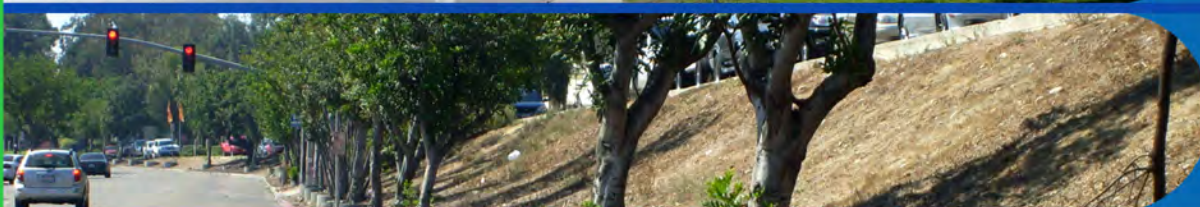


University Avenue Mobility Study

prepared for



March 22, 2011



DAVID EVANS
AND ASSOCIATES, INC.

Darnell & ASSOCIATES, INC.
TRANSPORTATION PLANNING & TRAFFIC ENGINEERING





Outline

- Introduction
- Results of the Community Walk Audits
- Existing Conditions Assessment
- Future Conditions Assessment
- Design Guidelines for Assessing Alternatives
- Draft Measures of Effectiveness
- Preparation for Community Workshop
- Close





Technical Team Introduction



- Thomas Landre – City of SD PM
- Oscar Valdivieso – City of SD
- Tracy Reed – City Redevelopment
- Bill Darnell – Darnell & Assoc. Inc, Traffic
- Lewis Michaelson – Katz and Associates
- Tricia McColl – David Evans (DEA), Civil Engineer
- Lili O'Connor – Parterre, Landscape Architect



Working Group Introduction



- Laura Riebau – EACPC
- Jody Talbott – CNF
- Betty White – RPCC
- Lee Rittiner – RPCC/EACPC
- Jeannette Maxwell – Crossroads PAC BOD
- Jim Stone – Walk San Diego
- Jennifer Finnegan – College Area BID
- Anna Orzei-Arnita – Redwood Village CC
- Jim Barteu – Northgate Markets
- Mario Ingrassi – Crossroads Rolando Eastern Area
- Charles Maze – Crossroad PAC



Walk Audit Results



- 54th Street to College Avenue
North Side
- 54th Street to College Avenue
South Side
- College Avenue to 69th Street
North Side
- College Avenue to 69th Street
South Side



Roadway Classifications, LOS & ADT Thresholds



Table 2-2 - Summary of Roadway Classifications, LOS & ADT Thresholds

Street Classification	# Lanes	Cross Sections	Level of Service				
			A	B	C	D	E
Freeway	8 lanes		60,000	84,000	120,000	140,000	150,000
Freeway	6 lanes		45,000	63,000	90,000	110,000	120,000
Freeway	4 lanes		30,000	42,000	60,000	70,000	80,000
Expressway	6 lanes	102/122	30,000	42,000	60,000	70,000	80,000
Primary Arterial	6 lanes	102/122	25,000	35,000	50,000	55,000	60,000
Major Arterial	6 lanes	102/122	20,000	28,000	40,000	45,000	50,000
Major Arterial	4 lanes	78/98	15,000	21,000	30,000	35,000	40,000
Collector	4 lanes	72/92	10,000	14,000	20,000	25,000	30,000
Collector (no center lane) continuous left turn lane)	4 lanes	64/84	5,000	7,000	10,000	13,000	15,000
	2 lanes	50/70					
Collector (no fronting property)	2 lanes	40/60	4,000	5,500	7,500	9,000	10,000
Collector (commercial-industrial fronting)	2 lanes	50/70	2,500	3,500	5,000	6,500	8,000
Collector (multifamily)	2 lanes	40/60	2,500	3,500	5,000	6,500	8,000
Sub-Collector (single-family)	2 lanes	36/56	-	-	2,200	-	-

LEGEND

XXX/XXX = curb to curb width (feet/right-of-way width (feet: based on the City of San Diego Street Design Manual

YY,YYY = Approximate recommended ADT based on the City of San Diego Street Design Manual

NOTES:

1. The volumes and the average daily level of service listed in this table are only intended as a general planning guideline
2. 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.

Source: City of San Diego's *Traffic Impact Study Manual* dated July 1998



Existing Roadway Segment Level of Service



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 54 th St	4-Lane Major Arterial	4	40,000	28,304	0.71	C
54 th St to 58 th St	4-Lane Major Arterial	4	40,000	23,772	0.59	C
58 th St to 60 th St	4-Lane Major Arterial	5	40,000	22,726	0.57	C
60 th St to College Ave	4-Lane Major Arterial	5	40,000	21,587	0.54	C
College Ave to Cartagena Dr	4-Lane Major Arterial	4	40,000	17,645	0.44	B
Cartagena Dr to Rolando Blvd	4-Lane Major Arterial	4	40,000	17,059	0.43	B
Rolando Blvd to Aragon Dr	4-Lane Major Arterial	4	40,000	15,824	0.40	B
54th Street						
North of University Ave	4-Lane Major Arterial	4	40,000	24,757	0.62	C
South of University Ave	4-Lane Major Arterial	4	40,000	17,834	0.45	B
College Avenue						
North of University Ave	4-Lane Major Arterial	4	40,000	22,822	0.57	C
South of University Ave	4-Lane Major Arterial	4	40,000	23,144	0.58	C
Chollas Parkway						
South of University Ave	4-Lane Major Arterial	4	40,000	4,698	0.12	A

Class = Roadway Classification; ADT = Average Daily Traffic; V/C = Volume to LOS E Capacity; LOS = Level of Service



Accident History



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 the intersection approach/departure was considered to occur at the intersection			



Existing Intersection Level of Service



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) @ 54 th St (N-S)	Signalized	Intersection	25.3	C	32.1	C
University Ave (E-W) @ Chollas Pkwy (N-S)	OWSC	WBL	25.2	D	40.6	E
University Ave (E-W) @ 58 th St (N-S)	Signalized	Intersection	20.5	B	22.2	C
University Ave (E-W) @ University Square Dwy (N-S)	Signalized	Intersection	11.6	B	14.2	B
University Ave (E-W) @ 60 th St (N-S)	Signalized	Intersection	11.0	B	8.3	A
University Ave (E-W) @ College Ave (N-S)	Signalized	Intersection	40.0	D	51.5	D
University Ave (E-W) @ Rolando Blvd (N-S)	Signalized	Intersection	12.7	B	16.6	B
University Ave (E-W) @ Aragon Dr (N-S)	Signalized	Intersection	9.4	A	8.7	A
University Ave (E-W) @ Salvation Dwy (N-S)	Signalized	Intersection	6.4	A	5.7	A
sec/veh = seconds of delay per vehicle; LOS = Level of Service; E-W = East-West Street; N-S = North-South Street WB = WB Approach; WBL = Westbound Left; NB = Northbound Approach; SB = Southbound Approach OWSC = One-Way Stop-Controlled Err = Delay too high for software to calculate						



Crash Data By Intersection



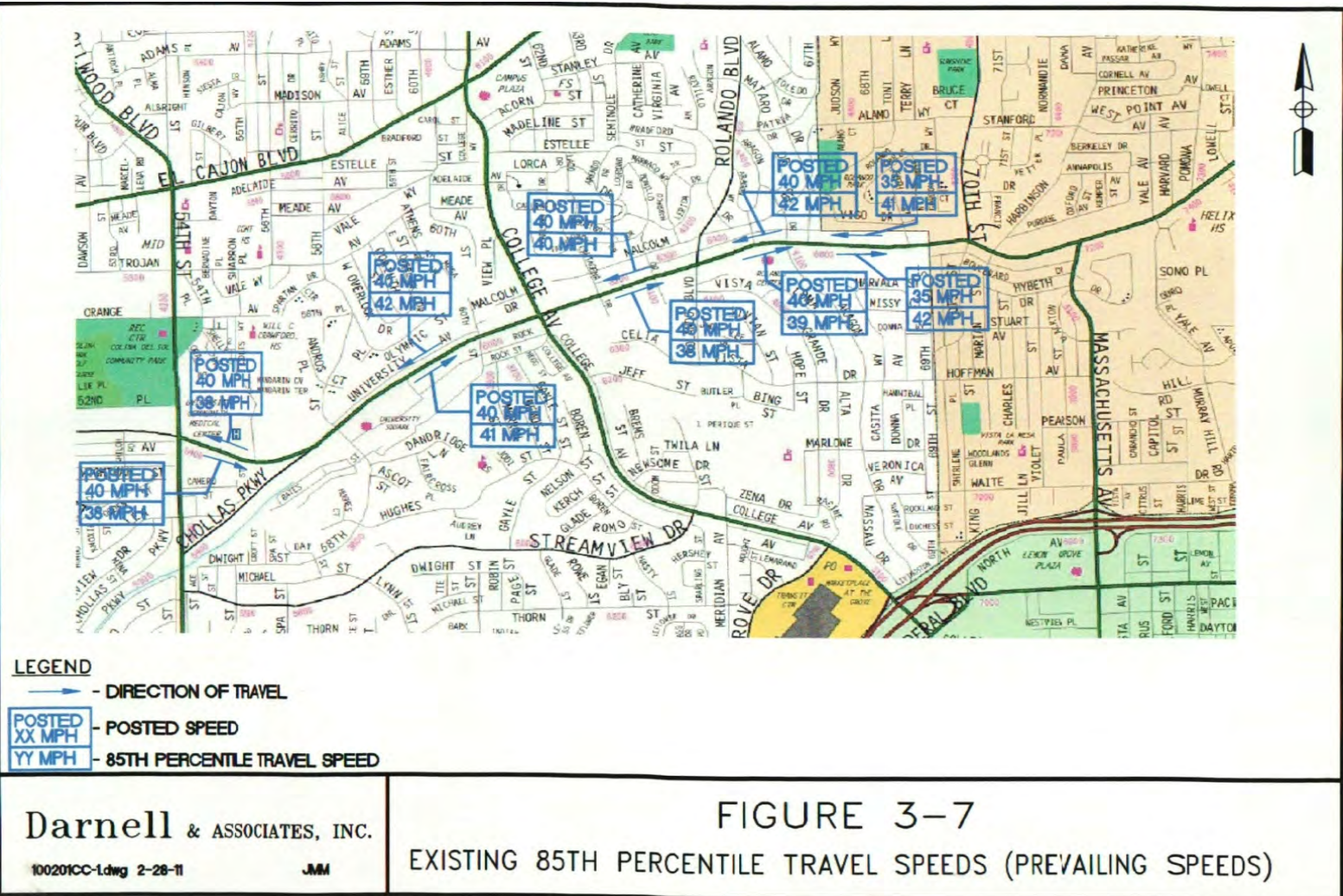
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University Ave @ Chollas Pkwy	10	11	21
University Ave @ 58th St	48	23	71
University Ave @ University Square Dwy	12	9	21
University Ave @ 60th St	18	12	30
University Ave @ College Ave	75	16	91*
University Ave @ Bonillo Dr	6	2	8
University Ave @ Cartagena 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

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



Existing 85th Percentile Travel Speeds





Vehicular Traffic



Posted Speed Limit

- 35 MPH East of Aragon
- 40 MPH West of Aragon

85th Percentile Speed
38 MPH to 40 MPH



Existing Parking Demands



Table 3-7 - Summary of Existing Parking Demands

Segment	Side of Street	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	North	1	0	3	0	3	0	3	0	4	0	3	0
	South	9	0	9	0	9	0	11	0	11	0	10	0
	Total	10	0	12	0	12	0	14	0	15	0	13	0
Chollas Pkwy to 58th St	North	1	0	0	0	1	0	0	0	1	0	1	0
	South	0	0	0	0	2	0	0	0	3	0	2	0
	Total	1	0	0	0	3	0	0	0	4	0	3	0
58th St to 60th St	North	2	1	2	1	2	1	2	1	1	1	1	1
	South	1	0	0	0	1	0	1	0	1	0	1	0
	Total	3	1	2	1	3	1	3	1	2	1	2	1
60th St to College Ave	North	1	0	0	0	0	0	0	0	0	0	0	0
	South	1	0	1	0	1	0	1	0	1	0	0	0
	Total	2	0	1	0	1	0	1	0	1	0	0	0
College Ave to Cartagena Dr	North	2	0	1	0	2	0	2	0	3	0	2	0
	South	7	0	8	0	7	0	8	0	8	0	6	0
	Total	9	0	9	0	9	0	10	0	11	0	8	0
Cartagena Dr to Rolando Blvd	North	4	0	3	0	3	0	1	0	4	0	3	0
	South	16	0	16	0	19	0	15	0	14	0	16	0
	Total	20	0	19	0	22	0	16	0	18	0	19	0
Rolando Blvd to Aragon Dr	North	0	0	0	0	0	0	0	0	0	0	0	0
	South	7	0	5	0	5	0	7	0	5	0	5	0
	Total	7	0	5	0	5	0	7	0	5	0	5	0
Aragon Dr to 69th St	North	1	0	2	0	4	0	6	0	5	0	3	0
	South	18	0	16	0	16	0	16	0	15	0	16	0
	Total	19	0	18	0	20	0	22	0	20	0	19	0
Peak Parking Demand	North	4	1	3	1	4*	1	6	1	5	1	3	1
	South	18	0	16	0	19*	0	16	0	15	0	16	0
	Total	22	1	19	1	23*	1	22	1	20	1	19	1



Existing Pedestrian Volumes



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) @ Cartagena Dr (N-S)	1 (University Ave)	17 (Cartagena Dr)	4 (University Ave)	30 (Cartagena Dr)	52
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



Existing Pedestrian Volumes



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) @ Cartagena Dr (N-S)	6 (University Ave)	20 (Cartagena Dr)	8 (University Ave)	33 (Cartagena Dr)	67
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



Pedestrian Involved Crashed Along University Ave. Corridor



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

Intersection	Number of Crashes
<i>University Ave @ 54th St</i>	<i>16</i>
University Ave @ Chollas Pkwy	2
<i>University Ave @ 58th St</i>	<i>10</i>
University Ave @ University Square Dwy	4
University Ave @ 60th St	1
<i>University Ave @ College Ave</i>	<i>5</i>
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
Total:	40



Existing Bicycle Volumes



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) @ Cartagena Dr (N-S)	9 (University Ave)	15 (Cartagena Dr)	10 (University Ave)	10 (Cartagena Dr)	44
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



Existing Bicycle Volumes



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) @ Cartagena Dr (N-S)	8 (University Ave)	13 (Cartagena Dr)	8 (University Ave)	11 (Cartagena Dr)	40
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



Bicycle Involved Crashes Along University Ave. Corridor



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

Intersection	Number of Crashes
<i>University Ave @ 54th St</i>	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
Total:	17



Existing Amenities at Each Transit Stop Along University Ave Corridor

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

Existing Bus Stop	Direction	Ons	Offs	Total Trip Ends	Shelter	Bench	Lighting	Trash	Concrete Pad	Stop Location on Block	Route(s) Served
1E 54 th St	East	220	110	330		X	X	X		FAR	7/10
1W 54 th St	West	294	111	406	X	X		X	X	NEAR	7/10
2E University Ave/ 54 th St (Sears)	East	25	25	50	X	X	X	X		MID	7
2W Chollas Pkwy	West	17	9	26		X				MID	7
3E 58 th St	East	41	132	173		X			X	FAR	7
3W 58 th 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/ 5975	East	22	122	144	X	X		X		MID	7/10
5W 60 th St	West	60	12	72						FAR	7/10
6E 60 th 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 Dwy	West	27	9	36		X		X		NEAR	7
13E Salvation Dwy	East	5	16	20	X	X		X	X	FAR	7
11W 68 th St	West	69	22	91	X	X		X		NEAR	7
12W 69 th St	West	68	4	73	X	X		X	X	FAR	7
14E 69 th St	East	53	149	202	X	X	X	X	X	NEAR	7



University Ave. Corridor Daily Ridership



Table 3-16 - University Avenue Corridor Daily Ridership					
Route	Direction of Travel	Boardings	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



Proposed Conditions



Table 1 - Summary of Intersections Levels of Service for Base Conditions

Intersection	Traffic Control	Critical Mvt	Existing				Future (2030)			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
University Ave (E-W) @ 54th St (N-S)	Sig.	Int.	25.3	C	32.1	C	37.9	D	39.3	D
University Ave (E-W) @ Chollas Pkwy (N-S)	OWSC	WBL	25.2	D	40.6	E	33.3	D	221.3	F
University Ave (E-W) @ 58th St (N-S)	Sig.	Int.	20.5	C	22.2	C	26.2	C	20.4	C
University Ave (E-W) @ University Sq (N-S)	Sig.	Int.	11.6	B	14.2	B	8.0	A	20.6	C
University Ave (E-W) @ 60th St (N-S)	Sig.	Int.	11.0	B	8.3	A	7.6	A	6.0	A
University Ave (E-W) @ College Ave (N-S)	Sig.	Int.	40.0	D	51.5	D	52.5	D	77.7	E
University Ave (E-W) @ Rolando Blvd (N-S)	Sig.	Int.	12.7	B	16.6	B	16.6	B	20.0	C
University Ave (E-W) @ Aragon Dr (N-S)	Sig.	Int.	9.4	A	8.7	A	10.8	B	11.5	B
University Ave (E-W) @ Salvation Dwy (N-S)	Sig.	Int.	6.4	A	5.7	A	6.0	A	6.3	A
Chollas Pkwy (E-W) @ 54th St (N-S)	OWSC	WB	35.5	E	127.8	F	182.0	F	660.9	F

sec/veh = seconds of delay per vehicle; LOS = Level of Service;
 E-W = East-West Street; N-S = North-South Street; Int = Intersection
 WB = Westbound Approach; WBL = Westbound Left
 Sig. = Signalized; OWSC = One-Way Stop-Controlled



Proposed Conditions



Table 2 - Summary of Intersections Levels of Service for Alternative Channelization Concepts

Intersection	Traffic Control	Critical Mvt	Existing Lane Configurations				Alternative A				Alternative B				Alternative C			
			AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Existing Traffic Volumes																		
University Ave (E-W) @ 54th St (N-S)	Sig.	Int.	25.3	C	32.1	C	28.6	C	36.6	D	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
University Ave (E-W) @ 58th St (N-S)	Sig.	Int.	20.5	C	22.2	C	21.0	C	25.2	C	17.0	B	21.0	C	17.1	B	19.8	B
Existing Traffic Volumes With Deletion of Chollas Parkway																		
University Ave (E-W) @ 54th St (N-S)	Sig.	Int.	N/A	N/A	N/A	N/A	29.3	C	53.3	D	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
University Ave (E-W) @ 58th St (N-S)	Sig.	Int.	N/A	N/A	N/A	N/A	21.0	C	24.8	C	17.0	B	20.8	C	17.1	B	20.1	C
2030 Traffic Volumes																		
University Ave (E-W) @ 54th St (N-S)	Sig.	Int.	37.9	D	39.3	D	31.0	C	43.5	D	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
University Ave (E-W) @ 58th St (N-S)	Sig.	Int.	26.2	C	20.4	C	27.1	C	25.1	C	21.7	C	16.7	B	21.4	C	17.3	B
University Ave (E-W) @ College Ave (N-S)	Sig.	Int.	52.5	D	77.7	E	43.5	D	54.7	D	37.9	D	45.6	D	N/A	N/A	N/A	N/A
2030 Traffic Volumes With Deletion of Chollas Parkway																		
University Ave (E-W) @ 54th St (N-S)	Sig.	Int.	N/A	N/A	N/A	N/A	36.2	D	57.8	E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
University Ave (E-W) @ 58th St (N-S)	Sig.	Int.	N/A	N/A	N/A	N/A	27.1	C	34.6	C	21.7	C	25.2	C	21.4	C	25.2	C
University Ave (E-W) @ College Ave (N-S)	Sig.	Int.	N/A	N/A	N/A	N/A	43.5	D	54.7	D	37.9	D	45.6	D	N/A	N/A	N/A	N/A
Delay is measured in seconds of delay per vehicle (sec/veh); LOS = Level of Service; N/A E-W = East-West Street; N-S = North-South Street; Int = Intersection; Sig. = Signalized;																		

Delay is measured in seconds of delay per vehicle (sec/veh); LOS = Level of Service; N/A
E-W = East-West Street; N-S = North-South Street; Int = Intersection; Sig. = Signalized;



Proposed Conditions



Table 4-1 - Future Roadway Segment Level of Service Summary

Segment	Class	# of Lanes	LOS E Capacity	Average Weekday ADT		
				ADT	V/C	LOS
University Avenue						
West of 54 th St	4-Lane Major Arterial	4	40,000	25,000	0.63	C
54 th St to 58 th St	4-Lane Major Arterial	4	40,000	27,000	0.68	C
58 th St to 60 th St	4-Lane Major Arterial	5	40,000	25,000	0.63	C
60 th St to College Ave	4-Lane Major Arterial	5	40,000	23,00	0.58	C
College Ave to Cartagena Dr	4-Lane Major Arterial	4	40,000	25,000	0.63	C
Cartagena Dr to Rolando Blvd	4-Lane Major Arterial	4	40,000	26,000	0.65	C
Rolando Blvd to Aragon Dr	4-Lane Major Arterial	4	40,000	20,000	0.50	B
54th Street						
North of University Ave	4-Lane Major Arterial	4	40,000	23,000	0.58	C
South of University Ave	4-Lane Major Arterial	4	40,000	23,000	0.58	C
College Avenue						
North of University Ave	4-Lane Major Arterial	4	40,000	23,000	0.58	C
South of University Ave	4-Lane Major Arterial	4	40,000	23,000	0.73	C
Chollas Parkway						
South of University Ave	4-Lane Major Arterial	4	40,000	5,000	0.13	A
Class = Roadway Classification; ADT = Average Daily Traffic; V/C = Volume to LOS E Capacity; LOS = Level of Service						



Overview of the Corridor

Mobility

- Vehicular
- Pedestrian
- Bicycle
- Transit
- Parking





Vehicular Traffic



Class - 4 Lane Major Arterial

- 54th to 60th = 4 Lanes + parking
- 60th to College = 5 Lanes + parking
- College to 69th Street = 4 Lanes + parking



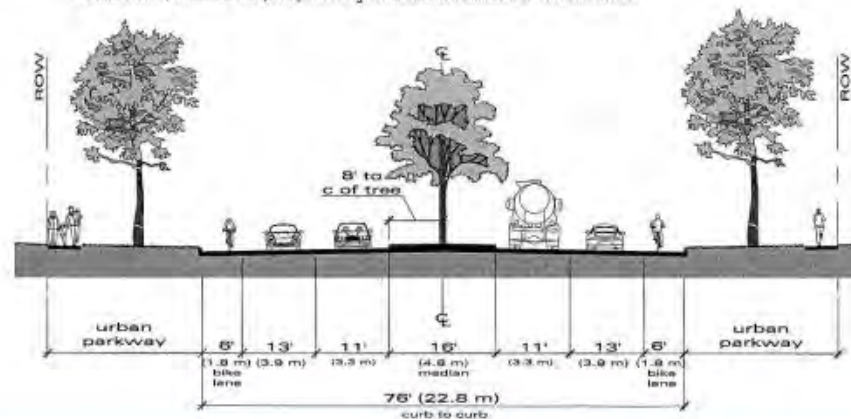
Four Lane Major



Width, Right-of-Way	120 ft. (36.0 m)
Design ADT	LOS C 30,000 LOS D 35,000
Design Speed	55 mph (90 km/h)
Width (includes bike lanes and 16 ft. (4.8 m) raised center median), Curb-to-Curb^{1,2}	76 ft. (22.8 m)
Maximum Grade	7%
Minimum Curve Radius	1,850 ft. (585 m) with no superelevation 1,350 ft. (430 m) with 2% (min.) superelevation 880 ft. (275 m) with 10% (max.) superelevation
Land Use	Single Dwelling Residential-no front or side yards; Multiple Dwelling Residential-no front or side yards; Community Commercial-no front yards; Regional Commercial; Commercial Office; Visitor Commercial; Church; Public Building; Industrial; Open Space
Parkway	U-4 (b)

¹ Widen additional 10 ft. (3.0 m) at approaches to intersecting four-or-six-lane streets to provide a minimum of 250 ft. (75 m) of two-lane left-turn storage, exclusive of transitions. Receiving lanes for dual lefts shall be 12 ft. (3.6 m) wide. In instances where supporting information exists, such as an approved traffic impact study, showing clearly that dual left-turn lanes would not be warranted, the standard curb-to-curb width may be permitted.

² At intersections, a minimum 6 ft. (1.8 m) wide refuge island shall be maintained in the center median.





Four Lane Urban Major

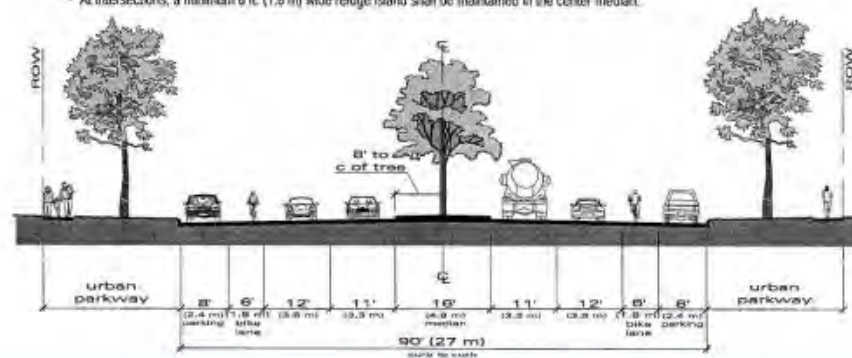


Width, Right-of-Way	118 ft. (35.6 m) - 130 ft. (39.0 m)
Design ADT	LOS C 30,000 LOS D 35,000
Design Speed	45 mph (70 km/h)
Width (includes bike lanes and 16 ft. (4.8 m) raised center median), Curb-to-Curb^{1,2}	90 ft. (27.0 m)
Maximum Grade	7%
Minimum Curve Radius	1,090 ft. (325 m) with no superelevation 830 ft. (245 m) with 2% (min.) superelevation 660 ft. (195 m) with 6% (max.) superelevation
Land Use	Single Dwelling Residential-no front or side yards; Multiple Dwelling Residential-no front or side yards; Neighborhood Commercial; Community Commercial; Regional Commercial; Commercial Office; Visitor Commercial; School (high school and above); Church; Public Building; Urban Village Commercial Retail; Industrial
Parkway Options	U-4 (a); U-5 (a,b); U-6 (a,b)

NOTE: Four-Lane Urban Major street classification is applicable to streets of limited length, where intersections are closely spaced, where there is extensive driveway access, or in other situations where the speed is expected to be less than 45 mph (70 km/h) or less.

¹ Widen additional 10 ft. (3.0 m) at approaches to intersecting four- or six-lane streets to provide a minimum of 250 ft. (75 m) of two-lane left-turn storage, exclusive of transitions. Receiving lanes for dual lefts shall be 12 ft. (3.6 m) wide. In instances where supporting information exists, such as an approved traffic impact study, showing clearly that dual left-turn lanes would not be warranted, the standard curb-to-curb width may be permitted.

² At intersections, a minimum 6 ft. (1.8 m) wide refuge island shall be maintained in the center median.



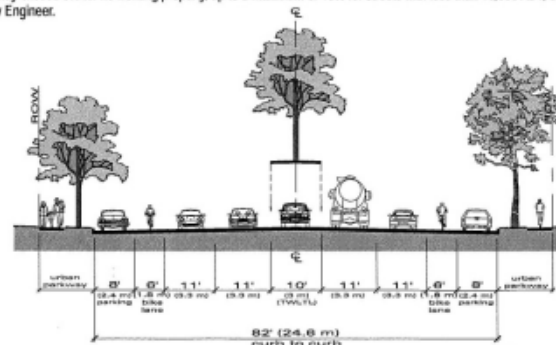


Four Lane Urban Collector with Two Way Left Turn Lane



Width, Right-of-Way	110 ft. (33.2 m) - 122 ft. (36.6 m)
Design ADT	LOS C 20,000 LOS D 25,000
Design Speed	35 mph (60 km/h)
Width (includes bike lanes), Curb-to-Curb	82 ft. (24.6 m)
Maximum Grade¹	8%
Minimum Curve Radius	610 ft. (220 m) with no superelevation 470 ft. (170 m) with 2% (min.) superelevation 380 ft. (135 m) with 6% (max.) superelevation
Land Use	Single Dwelling Residential-no front yards; Low Density Multiple Dwelling Residential-no front yards; Open Space-Park; Industrial; Medium-to-Very High Density Multiple Dwelling Residential-no front yards
Parkway	U-4 (a)
Land Use	Neighborhood Commercial; Community Commercial; Regional Commercial; Commercial Office; Visitor Commercial; School; Church; Public Building
Parkway Options	U-5 (a,b); U-6 (a,b)
Land Use	Pedestrian-Oriented Commercial Retail; Urban Village Commercial Retail
Parkway Options	U-5 (a,b); U-6 (a,b)

median is installed, access provisions across the median for emergency vehicles should be provided at 300 ft. (90 m) intervals.
 NOTE: Two-way left-turn lane shall be considered only for streets of limited length where intersections are closely spaced or where there is extensive driveway access. For all other conditions, raised center medians should be considered.
¹ Whenever topographic constraints would cause excessive slope heights or create unmitigable landform impacts, the maximum street grade may exceed 8% for no-fronting property, up to a maximum of 10% for streets with less than 10,000 ADT, subject to approval of the City Engineer.





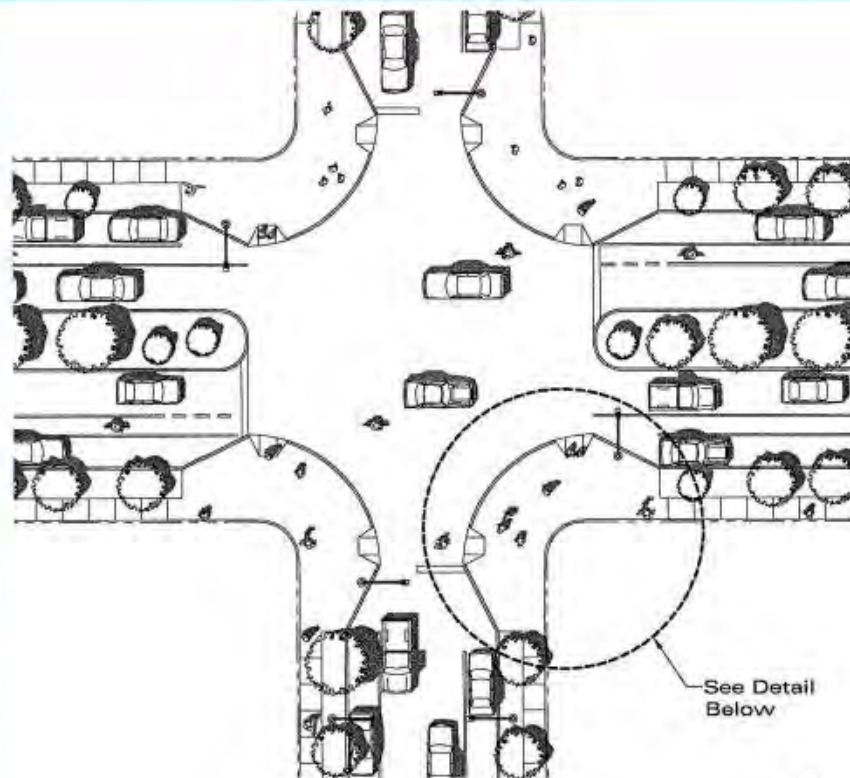
Pedestrian Mobility



- Sidewalks
- Accessible Sidewalks
- Curb Ramps
- Cross Walks
- Limited Distance Across Intersections
- Limited Vehicular Access
- Landscaping
- Pop-Outs



Pedestrian Mobility



NOTE:

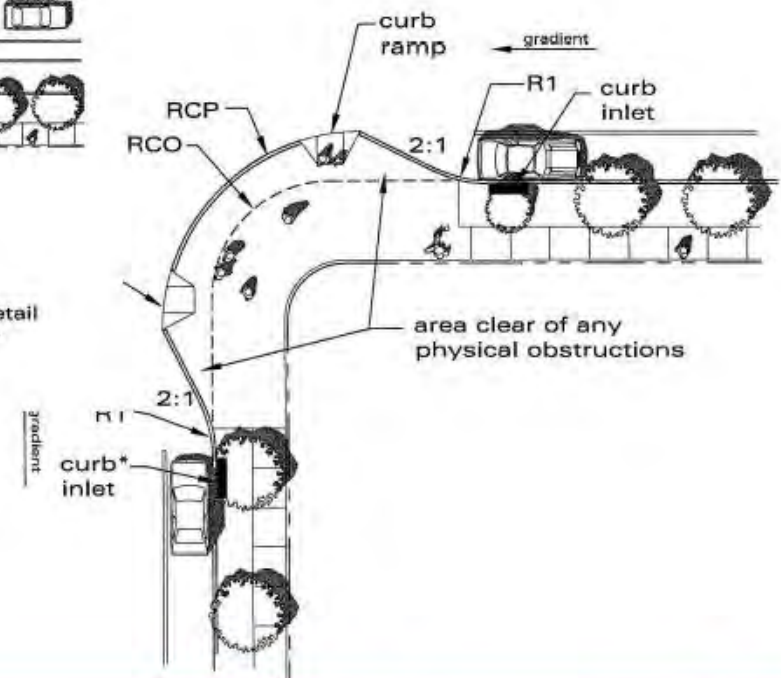
* Drainage requirements must be evaluated and addressed.

Legend

RCP - 30' (9.2 m) minimum

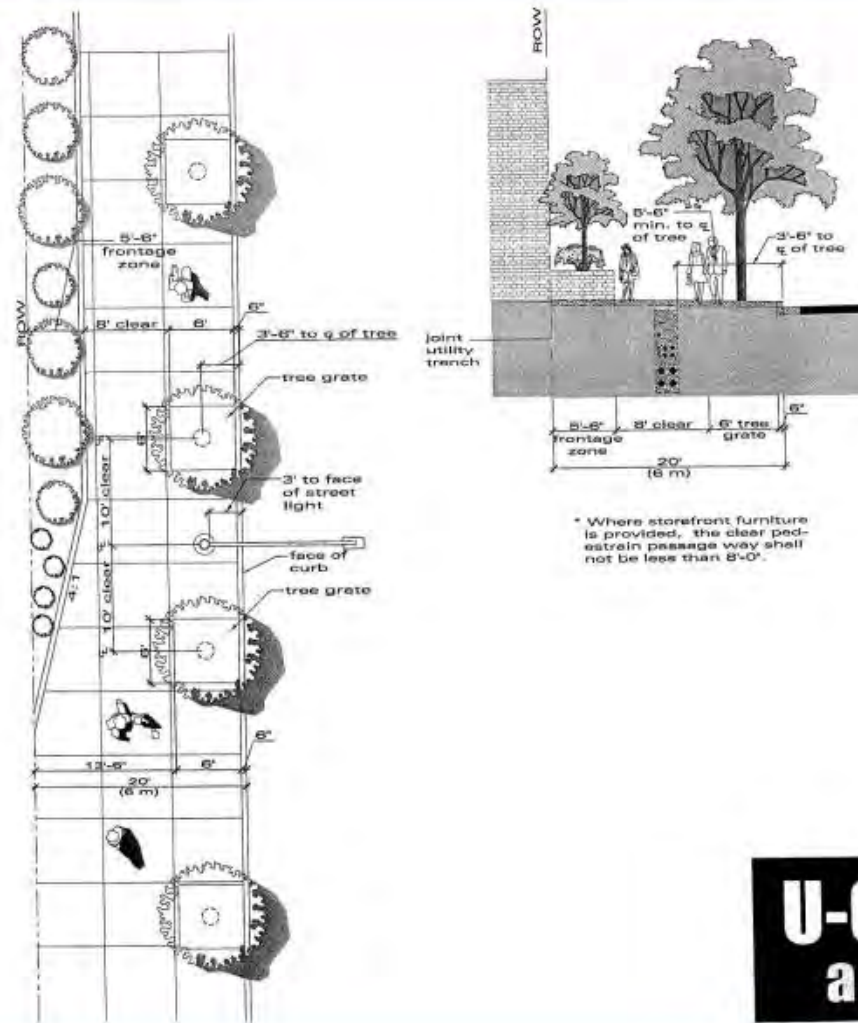
RCO - Retrofit installations- original curb radius

R1 - Curb radius 20' (6 m)





Pedestrian Mobility



U-6
a





Bicycle Mobility



- Dedicated Bike Lanes – 6 feet minimum
- Share the Road – with vehicles
with transit
- Connectivity to Existing Bike Routes
- Bike Racks – maintenance not covered
- Bike racks on all buses
- Bicycle Demand



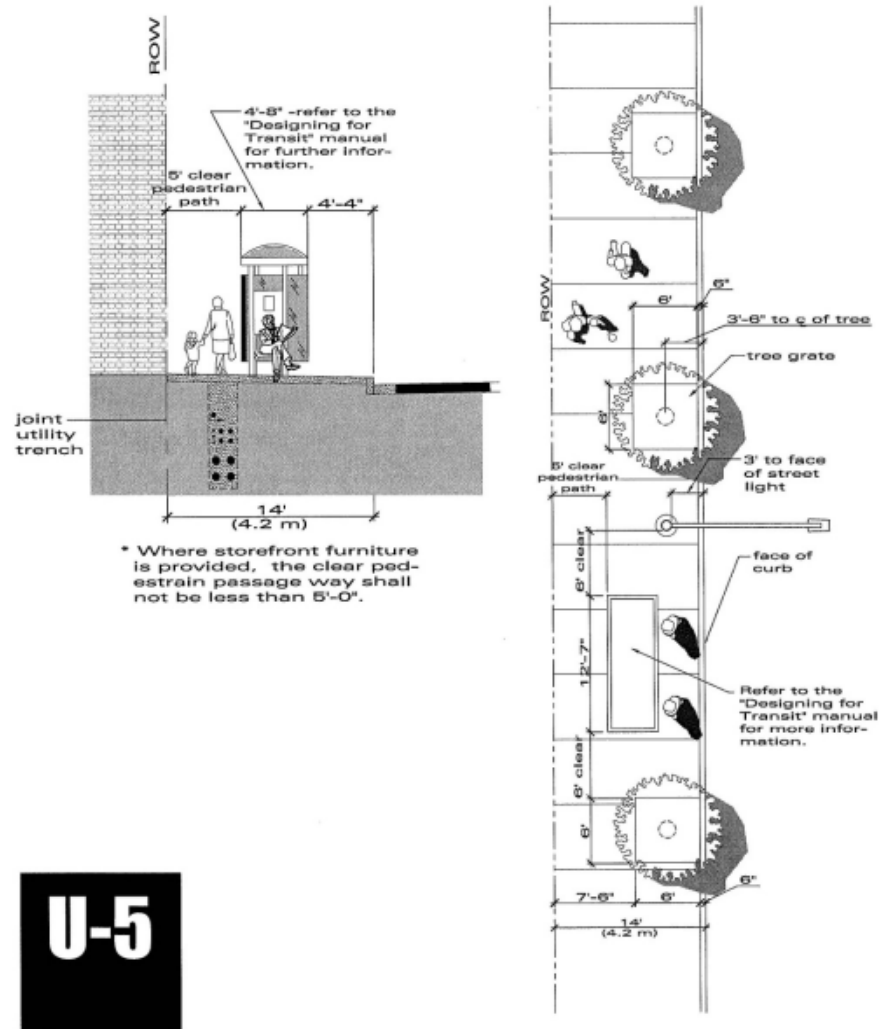
Transit Mobility – Route 10 Express Route 7 Local



- Heavily Traveled Commuter Route
- Bike Racks on Buses
- Accessible Routes to Bus Stops
- Enlarge and Enhance Waiting Area
- Shelters and Furniture – Non Standard will not be maintained by MTS
- Relocate stations
 - Sight Distance
 - Area
 - Accessibility



Transit Mobility – Route 10 Express Route 7 Local





Review Typical Design Solutions

- 54th Street to 58th Street
- 58th Street to College Avenue
- College Avenue to Aragon Drive
- Aragon Drive to 69th Street





Draft Measures of Effectiveness



Pedestrian

Walkability

Sidewalk Accessibility

Crosswalks

Potential Vehicle/Pedestrian Conflicts at intersections

Potential Vehicle/Pedestrian Conflicts at Mid-Block Locations

Pedestrian Safety



Transit

Transit Access

Transit Amenities



Bicycle Facilities

Potential Vehicle/Bicycle Conflicts at intersections

Potential Vehicle/Bicycle Conflicts at Mid-Block Locations



Other

Aesthetics

Parking



Draft Measures of Effectiveness

Engineering

Roadway Level of Service (Volume to Capacity Ratio)

Intersection Level of Service (Volume to Capacity Ratio)

Intersection Delay

Passenger Vehicle Travel Time

Corridor Delay

Parking Capacity Change

Parking Maneuver/Traffic Flow Conflicts

Storm Drainage

Stormwater management

Compliance with City Design Standards

Right of Way Impacts

Environmental Impacts

Maintenance

Liability





Community Meeting Schedule



- Community Workshops
 1. Tuesday, March 8, 2011
 2. Thursday, April 21, 2011
 3. Thursday, May 5, 2011
- Working Group Meetings
 1. Tuesday, February 22, 2011
 2. Tuesday, March 22, 2011
 3. Tuesday, April 26, 2011
 4. Tuesday, May 24, 2011
- Community Planning Group Meetings
 1. Tuesday, May 10, 2011 – Preliminary Alternatives
 2. Tuesday, June 14, 2011 – Present Report



University Avenue Mobility



- The End



Site Photos

