay per vehicle; LOS = level of service;
E-W = east-west-street; N-S = north-south street
WB = westbound approach; WBL = westbound left
OWSC = one-way stop-controlled



LEGEND

- TRAFFIC SIGNAL
- STOP CONTROLLED
- A/B - AM/PM PEAK HOUR LOS FOR CRITICAL MOVEMENT

Darnell & ASSOCIATES, INC.

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FIGURE 3–10

SUMMARY OF EXISTING INTERSECTIONS LEVELS OF SERVICE

Existing Speed Survey Assessment

As shown previously in the Data Collection section of this report (Figure 3-7), the 85th percentile (prevailing) speeds along University Avenue during the off-peak hours range from 38 to 42 mph. Since these are the 85th percentile speeds, it means that 15% of the vehicles surveyed traveled faster than the 38 to 42 mph range.

The majority of University Avenue within the study corridor (the segments between 54th Street and Aragon Drive) has a posted speed limit of 40 mph, while the segment between Aragon Drive and 69th Street has a posted speed limit of 35 mph. As was illustrated in Figure 3-7, with the exception of the segment of University Avenue between Aragon Drive and 69th Street, the 85th percentile (prevailing) speeds are within two (2) miles of the posted speed limit. On the segment of University Avenue between Aragon Drive and 69th Street, the 85th percentile (prevailing) speeds are 6 to 7 mph higher than the posted 35 mph speed limit.

Based on a review of the speed surveys, it does not appear that speeding is an issue. Thus, this mobility study did not address ways to reduce the travel speeds along University Avenue.

Existing Travel Time Assessment

Travel time runs were conducted to determine the average travel time along the University Avenue Corridor during the AM and PM peak periods. This information is helpful in developing and validating the simulation model in SimTraffic that can be used to further revaluate the alternatives in later stages of this project. The corridor was divided into eight (8) segments, with the signalized intersections serving as the end point of each segment. A total of eight (8) runs were conducted for both the eastbound and westbound directions along University Avenue during the AM peak period (7:15 AM – 8:30 AM) and the PM peak period (4:00 PM – 5:30 PM).

Utilizing the travel times collected in the field and the segment lengths, the average travel speeds for each segment of the corridor were calculated.

Table 3-3 provides a summary of the average travel times and corresponding travel speeds for the eight (8) segments along the University Avenue Corridor. The average travel times for the segment of University Avenue between 54th Street and College Avenue, and the segment of University Avenue between College Avenue and 70th Street were previously illustrated in Figure 3-8.

Table 3-3 - Travel Time Survey Results

Segment		Segment Length (miles)	Eastbound		Westbound	
			Travel Time (sec)	Travel Speed (mph)	Travel Time (sec)	Travel Speed (mph)
AM Peak Hour						
University Avenue	54th St. to 58th St.	0.43	93	16.7	113	13.7
	58th St. to University Square Dwy.	0.16	41	14.1	15	38.4
	University Square Dwy. to 60th St.	0.25	48	18.8	48	18.8
	60th St. to College Ave.	0.15	39	13.7	32	16.9
	Sub-Total - 54th St. to College Ave.:	**0.99**	**221**	**16.1**	**208**	**17.1**
	College Ave. to Rolando Blvd.	0.38	69	19.8	97	14.1
	Rolando Blvd. to Aragon Dr.	0.21	38	19.9	66	11.5
	Aragon Dr. to Salvation Dwy.	0.15	33	16.4	25	21.6
	Salvation Dwy. to 70th St.	0.27	111	8.8	32	30.4
	Sub-Total - College Ave. to 70th St.:	**1.01**	**251**	**14.5**	**220**	**16.5**
	Grand Total - 54th St. to 70th St.:	**2.00**	**472**	**15.3**	**428**	**16.8**
PM Peak Hour						
University Avenue	54th St. to 58th St.	0.43	82	18.9	136	11.4
	58th St. to University Square Dwy.	0.16	39	14.8	47	12.3
	University Square Dwy. to 60th St.	0.25	34	26.7	53	17.0
	60th St. to College Ave.	0.15	89	6.1	44	12.3
	Sub-Total - 54th St. to College Ave.:	**0.99**	**244**	**14.6**	**280**	**12.7**
	College Ave. to Rolando Blvd	0.38	68	20.1	156	8.8
	Rolando Blvd. to Aragon Dr	0.21	47	16.1	70	10.8
	Aragon Dr. to Salvation Dwy.	0.15	42	12.9	15	36.0
	Salvation Dwy. to 70th St	0.27	114	8.5	30	32.4
	Sub-Total - College Ave. to 70th St.:	**1.01**	**271**	**13.4**	**271**	**13.4**
	Grand Total - 54th St. to 70th St.:	**2.00**	**515**	**14.0**	**551**	**13.1**

Travel Time = Average of 8 Travel Time Runs
Travel Speed = (Segment Length ÷ Travel Time) * 3600

3.4 CRASH ANALYSIS

The City of San Diego provided Darnell & Associates, Inc., with data on the crashes that occurred along University Avenue between 54th Street and 69th Street, and for the 54th Street/Chollas Parkway intersection for the eleven-(11) year period between January 1, 2000 and January 8, 2011. Table 3-4 summarizes the crashes by intersection over the eleven-(11) year period for the University Avenue Corridor.

Table 3-4 - Summary of Crash Data by Intersection

Intersection	Number of Crashes that Occurred Between 1/1/2000 & 1/8/2011		
	Crashes that Occurred at the Intersection	Crashes that Occurred Midblock	**Total**
University Ave. @ 54th St	77	52	**129***
University Ave. @ Chollas Pkwy	10	11	**21**
University Ave. @ 58th St	48	23	**71**
University Ave. @ University Square Dwy.	12	9	**21**
University Ave. @ 60th St	18	12	**30**
University Ave. @ College Ave.	75	16	**91***
University Ave. @ Bonillo Dr	6	2	**8**
University Ave. @ Cartagena Dr	7	6	**13**
University Ave. @ Rolando Blvd	12	23	**35**
University Ave. @ Aragon Dr	12	4	**16**
University Ave. @ Alamo Dr	3	0	**3**
University Ave. @ Salvation Dwy.	1	0	**1**
University Ave. @ 68th St	2	2	**4**
University Ave. @ 69th St	3	1	**4**
54th Street @ Chollas Pkwy	22	0	**22**

Note: All crashes that occurred within 100' feet of an intersection approach/departure was considered to occur at the intersection

As shown in Table 3-4, the highest number of crashes occurred at the intersection of University Avenue and 54th Street, with 129 crashes occurring over an eleven-(11) year period. The second highest number of crashes occurred at the University Avenue/College Avenue intersection, with 91 crashes over an eleven-(11) year period. It should be noted that the crashes reported in Table 3-4 are for those collisions/crashes that were reported to the Police Department. Crashes with little damage or crashes that go unreported are not documented and cannot be reflected in these totals.

Table 3-5 summarizes the crashes along the University Avenue Corridor by the type of collision. Based on the data provided by the City, the majority of the crashes along the corridor were rear-end collisions, which represent 137 of the crashes reported along the corridor. The second highest type of collisions was the right angle collisions with 117 reported crashes.

Table 3-5 - Summary of Crash Data by Type of Collision

Collision Type	Number of Crashes between 1/1/2000 - 1/8/2011															
	University Avenue @														54th St @ Chollas Pkwy	**Total**
	54th	Chollas Pkwy	58th	Univ. Sq	60th	College	Bonillo	Cartagena	Rolando	Aragon	Alamo	Salvation	68th	69th		
Rear End	52	1	15	2	5	43	1	1	6	3	0	0	1	1	6	**137***
Right Angle	27	5	15	3	9	21	2	3	11	6	2	1	1	2	9	**117***
Side Swipe Same Direction	14	2	6	2	2	7	3	1	1	0	0	0	0	1	1	**40**
Side Swipe Opposite Direction	1	1	2	1	1	1	0	0	0	0	0	0	0	0	1	**8**
Pedestrian Involved	16	2	10	4	1	5	0	2	0	0	0	0	0	0	0	**40**
Bicyclist Involved	5	0	1	1	2	3	1	0	1	2	1	0	0	0	2	**19**
Hit Parked Vehicle	4	1	12	5	10	8	1	5	6	3	0	0	2	0	0	**57**
Hit Object	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	**1**
Hit Fixed Object In Roadway	4	3	6	2	0	3	0	0	4	1	0	0	0	0	2	**25**
Hit Fixed Object Ran Off Road	5	6	4	0	0	0	0	1	4	0	0	0	0	0	0	**20**
Overturned Vehicle	1	0	0	1	0	0	0	0	1	0	0	0	0	0	1	**4**
Head On Accident	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	**1**
Total	**129**	**21**	**71**	**21**	**30**	**91**	**8**	**13**	**35**	**16**	**3**	**1**	**4**	**4**	**22**	**469**

In addition to the total number of crashes and types of collisions that occurred along the corridor, the crash rates along the University Avenue Corridor were calculated for each year. The crash rates are used to normalize the collision data for a corridor by calculating the Average number of collisions per million vehicle miles traveled (MVM) per year.

Table 3-6 summarizes the crash rates for the University Avenue Mobility Study area (excluding the 54th Street/Chollas Parkway intersection) for the years 2000 to 2010. As shown in Table 3-6, the crash rate based on the total crashes (intersection and midblock collisions) ranged from 2.19 to 3.49 with the highest collision rate occurring in 2003 and the lowest crash rate occurring in 2010. Based on just the mid-block crashes, the crash rate ranged from 0.66 to 1.43 with the highest crash rate occurring in 2007 and the lowest crash rate occurring in 2010.

Table 3-6 - Summary of Crash Rates for University Avenue Corridor

Year	Crash Rates in Million Vehicle Miles (MVM) Per Year for University Avenue between 54th Street & 69th Street	
	Intersections & Midblock Crashes	Midblock Crashes
2000	2.67	0.96
2001	3.28	0.96
2002	2.26	0.89
2003	**3.49**	0.96
2004	2.92	0.88
2005	3.10	1.32
2006	2.87	0.75
2007	2.87	**1.43**
2008	2.59	0.96
2009	2.32	1.23
2010	2.19	0.66

Note: All crashes that occurred within 100' feet of an intersection approach/departure was considered to occur at the intersection

3.5 PARKING INVENTORY

A field review was conducted to identify where on-street parking is permitted along the University Avenue Corridor. The field investigations found that free unrestricted unmarked parallel parking is generally located on both the north and south sides of University Avenue throughout the study corridor. There is one location on the north side of University Avenue just west of 58th Street that is specifically marked for the post office use (i.e. the curb is painted white), and there is approximately 50' of cub designated as a commercial loading zone (i.e. yellow curb) on both the north and south side of University Avenue just east of College Avenue. There is approximately 25 feet of curb designated for handicap parking (i.e. blue curb) on the north side of University Avenue just west of Cartagena Drive. Just east of Cartagena Drive on the north side of University Avenue there is approximately 40 feet of curb designated as a 30 minute parking zone (i.e. green curb).

Red curb no parking restrictions are placed at all bus stops and at locations where there are right turn lanes (i.e. the westbound right turn lane at 54th Street and the eastbound right turn lane at 58th Street). Also, additional red curb no parking restrictions are located at the intersection with Bonillo Drive, intermittently between Rolando Boulevard and Aragon Drive, at the intersection with Salvation Driveway, and between 68th Street and 69th Street to accommodate intersection and driveway movements.

Since all parking spaces along the study corridor are unmarked, a field survey was conducted to determine the feet of curb along the University Avenue Corridor where parking was permitted (i.e. the feet of non-red curb). Once the feet of curb where parking was permitted was determined, the number of parking spaces permitted along the University Avenue Corridor was estimated by assuming 25 feet per parking space.

Per the field surveys there is approximately 8,944 feet of curb along both the north and south sides of the University Avenue Corridor where parking is permitted (this included the areas that were designated as loading zones, handicap parking, and time-limited parking areas). Based on a rate of 25 feet per parking space, this is equivalent to approximately 359 parking spaces.

A field survey was also conducted to determine the parking demand along the corridor. Parking counts were collected along University Avenue between 54th Street and 69th Street on Wednesday, February 16, 2011 at 8:00 AM, 9:00 AM, 12:00 PM, 1:00 PM, 3:00 PM, and 4:00 PM. A summary of the parking demand counts is provided in Table 3-7. As shown in Table 3-7, the highest parking demand at all times surveyed occurs east of College Avenue on the north side of the road, with the majority of the vehicles parking on either the block between Cartagena Drive and Rolando Boulevard or on the block between Aragon Drive and 69th Street.

It should be noted that to the west of College Avenue, the highest parking demand occurred on the block between 54th Street and Chollas Parkway with the majority of the people parking on the north side of the street.

Table 3-7 - Summary of Existing Parking Supply &Demand

Segment	Side of Street	# of Parking Spaces [(a)]	Number of Parked Vehicles											
			8:00 AM		9:00 AM		12:00 PM		1:00 PM		3:00 PM		4:00 PM	
			Cars	Trucks	Cars	Trucks	Cars	Trucks	Cars	Trucks	Cars	Trucks	Cars	Trucks
54th St. to Chollas Pkwy.	South	4	1	0	3	0	3	0	3	0	4	0	3	0
	North	14	9	0	9	0	9	0	11	0	11	0	10	0
	Total:	**18**	**10**	**0**	**12**	**0**	**12**	**0**	**14**	**0**	**15**	**0**	**13**	**0**
Chollas Pkwy. to 58th St.	South	20	1	0	0	0	1	0	0	0	1	0	1	0
	North	14	0	0	0	0	2	0	0	0	3	0	2	0
	Total:	**34**	**1**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**4**	**0**	**3**	**0**
58th St .to 60th St.	South	59	2	1	2	1	2	1	2	1	1	1	1	1
	North	64	1	0	0	0	1	0	1	0	1	0	1	0
	Total:	**123**	**3**	**1**	**2**	**1**	**3**	**1**	**3**	**1**	**2**	**1**	**2**	**1**
60th St. to College Ave.	South	12	1	0	0	0	0	0	0	0	0	0	0	0
	North	17	1	0	1	0	1	0	1	0	1	0	0	0
	Total:	**29**	**2**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**	**0**
College Ave. to Cartagena Dr.	South	9	2	0	1	0	2	0	2	0	3	0	2	0
	North	16	7	0	8	0	7	0	8	0	8	0	6	0
	Total:	**25**	**9**	**0**	**9**	**0**	**9**	**0**	**10**	**0**	**11**	**0**	**8**	**0**
Cartagena Dr. to Rolando Blvd.	South	7	4	0	3	0	3	0	1	0	4	0	3	0
	North	23	16	0	16	0	19	0	15	0	14	0	16	0
	Total:	**30**	**20**	**0**	**19**	**0**	**22**	**0**	**16**	**0**	**18**	**0**	**19**	**0**
Rolando Blvd. to Aragon Dr.	South	15	0	0	0	0	0	0	0	0	0	0	0	0
	North	28	7	0	5	0	5	0	7	0	5	0	5	0
	Total:	**43**	**7**	**0**	**5**	**0**	**5**	**0**	**7**	**0**	**5**	**0**	**5**	**0**
Aragon Dr. to 69th St.	South	26	1	0	2	0	4	0	6	0	5	0	3	0
	North	31	18	0	16	0	16	0	16	0	15	0	16	0
	Total:	**57**	**19**	**0**	**18**	**0**	**20**	**0**	**22**	**0**	**20**	**0**	**19**	**0**
Total Supply/ Peak Demand	**South**	**152**	**4**	**1**	**3**	**1**	**4***	**1**	**6**	**1**	**5**	**1**	**3**	**1**
	North	**207**	**18**	**0**	**16**	**0**	**19***	**0**	**16**	**0**	**15**	**0**	**16**	**0**
	Total:	**359**	**22**	**1**	**19**	**1**	**23***	**1**	**22**	**1**	**20**	**1**	**19**	**1**

(a) Number of parking spaces estimated based on the feet of yellow, green, blue, and unmarked (unrestricted) parking curb along the street assuming there was 25 feet per parking space

3.6 PEDESTRIAN ASSESSMENT

This section of the University Avenue Mobility Study focuses on evaluating the existing pedestrian activity along the corridor including conditions of sidewalks, locations of curb ramps, and the condition of pedestrian facilities along the corridor.

Existing Pedestrian Activity

As previously discussed under the Data Collection section, pedestrian counts were collected at the ten (10) key intersections along the study corridor on Wednesday, December 12, 2010 between the hours of 6:30 AM to 9:00 AM and 3:30 PM to 6:00 PM. The existing pedestrian counts provide a gauge to the relative pedestrian activity along the corridor. The existing pedestrian count during the AM and PM peak periods was previously illustrated in Figure 3-6. Table 3-8 provides a summary of the aggregated pedestrian count data by intersection leg.

As shown in Table 3-8, the highest morning pedestrian count occurred at the University Avenue/54th Street intersection with a total of 379 pedestrian movements, with the majority of the demand (139 movements) crossing University Avenue on the east leg of the intersection. During the afternoon, the highest pedestrian count occurred at the University Avenue/College Avenue intersection with a total of 304 pedestrian movements, with the majority of the demand (111 movements) crossing College Avenue on the south leg of the intersection.

The second highest morning pedestrian count occurred at the University Avenue/College Avenue intersection (this intersection had the highest pedestrian count during the PM peak period) with a total of 148 pedestrian movements, with all movements being relatively balanced. The second highest afternoon pedestrian count occurred at the University/54th Street intersection (this intersection had the highest pedestrian count during the AM peak period) with a total of 281 pedestrian movements, with the majority of the demand (103 movements) crossing 54th Street on the south leg of the intersection.

The higher pedestrian activity at the University Avenue/54th Street and University Avenue/College Avenue intersections are primarily due to the fact that the bus stops that are located at these intersections serve as transfer points to other bus routes.

Since the highest pedestrian activity occurred at the University Avenue 54th Street and University Avenue/College Avenue intersections, pedestrian level of service analysis was conducted at these two intersections to get a feel for what the pedestrian level of service was along the University Avenue Corridor. To conduct the pedestrian level of service analysis, supplemental pedestrian counts were collected at the University Avenue/College Avenue and University Avenue/54th Street intersections on Tuesday April 12, 2011 and Wednesday, April 13, 2011 respectively. (The count data is provided in Appendix A.)

The pedestrian level of service analysis was conducted in accordance with the 2000 Highway Capacity Manual (HCM) procedures for analyzing Pedestrian activity at signalized intersections. The analysis took into consideration the width of the sidewalk, the width of the cross walks, width of the street, the radius of the curbs, the directional volume of pedestrian traffic crossing the street in the peak 15-minute period, and the volume of pedestrian traffic utilizing the sidewalk at the intersection (but not crossing into the street) during the peak 15-minute period. Levels of service were calculated not only for the pedestrians while they were in each crosswalk, but also as they were at the intersection corner waiting to cross the street. The results analysis found that the pedestrian levels of service at the University Avenue/54th Street intersection is LOS B at the curb and LOS A in the crosswalks. The pedestrian levels of service at the University Avenue/College Avenue intersection is LOS C or better at the curb and LOS A in the crosswalks. (A copy of the level of service analysis worksheets have been provided in Appendix D.)

Table 3-8 - Summary of Existing Pedestrian Volumes

Intersection	West Leg	North Leg	East Leg	South Leg	**Total**
AM Peak Period (6:30 AM - 9:00 AM)					
University Ave. (E-W) @ 54th St. (N-S)	60 (University Ave.)	70 (54th St.)	139 (University Ave.)	110 (54th St.)	**379**
University Ave. (E-W) @ Chollas Pkwy. (N-S)	9 (University Ave.)	0 (Chollas Pkwy.)	4 (University Ave.)	21 (Chollas Pkwy.)	**34**
University Ave. (E-W) @ 58th St. (N-S)	22 (University Ave.)	19 (58th St.)	37 (University Ave.)	17 (58th St.)	**95**
University Ave. (E-W) @ University Sq. (N-S)	7 (University Ave.)	0 (University Sq.)	18 (University Ave.)	30 (University Sq.)	**55**
University Ave. (E-W) @ 60th St. (N-S)	6 (University Ave.)	4 (60th St.)	25 (University Ave.)	7 (60th St.)	**42**
University Ave. (E-W) @ College Ave. (N-S)	30 (University Ave.)	36 (College Ave.)	35 (University Ave.)	47 (College Ave.)	**148**
University Ave. (E-W) @ Rolando Blvd. (N-S)	11 (University Ave.)	7 (Rolando Blvd.)	29 (University Ave.)	7 (Rolando Blvd.)	**54**
University Ave. (E-W) @ Aragon Dr. (N-S)	4 (University Ave.)	8 (Aragon Dr.)	3 (University Ave.)	23 (Aragon Dr.)	**38**
University Ave. (E-W) @ Salvation Dwy. (N-S)	13 (University Ave.)	0 (Salvation Dwy.)	6 (University Ave.)	6 (Salvation Dwy.)	**25**
Chollas Pkwy.(E-W) @ 54th St. (N-S)	0 (Chollas Pkwy.)	3 (54th St.)	14 (Chollas Pkwy.)	3 (54th St.)	**20**
Total along University Ave.:	**163**	**161**	**300**	**298**	**922**
PM Peak Period (3:30 PM - 6:00 PM)					
University Ave. (E-W) @ 54th St. (N-S)	68 (University Ave.)	55 (54th St.)	55 (University Ave.)	103 (54th St.)	**281**
University Ave. (E-W) @ Chollas Pkwy. (N-S)	13 (University Ave.)	0 (Chollas Pkwy.)	14 (University Ave.)	55 (Chollas Pkwy.)	**82**
University Ave. (E-W) @ 58th St. (N-S)	24 (University Ave.)	44 (58th St.)	85 (University Ave.)	30 (58th St.)	**183**
University Ave. (E-W) @ University Sq. (N-S)	12 (University Ave.)	0 (University Sq.)	69 (University Ave.)	66 (University Sq.)	**147**
University Ave. (E-W) @ 60th St. (N-S)	14 (University Ave.)	4 (60th St.)	44 (University Ave.)	23 (60th St.)	**85**
University Ave. (E-W) @ College Ave. (N-S)	94 (University Ave.)	36 (College Ave.)	63 (University Ave.)	111 (College Ave.)	**304**
University Ave. (E-W) @ Rolando Blvd. (N-S)	8 (University Ave.)	15 (Rolando Blvd.)	41 (University Ave.)	22 (Rolando Blvd.)	**86**
University Ave. (E-W) @ Aragon Dr. (N-S)	1 (University Ave.)	2 (Aragon Dr.)	8 (University Ave.)	15 (Aragon Dr.)	**26**
University Ave. (E-W) @ Salvation Dwy. (N-S)	16 (University Ave.)	0 (Salvation Dwy.)	0 (University Ave.)	7 (Salvation Dwy.)	**23**
Chollas Pkwy. (E-W) @ 54th St. (N-S)	0 (Chollas Pkwy.)	5 (54th St.)	21 (Chollas Pkwy.)	4 (54th St.)	**30**
Total along University Ave.:	**256**	**176**	**387**	**465**	**1,284**

Existing Pedestrian Facilities

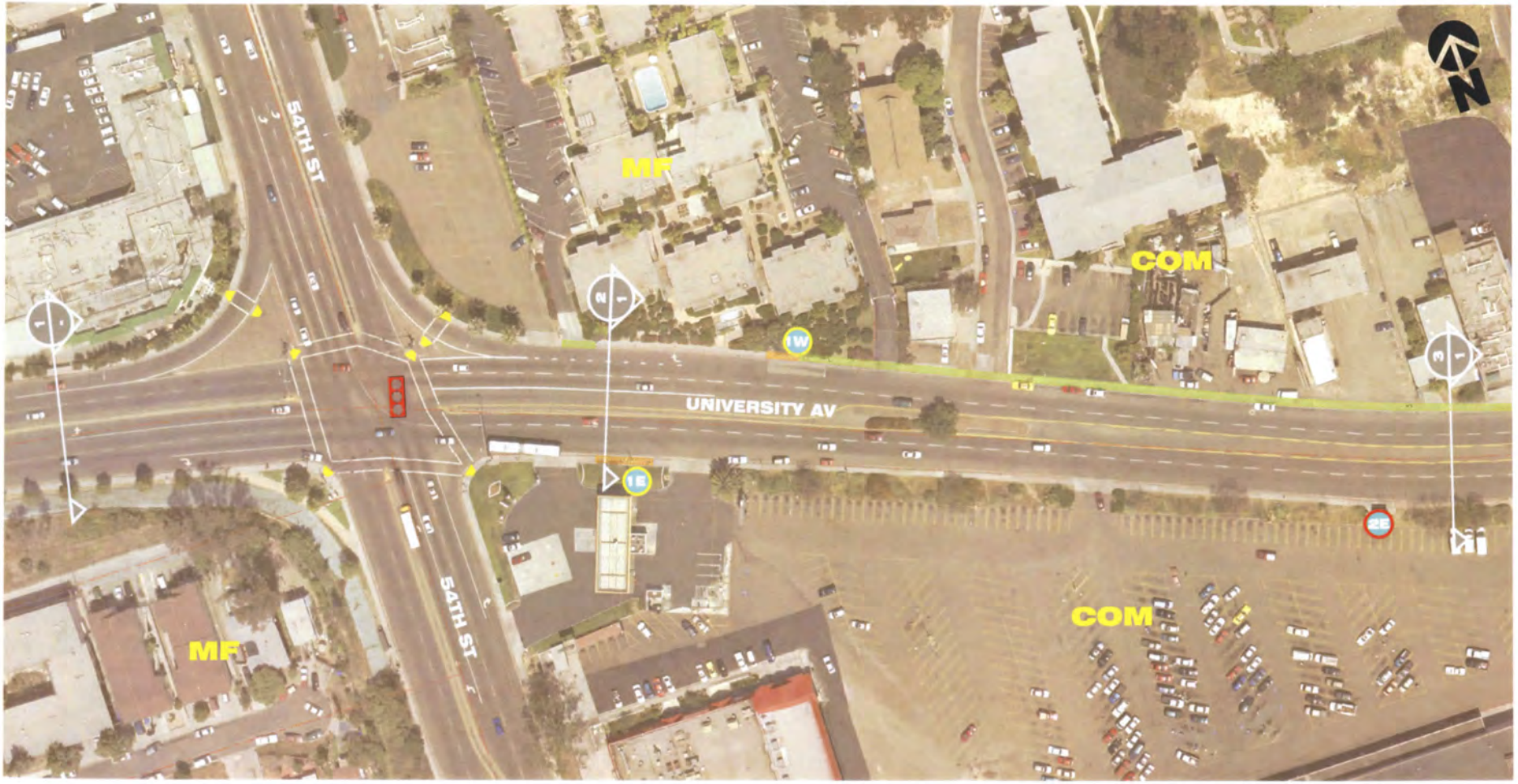
The most basic elements of the pedestrian network are sidewalks, crosswalks, and curb ramps. Sidewalks provide a space for pedestrian activity separated from motor vehicle traffic. Crosswalks delineate a space for pedestrians to traverse the roadway. Curb ramps provide a transition between the raised sidewalk and the crosswalk for persons using mobility assistance devices. These elements should form a connected network that is safe, accessible to all people and encourages people to walk. Corridor sidewalks, crosswalks, and curb ramps were inventoried to document existing facilities and identify deficiencies that impede pedestrian safety and accessibility.

Crosswalks

All intersections along the University Avenue Corridor were inventoried for the presence and types of crosswalks. Figures 3-11 through 3-21 display the distribution of crosswalks along the corridor, along with missing infrastructure and sidewalk obstructions. Table 3-9 summarizes the quantity and types of crosswalks found along the corridor by intersection. As shown, there are a total of 27 crosswalks in the corridor. All of the crosswalks within the study corridor are standard white traverse crosswalks. The intersections along the corridor that have no crosswalks are stop-controlled intersections and placing crosswalks across a major street of a stop-controlled intersection is not normally recommended.

Table 3-9 - Summary of Existing Crosswalks

Intersection	Traffic Control	Number of Standard White Traverse Crosswalks				
		West Leg	North Leg	East Leg	South Leg	**Total**
University Ave. (E-W) @ 54th St. (N-S)	Signal	1 (Univ. Ave.)	1 (54th St)	1 (Univ. Ave.)	1 (54th St)	**4**
University Ave. (E-W) @ Chollas Pkwy. (N-S)	Stop Sign Controlled	0 (Univ. Ave.)	0 (Chollas Pkwy)	0 (Univ. Ave.)	0 (Chollas Pkwy)	**0**
University Ave. (E-W) @ 58th St. (N-S)	Signal	1 (Univ. Ave.)	0 (58th St.)	1 (Univ. Ave.)	1 (58th St.)	**3**
University Ave. (E-W) @ University Sq. (N-S)	Signal	0 (Univ. Ave.)	0 (University Sq.)	1 (Univ. Ave.)	1 (University Sq.)	**2**
University Ave. (E-W) @ 60th St. (N-S)	Signal	1 (Univ. Ave.)	1 (60th St.)	1 (Univ. Ave.)	1 (60th St.)	**4**
University Ave. (E-W) @ College Ave. (N-S)	Signal	1 (Univ. Ave.)	1 (College Ave.)	1 (Univ. Ave.)	1 (College Ave.)	**4**
University Ave. (E-W) @ Cartagena Dr. (N-S)	Stop Sign Controlled	0 (Univ. Ave.)	0 (Cartagena Dr.)	0 (Univ. Ave.)	0 (Cartagena Dr.)	**0**
University Ave. (E-W) @ Bonillo Dr. (N-S)	Stop Sign Controlled	0 (Univ. Ave.)	0 (Bonillo Dr.)	0 (Univ. Ave.)	0 (Bonillo Dr.)	**0**
University Ave. (E-W) @ Rolando Blvd. (N-S)	Signal	1 (Univ. Ave.)	1 (Rolando Blvd.)	1 (Univ. Ave.)	1 (Rolando Blvd.)	**4**
University Ave. (E-W) @ Aragon Dr.(N-S)	Signal	1 (Univ. Ave.)	1 (Aragon Dr.)	1 (Univ. Ave.)	1 (Aragon Dr.)	**4**
University Ave. (E-W) @ Alamo Drive (N-S)	Stop Sign Controlled	0 (Univ. Ave.)	0 (Alamo Dr.)	0 (Univ. Ave.)	0 (Alamo Dr.)	**0**
University Ave. (E-W) @ Salvation Dwy. (N-S)	Signal	1 (Univ. Ave.)	0 (Salvation Dwy.)	0 (Univ. Ave.)	1 (Salvation Dwy.)	**2**
University Ave. (E-W) @ 68th St. (N-S)	Stop Sign Controlled	0 (Univ. Ave.)	0 (68th St.)	0 (Univ. Ave.)	0 (68th St.)	**0**
University Ave. (E-W) @ 69th St. (N-S)	Stop Sign Controlled	0 (Univ. Ave.)	0 (69th St.)	0 (Univ. Ave.)	0 (69th St.)	**0**
	Total:	**7**	**5**	**7**	**8**	**27**



Pedestiran Accessibility

DAVID EVANS AND ASSOCIATES INC.

Darnell & ASSOCIATES, INC.
TRANSPORTATION PLANNING & TRAFFIC ENGINEERING

LEGEND

- ADA COMPLIANT PED RAMP
- NON-COMPLIANT PED RAMP
- MISSING PED RAMP
- BUS ROUTE 7 BUS STOP #
- BUS ROUTE 10 BUS STOP #
- MISSING SIDEWALK
- ADA OBSTRUCTION
- POOR CONDITION

40 0 40 80 120

SCALE: 1"=80'

UNIVERSITY AVENUE MOBILITY STUDY

54TH STREET

Pedestrian Accessibility

DAVID EVANS AND ASSOCIATES INC.

Darnell & ASSOCIATES, INC.
TRANSPORTATION PLANNING & TRAFFIC ENGINEERING

LEGEND

- ADA COMPLIANT PED RAMP
- NON-COMPLIANT PED RAMP
- MISSING PED RAMP
- BUS ROUTE 7 BUS STOP #
- BUS ROUTE 10 BUS STOP #
- MISSING SIDEWALK
- ADA OBSTRUCTION
- POOR CONDITION

40 0 40 80 120
SCALE: 1"=80'

UNIVERSITY AVENUE MOBILITY STUDY

CHOLLAS PARKWAY

Pedestrian Accessibility

DAVID EVANS AND ASSOCIATES INC.

Darnell
& ASSOCIATES, INC.
TRANSPORTATION PLANNING & TRAFFIC ENGINEERING

LEGEND

- ADA COMPLIANT PED RAMP
- NON-COMPLIANT PED RAMP
- MISSING PED RAMP
- BUS ROUTE 7 BUS STOP #
- BUS ROUTE 10 BUS STOP #
- MISSING SIDEWALK
- ADA OBSTRUCTION
- POOR CONDITION

40 0 40 80 120
SCALE: 1"=80'

UNIVERSITY AVENUE MOBILITY STUDY

58TH STREET

Pedestiran Accessibility

DAVID EVANS AND ASSOCIATES INC.

Darnell
& ASSOCIATES, INC.
TRANSPORTATION PLANNING & TRAFFIC ENGINEERING

LEGEND

- ADA COMPLIANT PED RAMP
- NON-COMPLIANT PED RAMP
- MISSING PED RAMP
- BUS ROUTE 7 BUS STOP #
- BUS ROUTE 10 BUS STOP #
- MISSING SIDEWALK
- ADA OBSTRUCTION
- POOR CONDITION

40 0 40 80 120
SCALE: 1"=80'

UNIVERSITY AVENUE MOBILITY STUDY

UNIVERSITY SQUARE DWY

Pedestiran Accessibility

DAVID EVANS AND ASSOCIATES INC.

Darnell & ASSOCIATES, INC.
TRANSPORTATION PLANNING & TRAFFIC ENGINEERING

LEGEND

- ADA COMPLIANT PED RAMP
- NON-COMPLIANT PED RAMP
- MISSING PED RAMP
- BUS ROUTE 7 BUS STOP #
- BUS ROUTE 10 BUS STOP #
- MISSING SIDEWALK
- ADA OBSTRUCTION
- POOR CONDITION

40 0 40 80 120
SCALE: 1"=80'

UNIVERSITY AVENUE MOBILITY STUDY

60TH ST

Pedestiran Accessibility

DAVID EVANS AND ASSOCIATES INC.

Darnell & ASSOCIATES, INC.
TRANSPORTATION PLANNING & TRAFFIC ENGINEERING

LEGEND

- ADA COMPLIANT PED RAMP
- NON-COMPLIANT PED RAMP
- MISSING PED RAMP
- BUS ROUTE 7 BUS STOP #
- BUS ROUTE 10 BUS STOP #
- MISSING SIDEWALK
- ADA OBSTRUCTION
- POOR CONDITION

40 0 40 80 120

SCALE: 1"=80'

UNIVERSITY AVENUE MOBILITY STUDY

COLLEGE AVE

Pedestrian Accessibility

DAVID EVANS AND ASSOCIATES INC.

Darnell & ASSOCIATES, INC.
TRANSPORTATION PLANNING & TRAFFIC ENGINEERING

LEGEND

- ADA COMPLIANT PED RAMP
- NON-COMPLIANT PED RAMP
- MISSING PED RAMP
- BUS ROUTE 7 BUS STOP #
- BUS ROUTE 10 BUS STOP #
- MISSING SIDEWALK
- ADA OBSTRUCTION
- POOR CONDITION

40 0 40 80 120

SCALE: 1"=80'

UNIVERSITY AVENUE MOBILITY STUDY

CARTAGENA AND BONILLO DR

Pedestiran Accessibility

DAVID EVANS AND ASSOCIATES INC.

Darnell & ASSOCIATES, INC.
TRANSPORTATION PLANNING & TRAFFIC ENGINEERING

LEGEND

- ADA COMPLIANT PED RAMP
- NON-COMPLIANT PED RAMP
- MISSING PED RAMP
- BUS ROUTE 7 BUS STOP #
- BUS ROUTE 10 BUS STOP #
- MISSING SIDEWALK
- ADA OBSTRUCTION
- POOR CONDITION

40 0 40 80 120
SCALE: 1"=80'

UNIVERSITY AVENUE MOBILITY STUDY

ROLANDO DR

Pedestrian Accessibility

DAVID EVANS AND ASSOCIATES INC.

Darnell
& ASSOCIATES, INC.
TRANSPORTATION PLANNING & TRAFFIC ENGINEERING

LEGEND

- ADA COMPLIANT PED RAMP
- NON-COMPLIANT PED RAMP
- MISSING PED RAMP
- BUS ROUTE 7 BUS STOP #
- BUS ROUTE 10 BUS STOP #
- MISSING SIDEWALK
- ADA OBSTRUCTION
- POOR CONDITION

40 0 40 80 120
SCALE: 1"=80'

UNIVERSITY AVENUE MOBILITY STUDY

ARAGON DR

Pedestiran Accessibility

DAVID EVANS AND ASSOCIATES INC.

Darnell & ASSOCIATES, INC.
TRANSPORTATION PLANNING & TRAFFIC ENGINEERING

LEGEND

- ADA COMPLIANT PED RAMP
- NON-COMPLIANT PED RAMP
- MISSING PED RAMP
- BUS ROUTE 7 BUS STOP #
- BUS ROUTE 10 BUS STOP #
- MISSING SIDEWALK
- ADA OBSTRUCTION
- POOR CONDITION

40 0 40 80 120
SCALE: 1"=80'

UNIVERSITY AVENUE MOBILITY STUDY

JOAN KROC CENTER

Pedestiran Accessibility

DAVID EVANS AND ASSOCIATES INC.

Darnell & ASSOCIATES, INC.
TRANSPORTATION PLANNING & TRAFFIC ENGINEERING

LEGEND

- ADA COMPLIANT PED RAMP
- NON-COMPLIANT PED RAMP
- MISSING PED RAMP
- 12 BUS ROUTE 7 BUS STOP #
- 12 BUS ROUTE 10 BUS STOP #
- MISSING SIDEWALK
- ADA OBSTRUCTION
- POOR CONDITION

40 0 40 80 120
SCALE: 1"=80'

UNIVERSITY AVENUE MOBILITY STUDY

68TH ST

Missing Sidewalk

Figures 3-11 through 3-21 also displays the locations of missing sidewalks along the University Avenue Corridor. As shown in Figures 3-11 through 3-21, there are either missing or poor sidewalk conditions along most of the University Avenue Mobility Study area with the majority of the problems occurring between College Avenue and Aragon Drive.

Lack of continuous, passable sidewalks forces pedestrians to travel outside of the public right-of-way on private property or in the travel way, presenting a safety issue for pedestrians, particularly people with disabilities. The Americans with Disabilities Act (ADA) of 1990 and 2010 standards, and California's Title 24 requirements require cities to provide continuous, maintained sidewalks to accommodate persons with disabilities. Table 3-10 summarizes the approximate length of areas that have no sidewalks and those areas that have sidewalks in poor condition.

Table 3-10 - Summary of Missing/Inadequate Sidewalks

Segment		Feet of Sidewalk				Percent of Corridor w/Deficient Sidewalks
		Missing Sidewalk	Sidewalk in Poor Condition	Obstructed Sidewalks	Total Length of Pedestrian Corridor	
University Avenue	54th St .to 58th St	140	1,669	146	4,400	44.4%
	58th St. to 60th St	1,658	444	0	4,228	49.7%
	60th St. to College Ave.	0	186	154	1,558	21.8%
	College Ave. to Aragon Dr.	0	3,640	180	5,937	64.3%*
	Aragon Dr. to 69th St	0	0	75	3,517	2.1%
Total:		**1,798**	**5,939**	**555**	**19,640**	**42.2%**

Missing Curb Ramps

ADA regulations and California's Title 24 requirements also require that cities install curb ramps so that the transition between sidewalks and crosswalks is navigable for people with disabilities. The City of San Diego administers a program to install missing curb ramps and replace non-compliant curb ramps. This program is primarily driven by public complaint. An inventory of the curb ramps along the University Avenue Corridor revealed that there are a total of ten (10) missing curb ramps at four (4) intersections. Figure 3-11 displays the missing curb ramps along the corridor. Table 3-11 reports the number of missing curb ramps by intersection. Photos illustrating the ADA compliant and non-compliant curb ramps are provided in Appendix B.

Table 3-11 - Summary of Missing & Non-ADA Compliant Curb Ramps

Intersection	Number of Pedestrian Ramps		
	Missing Curb Ramp	Non-ADA Compliant Curb Ramp	ADA Compliant Curb Ramp
University Ave. (E-W) @ 54th St. (N-S)	0	0	4
University Ave. (E-W) @ Chollas Pkwy. (N-S)	6	0	0
University Ave. (E-W) @ 58th St. (N-S)	0	7	1
University Ave. (E-W) @ University Sq. (N-S)	0	3	0
University Ave. (E-W) @ 60th St. (N-S)	2	4	0
University Ave. (E-W) @ College Ave. (N-S)	0	4	0
University Ave. (E-W) @ Cartagena Dr. (N-S)	1	2	1
University Ave. (E-W) @ Bonillo Dr. (N-S)	0	4	0
University Ave. (E-W) @ Rolando Blvd. (N-S)	0	3	1
University Ave. (E-W) @ Aragon Dr. (N-S)	0	4	0
University Ave. (E-W) @ Alamo Dr. (N-S)	0	1	1
University Ave. (E-W) @ Salvation Dwy. (N-S)	0	3	0
University Ave. (E-W) @ 68th St. (N-S)	1	1	0
University Ave. (E-W) @ 69th St. (N-S)	0	2	0
Total:	**10**	**38**	**8**

Note: These totals are accurate as of January 14, 2011. These numbers must be confirmed on site.

Sidewalk Obstructions

Like missing sidewalks and missing curb ramps, objects that obstruct the sidewalk are a hazard because they can force pedestrians to walk in the travel way in order to pass the barrier. For pedestrians who use wheelchairs a sidewalk obstruction can make an entire sidewalk segment inaccessible. Obstructions were identified via field review, with the reviewer measuring the width of sidewalks in all suspect cases to confirm the availability of at least 48 inches (4 feet) of passage along the sidewalk. In total, 555 feet of the sidewalk along the University Avenue Corridor was found to be obstructed. Table 3-10 summarized the obstruction inventory. As shown in Figures 3-11 through 3-21, the majority of sidewalk obstructions are found along the segment of University Avenue between College Avenue and Aragon Drive. Additional areas with sidewalk obstructions are on the segments of University Avenue between 54th Street and 58th Street, between 60th Street and College Avenue, and between Aragon Drive and 69th Street.

The types of sidewalk obstructions found along the corridor include:

- Street warning and street name signage;
- Utility boxes and street light poles;
- Sidewalk amenities, such as benches, tree planters, trash cans, newspaper dispensers and;
- Any others.

Photos illustrating the sidewalk obstructions along the corridor are provided in Appendix B.

Pedestrian Crashes

High speeds and traffic volumes are generally indicators of low levels of pedestrian safety, while high pedestrian crash rates are strong indicators of unsafe conditions. Table 3-12 summarizes the number of pedestrian crashes along the University Avenue Corridor between January 1, 2000 and January 8, 2011. As shown a total of 40 pedestrian crashes were reported over the eleven (11) year period. The following three (3) intersections had five (5) or more pedestrian related crashes over the eleven (11) year period:

- University Avenue/54th Street (16 pedestrian related crashes);
- University Avenue/58th Street (10 pedestrian related crashes); and
- University Avenue/College Avenue (5 pedestrian related crashes).

Table 3-12 - Pedestrian Involved Crashes Along University Avenue Corridor (1/1/2000-1/8/2011)

Intersection	Number of Crashes
University Ave. @ 54th St.	*16*
University Ave. @ Chollas Pkwy.	2
University Ave. @ 58th St.	*10*
University Ave. @ University Square Dwy.	4
University Ave. @ 60th St.	1
University Ave. @ College Ave.	*5*
University Ave. @ Bonillo Dr.	0
University Ave. @ Cartagena Dr.	2
University Ave. @ Rolando Blvd.	0
University Ave. @ Aragon Dr.	0
University Ave. @ Alamo Dr.	0
University Ave. @ Salvation Dwy.	0
University Ave. @ 68th St.	0
University Ave. @ 69th St.	0
54th St. @ Chollas Pkwy.	0
Total:	**40**

Of the 16 pedestrian related crashes that occurred at the University Avenue/54th Street intersection, one (1) occurred in 2009, three (3) occurred in 2008, four (4) occurred in 2007, one (1) occurred in 2005, one (1) occurred in 2004, two (2) occurred in 2003, one (1) occurred in 2002, one (1) occurred in 2001, and two (2) occurred in 2000. Thus, with the exception of 2008 and 2007 there have been no more than two (2) pedestrian related crashes at the intersection in any one year. Ten (10) of the 16 pedestrian related crashes occurred midblock and generally involved a pedestrian who was struck by a vehicle turning into or out of a driveway or they involved a pedestrian who was crossing University Avenue in the middle of the block (generally trying to catch the bus).

Of the ten (10) pedestrian related crashes that occurred at the University Avenue/58th Street intersection, two (2) occurred in 2008, 2004, 2003, and 2000 while only one pedestrian related crash occurred at the intersection in the years 2005 and 2002. Eight (8) of the ten (10) crashes occurred at the intersection and involved a pedestrian who was crossing University Avenue and was struck by a vehicle that was either entering or exiting 58th Street.

Of the five (5) pedestrian related crashes that occurred at the University Avenue/College Avenue intersection, two (2) occurred in 2010, and only one pedestrian related crash occurred at the intersection in the years 2006, 2003, and 2002. Four (4) of the five (5) pedestrian related crashes occurred at the intersection and generally involved a pedestrian who was running across University Avenue against the traffic signal and most of them were struck by vehicles traveling northbound on College Avenue.

One of the primary focal points throughout the project was to try to incorporate pedestrian improvements as much as possible, especially in the areas with the higher potential for pedestrian/vehicle conflicts.

3.7 BICYCLE ASSESSMENT

This section of the University Avenue Mobility Study focuses on evaluating the existing bicycle activity along the corridor including existing bicycle storage facilities, locations of bicycle routes, bicycle paths, and bicycle lanes, and long term plans for bicycle improvements in the study area.

Existing Bicycle Activity

As previously discussed under the Data Collection section, bicycle counts were collected at the ten (10) key intersections along the study corridor on Wednesday, December 12, 2010 between the hours of 6:30 AM to 9:00 AM and 3:30 PM to 6:00 PM. The existing bicycle counts provide a gauge to the relative bicycle activity along the corridor. The existing bicycle count during the AM and PM peak periods was previously illustrated in Figure 3-6. Table 3-13 provides a summary of the aggregated bicycle count data by intersection leg.

As shown in Table 3-13, the highest morning and afternoon bicycle count occurred at the University Avenue/54th Street intersection with a total of 52 and 87 bicycle movements during the AM and PM peak periods respectively. During both the morning and afternoon peak periods, the movements across all four intersection approaches were relatively balanced.

The second highest morning and afternoon bicycle count occurred at the University Avenue/Chollas Parkway intersection with a total of 29 and 53 bicycle movements during the AM and PM peak periods respectively. With the exception of one (1) bicycle movement which crossed the west leg of University Avenue during the AM peak hour, all other bicycle movements were crossing Chollas Parkway (the north and south leg of the intersection).

Table 3-13 - Summary of Existing Bicycle Volumes

Intersection	West Leg	North Leg	East Leg	South Leg	Total
AM Peak Period (6:30 AM - 9:00 AM)					
University Ave. (E-W) @ 54th St. (N-S)	10 (University Ave.)	11 (54th St.)	17 (University Ave.)	14 (54th St.)	**52**
University Ave. (E-W) @ Chollas Pkwy. (N-S)	1 (University Ave.)	16 (Chollas Pkwy.)	0 (University Ave.)	12 (Chollas Pkwy.)	**29**
University Ave. (E-W) @ 58th St. (N-S)	2 (University Ave.)	11 (58th St.)	2 (University Ave.)	5 (58th St.)	**20**
University Ave. (E-W) @ University Sq. (N-S)	3 (University Ave.)	7 (University Sq.)	0 (University Ave.)	6 (University Sq.)	**16**
University Ave. (E-W) @ 60th St. (N-S)	1 (University Ave.)	10 (60th St.)	1 (University Ave.)	6 (60th St.)	**18**
University Ave. (E-W) @ College Ave. (N-S)	5 (University Ave.)	9 (College Ave.)	1 (University Ave.)	10 (College Ave.)	**25**
University Ave. (E-W) @ Rolando Blvd. (N-S)	1 (University Ave.)	9 (Rolando Blvd.)	1 (University Ave.)	5 (Rolando Blvd.)	**16**
University Ave. (E-W) @ Aragon Dr. (N-S)	5 (University Ave.)	13 (Aragon Dr.)	2 (University Ave.)	2 (Aragon Dr.)	**22**
University Ave. (E-W) @ Salvation Dwy. (N-S)	2 (University Ave.)	8 (Salvation Dwy.)	1 (University Ave.)	2 (Salvation Dwy.)	**13**
Chollas Pkwy.(E-W) @ 54th St. (N-S)	7 (Chollas Pkwy.)	2 (54th St.)	10 (Chollas Pkwy.)	0 (54th St.)	**19**
Total along University Ave.:	**39**	**109**	**35**	**72**	**255**
PM Peak Period (3:30 PM - 6:00 PM)					
University Ave. (E-W) @ 54th St. (N-S)	20 (University Ave.)	24 (54th St.)	22 (University Ave.)	21 (54th St.)	**87**
University Ave. (E-W) @ Chollas Pkwy. (N-S)	0 (University Ave.)	27 (Chollas Pkwy.)	0 (University Ave.)	26 (Chollas Pkwy.)	**53**
University Ave. (E-W) @ 58th St. (N-S)	6 (University Ave.)	7 (58th St.)	2 (University Ave.)	4 (58th St.)	**19**
University Ave. (E-W) @ University Sq.(N-S)	6 (University Ave.)	10 (University Sq.)	0 (University Ave.)	11 (University Sq.)	**27**
University Ave. (E-W) @ 60th St. (N-S)	1 (University Ave.)	8 (60th St.)	1 (University Ave.)	11 (60th St.)	**21**
University Ave. (E-W) @ College Ave. (N-S)	5 (University Ave.)	13 (College Ave.)	3 (University Ave.)	9 (College Ave.)	**30**
University Ave. (E-W) @ Rolando Blvd.(N-S)	5 (University Ave.)	14 (Rolando Blvd.)	6 (University Ave.)	8 (Rolando Blvd.)	**33**
University Ave. (E-W) @ Aragon Dr. (N-S)	2 (University Ave.)	13 (Aragon Dr.)	5 (University Ave.)	6 (Aragon Dr.)	**26**
University Ave. (E-W) @ Salvation Dwy. (N-S)	1 (University Ave.)	10 (Salvation Dwy.)	1 (University Ave.)	6 (Salvation Dwy.)	**18**
Chollas Pkwy.(E-W) @ 54th St.(N-S)	4 (Chollas Pkwy.)	5 (54th St.)	8 (Chollas Pkwy.)	6 (54th St.)	**23**
Total along University Ave.:	**54**	**139**	**48**	**113**	**354**

Based on the existing count data, the existing bicycle activity along the University Avenue Corridor is relatively light, but this could partially be due to the fact that there currently are no bike lanes along the corridor.

Existing Bicycle Facilities

This Section describes the existing bicycle facilities, including bikeways and bike parking, while Chapter 5 evaluates these facilities in terms of their functionality and safety.

Bike Lanes, Bike Routes, and Multi-Use Paths (Bikeways)

Currently, there are no bike lanes or bikeways along the University Avenue Corridor. In fact, although the University Avenue Corridor is identified in the Mid-Cities Community Plan and City's Bicycle Master Plan as having a Class II Bike Lane, presently there are no posted signs to even identify the segment of University Avenue between 54th Street and 69th Street as a Bike Route.

Bike Parking

The University Avenue Corridor was inventoried for the presence of bike parking in the public right-of way. No bike parking was found in the public right-of way. There are, however, a few bike racks located along the corridor on private property.

Bicycle Crashes

As with pedestrian activity, high bicycle crash rates are strong indicators of unsafe conditions. Table 3-14 summarizes the number of bicycle crashes along the University Avenue Corridor between January 1, 2000 and January 8, 2011. As shown a total of 19 bicycle crashes were reported over the eleven-(11) year period. With the exception of the University Avenue/54th Street intersection, all intersections had three (3) or fewer bicycle-related crashes over the eleven-(11) year period. The University Avenue/54th Street intersection had five-(5) bicycle related crashes over the eleven-(11) year period.

Of the five (5) bicycle-related crashed that occurred at the University Avenue/54th Street intersection, one (1) occurred in 2009, one occurred in 2008, two (2) occurred in 2007, and one (1) occurred in 2001. Three (3) of the five (5) crashes occurred at the intersection while the other two (2) occurred midblock. Of the two (2) of the crashes that occurred at the intersection, the bicyclist was at fault because they either were traveling too fast and lost control of the y were riding their bike across University Avenue against the traffic signal. One of the midblock crashes involved a bicyclist who was riding on the sidewalk and hit uneven pavement and fell off their bike. The implementation of the sidewalk improvements and signal modifications that are proposed as part of the project may help reduce the potential for these types of crashes.

Since University Avenue within the study area does not currently have any striped bike lanes, one of the primary focal points throughout the project was to try to incorporate bike facilities as much as possible.

Table 3-14- Bicycle Involved Crashes Along University Avenue Corridor (1/1/2000-1/8/2011)

Intersection	Number of Crashes
University Ave. @ 54th St.	*5*
University Ave. @ Chollas Pkwy.	0
University Ave. @ 58th St.	1
University Ave. @ University Square Dwy.	1
University Ave. @ 60th St.	2
University Ave. @ College Ave.	3
University Ave. @ Bonillo Dr.	1
University Ave. @ Cartagena Dr.	0
University Ave. @ Rolando Blvd.	1
University Ave. @ Aragon Dr.	2
University Ave. @ Alamo Dr.	1
University Ave. @ Salvation Dwy.	0
University Ave. @ 68th St.	0
University Ave. @ 69th St.	0
54th St. @ Chollas Pkwy.	2
Total:	**19**

3.7 TRANSIT ASSESSMENT

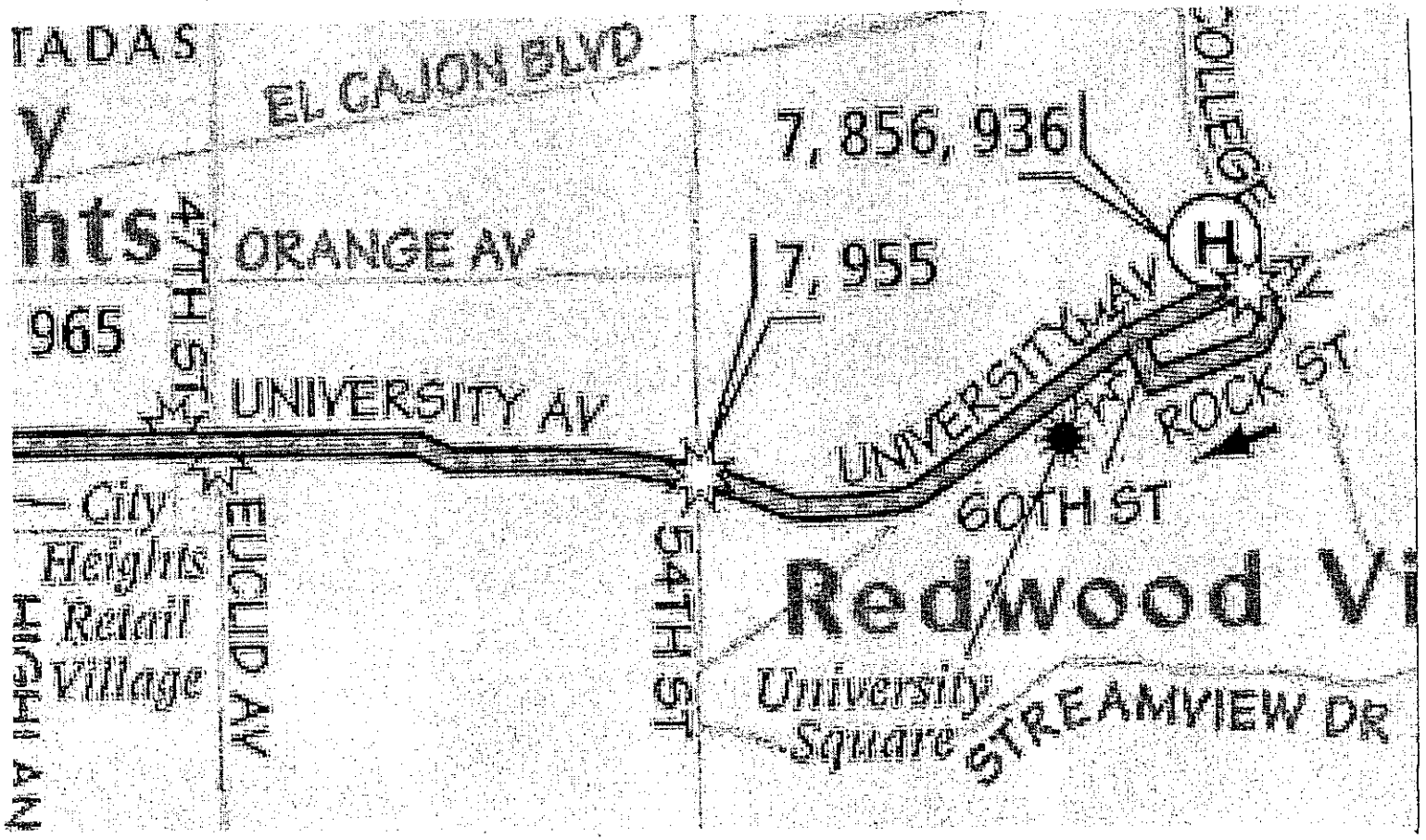
As part of the University Avenue Mobility Study, a review of the existing transit services within the study area was completed including an assessment of the following items: (1) operating characteristics, (2) ridership and frequency, and (3) span of service information. In addition, existing issues and concerns from the transit operator's standpoint, including potential congestion points, stop improvement needs, and on-time performance were considered.

Existing Transit Services

The University Avenue Corridor area is served by Express Bus Route 10 and Local Bus Route 7. The majority of ridership is moving westbound toward downtown and Old Town. Local Bus Route 955 provides access at 54th Street and University Avenue north to the SDSU Transit Center, and south to National City. Local Bus Routes 856 and 936 provide access at College Avenue north to the SDSU Transit Center and south to College Grove Shopping Center, the Lemon Grove Trolley Station and Cuyamaca College. A detailed description of each of the bus routes is provided below.

Route 10: Route 10 is an express service with limited stops within the corridor. The route provides transit service to and from the Old Town Transit Center, Washington Street Trolley Station through Hillcrest and City Heights Transit Plaza to the University Avenue Corridor Area. Express service is provided Monday through Friday with westbound departures from College Avenue between 4:48 AM and 10:30 PM and eastbound departures from the Old Town Transit Center between 5:49 AM and 11:46 PM. Fifteen minute headways are provided between the hours of 6:00 AM and 7:00 PM. Early morning and late evening headways vary between 20 minutes and 30 minutes. Figure 3-22 provides an illustration of the Route 10 in the vicinity of the University Avenue Corridor. See Appendix C for an illustration on the entire route.

Route 7: Route 7 provides local service between downtown San Diego, City College Trolley Station, City Heights Transit Plaza, through the University Avenue Corridor to a terminus at the La Mesa Boulevard Trolley Station. Bus service is provided seven days a week. Weekday westbound trips begin at 4:33 AM with 12-minute headways until 9:30 AM. Daytime headways are 24 minutes until 6:30 PM. Evening hour headways vary between 27 minutes and 60 minutes with the final westbound departure at 12:29 AM. Weekday service eastbound from downtown San Diego begins at 6:27 AM and ends at 11:12 PM. The weekend schedule operates with longer headways. Service hours for westbound boardings are provided between 6:20 AM and 8:45 PM. Figure 3-23 provides an illustration of the Route 7 in the vicinity of the University Avenue Corridor. See Appendix C for an illustration on the entire route.



LEGEND

XX – ROUTE NUMBER

◇ – TRANSFER POINT

Ⓐ – TIMEPOINT AND/OR TRANSFER POINT

▭▭▭ – WEEKDAYS ONLY

▬▬ – SATURDAY/SUNDAY ONLY

Darnell & ASSOCIATES, INC.

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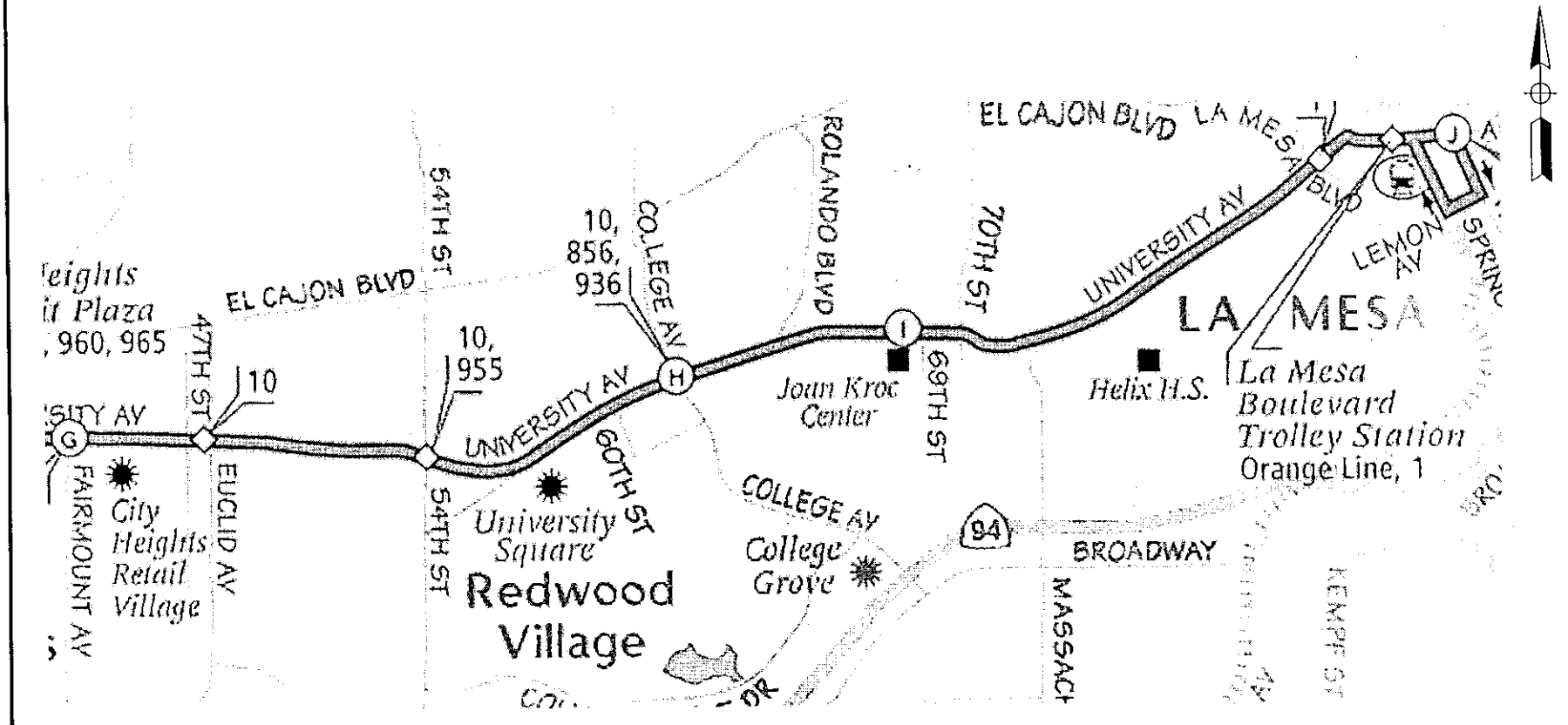
FIGURE 3-22

ROUTE 10 MAP



LEGEND

XX – ROUTE NUMBER

◇ – TRANSFER POINT

Ⓐ – TIMEPOINT AND/OR TRANSFER POINT

▬▬ – WEEKDAYS ONLY

▬▬ – SATURDAY/SUNDAY ONLY

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FIGURE 3–23

ROUTE 7 MAP

Existing Transit Stops

There are a total of 26 stops in the corridor, 12 westbound and 14 eastbound. The heaviest boardings occur westbound at College Avenue, 58th Street, University Square and 54th Street with daily trips between 107 and 360. Each of these stations is shown in Figures 3-24 – 3-29.

University Square is the only one of these highly utilized stops that does not have shelter and does not have pedestrian access. The College station has adequate area for passengers, but the pavement is in poor condition. The corridor in general is in an older development with narrow sidewalks and intermittent obstructions in the walkways.

Three basic stop types occur within the corridor, stops with shelter and bench, bench only and sign only. A complete inventory of amenities is outlined in Table 3-15. Photos of each of the stops showing amenities and access are provided in Appendix C.

Table 3-15 – Summary of Existing Amenities at Each Transit Stop Along University Ave. Corridor

Existing Bus Stop	Direction	Ons	Offs	Total Trip Ends	Shelter	Bench	Lighting	Trash	Concrete Pad	Stop Location on	Route(s) Served
1E 54th St.	East	220	110	330		X	X	X		FAR	7/10
1W 54th St.	West	294	111	406	X	X		X	X	NEAR	7/10
2E University Ave./	East	25	25	50	X	X	X	X		MID	7
2W Chollas Pkwy.	West	17	9	26		X				MID	7
3E 58th St.	East	41	132	173		X			X	FAR	7
3W 58th St.	West	107	33	140						FAR	7
4E Univ. Sq.	East	40	109	148	X	X		X		FAR	7
4W Univ. Sq.	West	202	39	241		X	X	X		NEAR	7
5E University Ave./	East	22	122	144	X	X		X		MID	7/10
5W 60th St.	West	60	12	72						FAR	7/10
6E 60th St.	East	2	50	52		X				FAR	7
6W College Ave.	West	235	79	314	X	X		X		NEAR	7
7E College Ave.	East	3	173	177						NEAR	10
8E College Ave.	East	69	160	229		X		X	X	FAR	7
7W Cartagena Dr.	West	23	8	31		X				NEAR	7
9E Cartagena Dr.	East	4		4			X			FAR	7
10E Bonillo Dr.	East	10	35	45		X		X		FAR	7
8W Rolando Blvd.	West	27	14	40		X		X		FAR	7
11E Rolando Blvd	East	8	20	28		X	X			MID	7
9W Aragon Dr.	West	35	13	48		X		X		NEAR	7
12E Aragon Dr.	East	6	37	43	X	X	X	X	X	FAR	7
10W Salvation	West	27	9	36		X		X		NEAR	7
13E Salvation	East	5	16	20	X	X		X	X	FAR	7
11W 68th St.	West	69	22	91	X	X		X		NEAR	7
12W 69th St.	West	68	4	73	X	X		X	X	FAR	7
14E 69th St.	East	53	149	202	X	X	X	X	X	NEAR	7

Figure 3-24 - Bus Stop 1W, on the Near Side of the University Ave./54th St. Int.

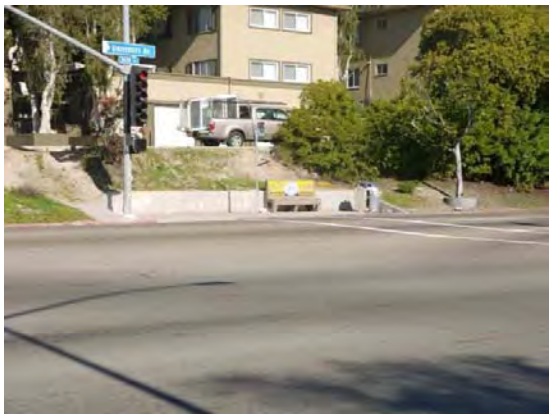


Figure 3-25 - Bus Stop 4W, at the Near Side of the University Ave./University Sq. Int.

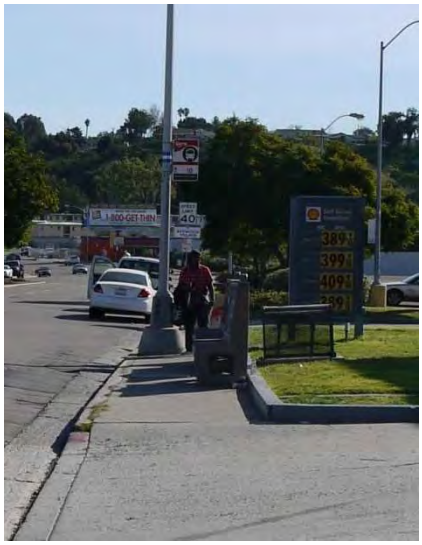


Figure 3-26 - Bus Stop 1E, on the Far Side of the University Ave./54th St. Int.

Figure 3-27 - Bus Stop 3W, on the Far Side of the University Ave./58th St. Int.

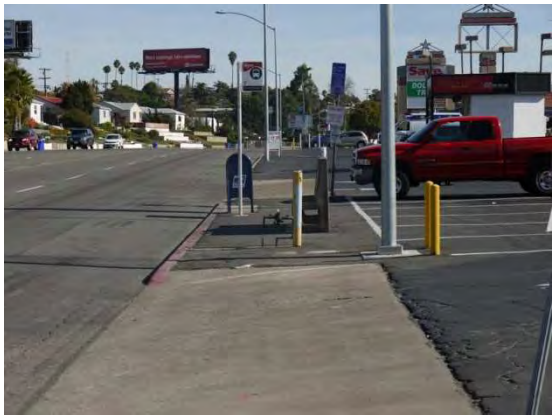


Figure 3-28 - Bus Stop 11E, Located Mid Block to the East of Rolando Dr.

Figure 3-29 - Bus Stop 6W, on the Near Side of the University Ave./College Ave. Int.

University Avenue Corridor Ridership Patterns

Based on the average daily ridership provided by MTS (January 2011), the corridor has 3,195 daily trip ends. The breakdown by route is shown in Table 3-16. The majority of ridership leaving the corridor is in the westerly direction with 73% of the boarding's occurring westbound. The Bus Route 7 carries the majority of riders at 81% with 19% on the Express Route 10.

Table 3-16 - University Avenue Corridor Daily Transit Ridership

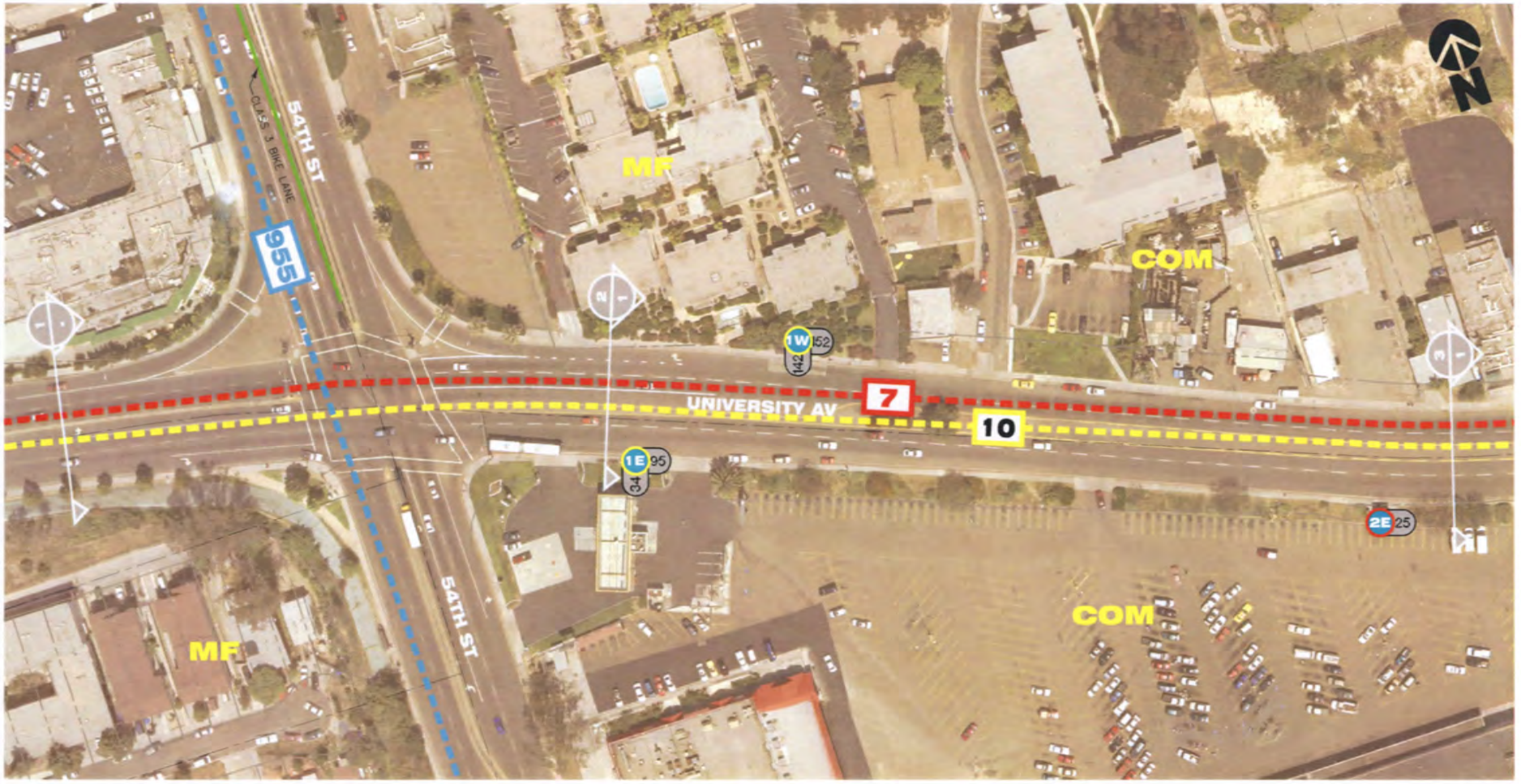
Route	Direction of Travel	Boarding's	Alightings	Trip Ends	Percent of Corridor Total
7	Eastbound	373	889	1,262	39.5
	Westbound	991	343	1,334	41.8
	Route 7 Total	**1,364**	**1,232**	**2,596**	**81.3**
10	Eastbound	44	385	429	13.4
	Westbound	150	20	170	5.3
	Route 10 Total	**194**	**405**	**599**	**18.7**
	Corridor Total:	**1,558**	**1,637**	**3,195**	**100**

The Average daily ridership for each bus stop provided by MTS (January 2011), is illustrated in Figures 3-30 – 3-40.

Existing Transit Operational Issues

The consultant team observed bus operations along the University Avenue Corridor and discussed operational issues with MTS staff. Comments from MTS staff and the consultant observations are summarized below.

- The heaviest traffic and need for bus shelters is in the westbound direction.
- The station across from the University Plaza Shopping Center is the most heavily used station without a shelter. Access to this station and to the apartments above this station is an issue. MTS policy does not allow placement of a shelter or an advertisement bench in front of a single family residence.



DAVID EVANS AND ASSOCIATES INC.

Darnell
& ASSOCIATES, INC.
TRANSPORTATION PLANNING
& TRAFFIC ENGINEERING

LEGEND

1E 95 — BUS ROUTE 7
BUS STOP #/AVERAGE RIDER FOR ROUTE 7

1E 95 — BUS ROUTE 10
BUS STOP #/AVERAGE RIDER FOR ROUTE 10

1E 95 / 95 — BUS ROUTE 7 & 10
BUS STOP #/AVERAGE RIDER FOR ROUTE 7 AND 10

7 — BUS ROUTE

BIKE ROUTE NOTE:
UNIVERSITY AVE IS A SUGGESTED ROUTE FOR CYCLING, NOT A CLASSIFIED BIKE ROUTE.

UNIVERSITY AVENUE MOBILITY STUDY
54TH STREET

40 0 40 80 120
SCALE: 1"=80'

DAVID EVANS AND ASSOCIATES, INC.

Darnell & ASSOCIATES, INC.
TRANSPORTATION PLANNING & TRAFFIC ENGINEERING

LEGEND

1E 95 — BUS ROUTE 7
BUS STOP #/AVERAGE RIDER FOR ROUTE 7

1E 95 — BUS ROUTE 10
BUS STOP #/AVERAGE RIDER FOR ROUTE 10

1E 95 / 95 — BUS ROUTE 7 & 10
BUS STOP #/AVERAGE RIDER FOR ROUTE 7 AND 10

7 — BUS ROUTE

BIKE ROUTE NOTE:
UNIVERSITY AVE IS A SUGGESTED ROUTE FOR CYCLING, NOT A CLASSIFIED BIKE ROUTE.

UNIVERSITY AVENUE MOBILITY STUDY

CHOLLAS PARKWAY

40 0 40 80 120

SCALE: 1"=80'

DAVID EVANS AND ASSOCIATES INC.

Darnell & ASSOCIATES, INC.
TRANSPORTATION PLANNING & TRAFFIC ENGINEERING

LEGEND

1E 95 — BUS ROUTE 7
BUS STOP #/AVERAGE RIDER FOR ROUTE 7

1E 95 — BUS ROUTE 10
BUS STOP #/AVERAGE RIDER FOR ROUTE 10

1E 95 / 95 — BUS ROUTE 7 & 10
BUS STOP #/AVERAGE RIDER FOR ROUTE 7 AND 10

7 — BUS ROUTE

BIKE ROUTE NOTE:
UNIVERSITY AVE IS A SUGGESTED ROUTE FOR CYCLING, NOT A CLASSIFIED BIKE ROUTE.

UNIVERSITY AVENUE MOBILITY STUDY
58TH STREET

40 0 40 80 120
SCALE: 1"=80'

DAVID EVANS AND ASSOCIATES, INC.

Darnell & ASSOCIATES, INC.
TRANSPORTATION PLANNING & TRAFFIC ENGINEERING

LEGEND

1E 95 — BUS ROUTE 7
BUS STOP #/AVERAGE RIDER FOR ROUTE 7

1E 95 — BUS ROUTE 10
BUS STOP #/AVERAGE RIDER FOR ROUTE 10

1E 95 / 95 — BUS ROUTE 7 & 10
BUS STOP #/AVERAGE RIDER FOR ROUTE 7 AND 10

7 — BUS ROUTE

BIKE ROUTE NOTE:
UNIVERSITY AVE IS A SUGGESTED ROUTE FOR CYCLING, NOT A CLASSIFIED BIKE ROUTE.

UNIVERSITY AVENUE MOBILITY STUDY

UNIVERSITY SQUARE DWY

40 0 40 80 120

SCALE: 1"=80'

DAVID EVANS AND ASSOCIATES INC.

Darnell & ASSOCIATES, INC.
TRANSPORTATION PLANNING & TRAFFIC ENGINEERING

LEGEND

1E 95 — BUS ROUTE 7
BUS STOP #/AVERAGE RIDER FOR ROUTE 7

1E 95 — BUS ROUTE 10
BUS STOP #/AVERAGE RIDER FOR ROUTE 10

1E 95 / 95 — BUS ROUTE 7 & 10
BUS STOP #/AVERAGE RIDER FOR ROUTE 7 AND 10

7 — BUS ROUTE

BIKE ROUTE NOTE:
UNIVERSITY AVE IS A SUGGESTED ROUTE FOR CYCLING, NOT A CLASSIFIED BIKE ROUTE.

UNIVERSITY AVENUE MOBILITY STUDY
60TH ST

40 0 40 80 120
SCALE: 1"=80'

DAVID EVANS AND ASSOCIATES, INC.

Darnell & ASSOCIATES, INC.
TRANSPORTATION PLANNING & TRAFFIC ENGINEERING

LEGEND

- 1E 95 — BUS ROUTE 7 — BUS STOP #/AVERAGE RIDER FOR ROUTE 7
- 1E 95 — BUS ROUTE 10 — BUS STOP #/AVERAGE RIDER FOR ROUTE 10
- 1E 95 / 95 — BUS ROUTE 7 & 10 — BUS STOP #/AVERAGE RIDER FOR ROUTE 7 AND 10
- 7 — BUS ROUTE

BIKE ROUTE NOTE:
UNIVERSITY AVE IS A SUGGESTED ROUTE FOR CYCLING, NOT A CLASSIFIED BIKE ROUTE.

UNIVERSITY AVENUE MOBILITY STUDY

COLLEGE AVE

40 0 40 80 120

SCALE: 1"=80'

DAVID EVANS AND ASSOCIATES INC.

Darnell
& ASSOCIATES, INC.
TRANSPORTATION PLANNING & TRAFFIC ENGINEERING

LEGEND

1E 95 — BUS ROUTE 7
BUS STOP #/AVERAGE RIDER FOR ROUTE 7

1E 95 — BUS ROUTE 10
BUS STOP #/AVERAGE RIDER FOR ROUTE 10

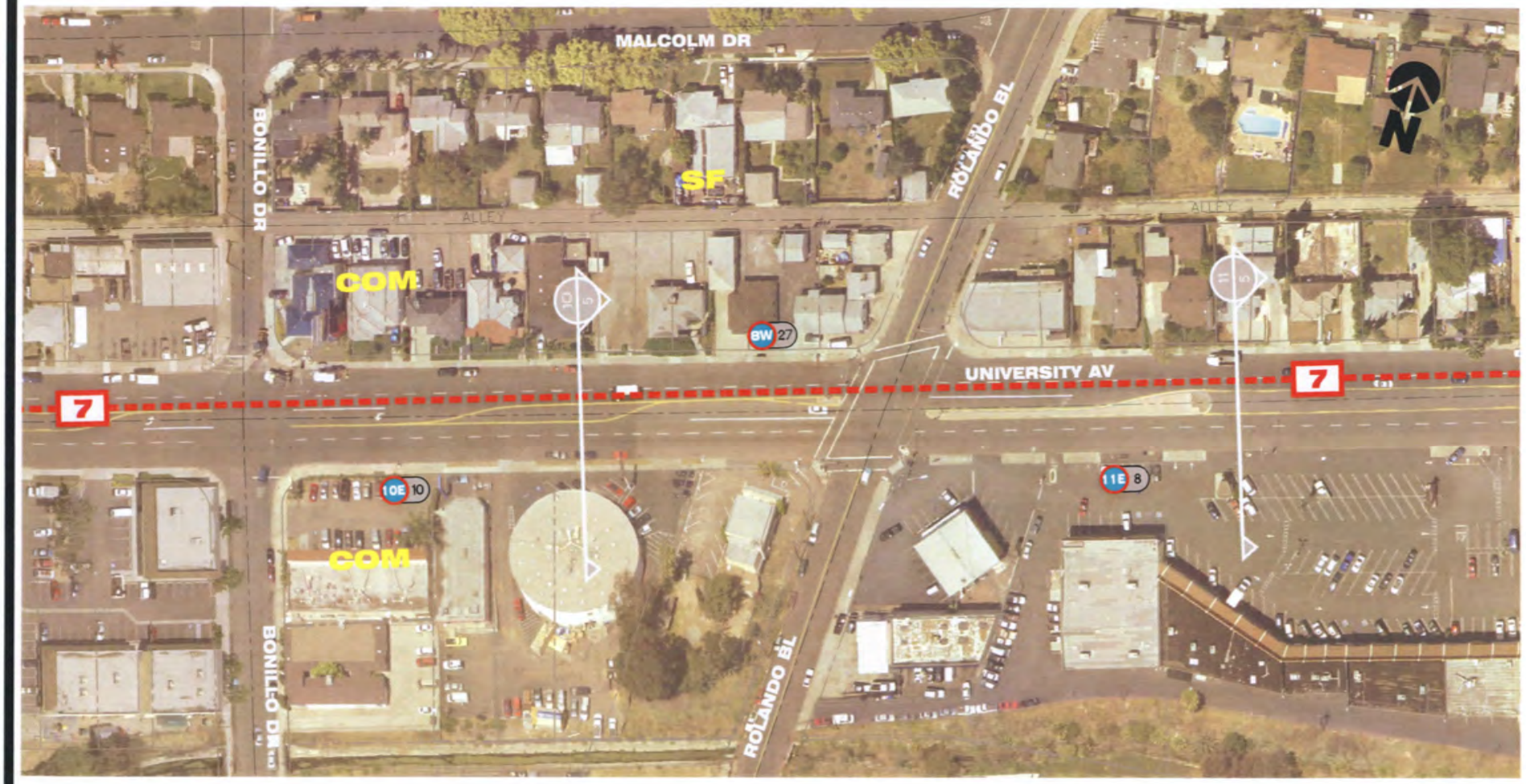
1E 95 / 95 — BUS ROUTE 7 & 10
BUS STOP #/AVERAGE RIDER FOR ROUTE 7 AND 10

7 — BUS ROUTE

BIKE ROUTE NOTE:
UNIVERSITY AVE IS A SUGGESTED ROUTE FOR CYCLING, NOT A CLASSIFIED BIKE ROUTE.

UNIVERSITY AVENUE MOBILITY STUDY
CARTAGENA AND BONILLO DR

40 0 40 80 120
SCALE: 1"=80'



DAVID EVANS AND ASSOCIATES INC.

Darnell & ASSOCIATES, INC.
TRANSPORTATION PLANNING & TRAFFIC ENGINEERING

LEGEND

1E 95 — BUS ROUTE 7
BUS STOP #/AVERAGE RIDER FOR ROUTE 7

1E 95 — BUS ROUTE 10
BUS STOP #/AVERAGE RIDER FOR ROUTE 10

1E 95 / 95 — BUS ROUTE 7 & 10
BUS STOP #/AVERAGE RIDER FOR ROUTE 7 AND 10

7 — BUS ROUTE

BIKE ROUTE NOTE:
UNIVERSITY AVE IS A SUGGESTED ROUTE FOR CYCLING, NOT A CLASSIFIED BIKE ROUTE.

UNIVERSITY AVENUE MOBILITY STUDY

ROLANDO DR

40 0 40 80 120

SCALE: 1"=80'

DAVID EVANS AND ASSOCIATES, INC.

Darnell & ASSOCIATES, INC.
TRANSPORTATION PLANNING & TRAFFIC ENGINEERING

LEGEND

1E 95 — BUS ROUTE 7
BUS STOP #/AVERAGE RIDER FOR ROUTE 7

1E 95 — BUS ROUTE 10
BUS STOP #/AVERAGE RIDER FOR ROUTE 10

1E 95 / 95 — BUS ROUTE 7 & 10
BUS STOP #/AVERAGE RIDER FOR ROUTE 7 AND 10

7 — BUS ROUTE

BIKE ROUTE NOTE:
UNIVERSITY AVE IS A SUGGESTED ROUTE FOR CYCLING, NOT A CLASSIFIED BIKE ROUTE.

UNIVERSITY AVENUE MOBILITY STUDY

ARAGON DR

40 0 40 80 120

SCALE: 1"=80'

DAVID EVANS AND ASSOCIATES, INC.

Darnell & ASSOCIATES, INC.
TRANSPORTATION PLANNING & TRAFFIC ENGINEERING

LEGEND

1E 95 — BUS ROUTE 7
BUS STOP #/AVERAGE RIDER FOR ROUTE 7

1E 95 — BUS ROUTE 10
BUS STOP #/AVERAGE RIDER FOR ROUTE 10

1E 95 / 95 — BUS ROUTE 7 & 10
BUS STOP #/AVERAGE RIDER FOR ROUTE 7 AND 10

7 — BUS ROUTE

BIKE ROUTE NOTE:
UNIVERSITY AVE IS A SUGGESTED ROUTE FOR CYCLING, NOT A CLASSIFIED BIKE ROUTE.

UNIVERSITY AVENUE MOBILITY STUDY

JOAN KROC CENTER

40 0 40 120
SCALE: 1"=40'

DAVID EVANS AND ASSOCIATES INC.

Darnell & ASSOCIATES, INC.
TRANSPORTATION PLANNING & TRAFFIC ENGINEERING

LEGEND

- 1E 95 — BUS ROUTE 7 / BUS STOP #/AVERAGE RIDER FOR ROUTE 7
- 1E 10 — BUS ROUTE 10 / BUS STOP #/AVERAGE RIDER FOR ROUTE 10
- 1E 95 10 — BUS ROUTE 7 & 10 / BUS STOP #/AVERAGE RIDER FOR ROUTE 7 AND 10
- 7 — BUS ROUTE

BIKE ROUTE NOTE:
UNIVERSITY AVE IS A SUGGESTED ROUTE FOR CYCLING, NOT A CLASSIFIED BIKE ROUTE.

UNIVERSITY AVENUE MOBILITY STUDY

68TH ST

40 0 40 80 120

SCALE: 1"=80'

3.8 SUMMARY OF EXISTING CONDITIONS ASSESSMENT

Based on the review of the existing conditions, the following were identified as key issues to focus on throughout the University Avenue Mobility Study:

- **Intersection Improvements:** Although the intersection capacity analysis found that all signalized intersections currently operate at an acceptable LOS D or better, the delay at the University Avenue/College Avenue intersection is at the upper limits of LOS D thus improvements should be considered to ensure that the intersections continue to operate at acceptable levels of service in the future. Further, the existing intersection geometrics at the University Avenue/54th Street and University Avenue/58th Street intersections currently provide for free right turn movements. Since free right turn movements tend to create greater potential for pedestrian/vehicle conflicts, all of the University Avenue Mobility Plan Options provide for eliminating the free right turning movements.

  Also, the stop-controlled intersection University Avenue at Chollas Parkway currently operates at an unacceptable LOS E during the PM peak hour. Possible alternatives for improving the level of service at this intersection include the potential deletion of the Chollas Parkway connection to University Avenue or the re-alignment of the Chollas Parkway intersection which would allow for the installation of a traffic signal. Other projects are considering the closure of Chollas Parkway. The University Avenue Mobility Study has assumed a signalized T intersection for all of the improvement options.

- **Pedestrian Walkability and Accessibility:** Based on a review of the existing conditions along the University Avenue Corridor there are several locations where there are missing sidewalks or sidewalks that are obstructed. In addition, there are several missing curb ramps and ramps that are not currently in compliance with the ADA of 1990 and 2010 standards or the California's Title 24 requirements. Consideration will be given to improving the sidewalks and making sure all curb ramps are ADA compatible.

- **Bicycle Facilities:** Currently, there are no bike lanes, bikeways, or signed bike routes along the University Avenue Corridor. However, the University Avenue study corridor is identified in the Mid-Cities Community Plan and the City's Bicycle Master Plan as having a Class II Bike Lane. Therefore, a primary focus of the University Avenue Mobility Study is to provide some type of bicycle facility along the University Avenue Corridor that will help achieve the goals of the community plan and make the community feel a little safer riding their bikes along University Avenue.

- **Transit Accessibility/Amenities:** A review of the existing transit stops indicates that there may be a need to relocate some stops to provide better accessibility. Consideration will also be given to providing priority to transit vehicles such that there operating performance will not degrade in the future as traffic volumes increase.