

APPENDIX K-3:
KAKU ASSOCIATES AND RAJU ASSOCIATES, INC.,
THE VILLAGE AT PLAYA VISTA TRANSPORTATION
PLAN ENVIRONMENTAL IMPACT REPORT ,
TECHNICAL APPENDIX VOLUME I, JULY 2003

THE VILLAGE AT PLAYA VISTA PROJECT

TECHNICAL APPENDIX VOLUME 1

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THE VILLAGE AT PLAYA VISTA PROJECT

APPENDIX VOLUME 1A

MEMORANDUM OF UNDERSTANDING

SCOPING FOR TRAFFIC STUDY

This Memorandum of Understanding (MOU) acknowledges Los Angeles Department of Transportation (LADOT) requirements of traffic impact analysis for following project:

Project name The Village at Playa Vista Project
 Project address South-east of McConnell Av/Jefferson
 Project description 175,000 sf (net) Office, 2,600 Dwelling Units, 150,000 sf Retail
40,000 sf Community Serving

Geographic Distribution: **Per Emme2 Model** N24% S27% E44% W5%
 (Attach graphic illustrating project trip distribution percentages at the studied intersections)

Trip Generation Rate(s) Source: ITE Sixth Edition

Land Use	<u>See Attached</u>	Land Use		Land Use	
	in out		in out		in out
AM Trips	<u> </u> <u> </u>		<u> </u> <u> </u>		<u> </u> <u> </u>
PM Trips	<u> </u> <u> </u>		<u> </u> <u> </u>		<u> </u> <u> </u>

Project Buildout Year Year 2010
 Ambient or CMP Growth Rate Per Emme2 2010 Travel Demand Model
 Related Projects: **See Attached**

Study Intersections: (Subject to revision after CMP requirement, related projects, trip generation and distribution are determined)

1. **See Attached List**
- 2.
- 3.
- 4.
- 5.
- 6.

Trip Credits: (Exact amount of credit subject to approval by LADOT)

Transportation Demand Management (TDM)	<u> </u> Yes	<u> X </u> no
Existing Active Land Use	<u> </u> Yes	<u> X </u> no
Previous Land Use	<u> </u> Yes	<u> X </u> no
Internal Trip	<u> X </u> Yes	<u> </u> no
Pass By Trip	<u> X </u> Yes	<u> </u> no
Transit	<u> </u> Yes	<u> X </u> no

This analysis must follow latest LADOT traffic study guidelines

Consultant

Name Kaku Associates
 Address 1453 Third Street # 400, Santa Monica, CA 90401
 Phone No. 310-458-9916

Developer

Playa Capital Company
12555 W. Jefferson Bl, Los Angeles, CA 90066
310-822-0074

Approved by: [Signature]
 Consultant's Representative

10/15/02
 Date

[Signature]
 LADOT's Representative
10/15/02
 Date

TABLE 5-2
PLAYA VISTA SECOND PHASE PROJECT
TRIP GENERATION ESTIMATES

Land Use	Size	Daily	AM Peak Hour		PM Peak Hour		Total
			In	Out	In	Out	
AREA "D"							
Office	175,000 sf	2,271	287	39	52	253	305
Dwelling Units	2,600 du	15,236	194	950	941	463	1,404
Retail (Neighborhood)	150,000 sf	6,193	87	56	276	299	575
Community Serving Uses	40,000 sf	520	9	4	6	12	18
TOTAL PV PHASE II			577	1,049	1,275	1,027	2,302

Source: ITE "Trip Generation", 6th Edition, 1997.
Retail Trip Generation includes 30% pass-by trip reduction.
Community Serving Uses include uses such as Community Center.
Community Center trip generation includes a 75% internal capture.

TABLE 1C-3
PLAYA VISTA TRIP GENERATION ANALYSIS
Year 2010 - 48 ZONE SYSTEM
ITE 6th EDITION RATES

FILE: MPOFFICE IN MPGEN.XLS (1.2 persons per automobile)

AREA	ZONE(1)	NET SIZE	DAILY	AM PEAK HOUR		TOTAL	PM PEAK HOUR		
				IN	OUT		IN	OUT	TOTAL
D	9	0	0	0	0	0	0	0	0
D	10	0	0	0	0	0	0	0	0
D	11	0	0	0	0	0	0	0	0
D	12	0	0	0	0	0	0	0	0
D	13	0	0	0	0	0	0	0	0
D	14	0	0	0	0	0	0	0	0
D	15	0	0	0	0	0	0	0	0
D	16	0	0	0	0	0	0	0	0
D	17	0	0	0	0	0	0	0	0
D	18	0	0	0	0	0	0	0	0
D	19	0	0	0	0	0	0	0	0
D	20	55,000	714	90	12	102	16	80	96
D	21	40,000	519	65	9	74	12	58	70
D	22	80,000	1038	131	18	149	24	116	139
D	23	0	0	0	0	0	0	0	0
D	24	0	0	0	0	0	0	0	0
D	25	0	0	0	0	0	0	0	0
Total Project		175,000	2271	287	39	326	52	253	305

(1) - Refer to Figure 5-1 for zone boundaries.

(2) - Office rates increased 15.0% to reflect net usable versus gross leasable square feet.

TABLE 1C-4
PLAYA VISTA TRIP GENERATION ANALYSIS
Year 2010 - 48 ZONE SYSTEM
ITE 6th EDITION RATES
FILE: MPRESID IN MPGEN.XLS

AREA	ZONE(1)	SIZE	DAILY	AM PEAK HOUR			PM PEAK HOUR		
				IN	OUT	TOTAL	IN	OUT	TOTAL
D	9	344	2016	26	126	151	124	61	186
D	10	130	762	10	47	57	47	23	70
D	11	130	762	10	47	57	47	23	70
D	12	312	1828	23	114	137	113	56	168
D	13	54	316	4	20	24	20	10	29
D	14	68	398	5	25	30	25	12	37
D	15	187	1096	14	68	82	68	33	101
D	16	48	281	4	18	21	17	9	26
D	17	35	205	3	13	15	13	6	19
D	18	300	1758	22	110	132	109	53	162
D	19	50	293	4	18	22	18	9	27
D	20	155	908	12	57	68	56	28	84
D	21	80	469	6	29	35	29	14	43
D	22	150	879	11	55	66	54	27	81
D	23	185	1084	14	68	81	67	33	100
D	24	318	1863	24	116	140	115	57	172
D	25	54	316	4	20	24	20	10	29
Total Project		2,600	15236	194	950	1144	941	463	1404

(1) - Refer to Figure 5-1 for zone boundaries.

RATE - RESIENTIAL CONDO/TOWNHOU	5.86	17%	83%	0.44	67%	33%	0.54
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TABLE 1C-5
PLAYA VISTA TRIP GENERATION ANALYSIS
Year 2010 - 48 ZONE SYSTEM
ITE 6th EDITION RATES
FILE: MPRETAIL IN MPGEN.XLS

AREA	ZONE(1)	SIZE	DAILY	AM PEAK HOUR			PM PEAK HOUR		
				IN	OUT	TOTAL	IN	OUT	TOTAL
D	9	0	0	0	0	0	0	0	0
D	10	0	0	0	0	0	0	0	0
D	11	0	0	0	0	0	0	0	0
D	12	0	0	0	0	0	0	0	0
D	13	0	0	0	0	0	0	0	0
D	14	0	0	0	0	0	0	0	0
D	15	0	0	0	0	0	0	0	0
D	16	0	0	0	0	0	0	0	0
D	17	0	0	0	0	0	0	0	0
D	18	0	0	0	0	0	0	0	0
D	19	40,000	2359	33	21	54	105	114	219
D	20	50,000	2949	41	26	68	131	142	274
D	21	20,000	1180	17	11	27	53	57	109
D	22	40,000	2359	33	21	54	105	114	219
D	23	0	0	0	0	0	0	0	0
D	24	0	0	0	0	0	0	0	0
D	25	0	0	0	0	0	0	0	0
Total Project		150,000	8847	124	79	203	394	427	821

(1) - Refer to Figure 5-1 for zone boundaries.

TABLE 1C-6
PLAYA VISTA TRIP GENERATION ANALYSIS
Year 2010 - 48 ZONE SYSTEM
RETAIL PASS BY (Based on LADOT Policy on Pass-By Trips)

AREA	ZONE(1)	SIZE	DAILY	AM PEAK HOUR			PM PEAK HOUR			Pass-By
				IN	OUT	TOTAL	IN	OUT	TOTAL	
D	9	0	0	0	0	0	0	0	0	30%
D	10	0	0	0	0	0	0	0	0	50%
D	11	0	0	0	0	0	0	0	0	50%
D	12	0	0	0	0	0	0	0	0	50%
D	13	0	0	0	0	0	0	0	0	50%
D	14	0	0	0	0	0	0	0	0	50%
D	15	0	0	0	0	0	0	0	0	50%
D	16	0	0	0	0	0	0	0	0	50%
D	17	0	0	0	0	0	0	0	0	50%
D	18	0	0	0	0	0	0	0	0	50%
D	19	40,000	708	10	6	16	32	34	66	30%
D	20	50,000	885	12	8	20	39	43	82	30%
D	21	20,000	354	5	3	8	16	17	33	30%
D	22	40,000	708	10	6	16	32	34	66	30%
D	23	0	0	0	0	0	0	0	0	50%
D	24	0	0	0	0	0	0	0	0	20%
D	25	0	0	0	0	0	0	0	0	50%
Total Project		150,000	2654	37	24	61	118	128	246	

(1) - Refer to Figure 5-1 for zone boundaries.

TABLE 1C-7
PLAYA VISTA TRIP GENERATION ANALYSIS
YEAR 2010 - 48 ZONE SYSTEM
ITE 6th EDITION RATES
FILENAME: MPCOMSER \NMPGEN.XLS

AREA	ZONE(1)	CHILD CARE	COMMUNITY CENTER	COUNTY FACILITY	FIRE STATION	LIBRARY	MEDICAL FACILITY	MUSEUM	PERFORMING ART	POLICE OFFICE	POST OFFICE	RELIGIOUS SCHOOL	UNIV. EXT	TOTAL	DAILY TRIPS	AM PEAK HOUR IN	AM PEAK HOUR OUT	TOTAL	PM PEAK HOUR IN	PM PEAK HOUR OUT	TOTAL
	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35	18	53	24	46	70

(1) - Refer to Figure 5-1 for zone boundaries.

THE VILLAGE AT PLAYA VISTA PROJECT
LIST OF RELATED PROJECTS

MAP NUMBER	PROJECT NAME	LOCATION	LAND USE	SIZE
1	Regatta	4251 Lincoln Bl	Condominium	812 units
2	Multi-Media Office	4755 S. Alla Rd	Multi-Media Office	48,000 SF
3	Apartment Complex	8000 Manchester Av	Apartment	246 units
4	Center Drive	6060 Center Dr.	Office	280,000 SF
5	Decron Project	Lincoln Bl/Manchester Av	Apartment Retail	547 units 29,000 SF
6	Howard Hughes Center	Sepulveda / H. Hughes Pkwy	Office incl. Retail incl. Health Club Hotel	1,467,081 SF 100,000 SF 64,368 SF 600 rooms
7	Bartlett's Harley Davidson	4141 Lincoln Bl	Dealer/Retail/Restaurant/Office	51,470 SF
8	Wilshire Bl Temple School	Barrington Av / Olympic Bl	Office School Synagogue Gym Dining	32,000 SF 89,150 SF 25,150 SF 5,500 SF 4,250 SF
9	Westway	10-100 Jefferson Bl	Flex Office/Light Industrial (2 Buildings)	123,293 SF 119,657 SF
10	Apartments	Pershing/Manchester	Apartment	49 units
11	Tierra Sol y Mar	1420 2nd St.	Commercial Office Specialty Retail	11,000 SF 11,000 SF
12	Mixed Used (Residential/ Commercial)	1443 6th St.	Residential Specialty Retail	48 units 1,000 SF
13	Bob Champion (II)	11937 Wilshire Bl	Retail	70,115 SF
14	Virginia Avenue Park	Pico Bl./Cloverfield Bl.	Park Expansion	4 acres
15	100 % Affordable Senior Apartments	1136-44 4th St.	Senior Units	66 units
16	St. Johns Medical Center & Master Plan	1328 22nd St.	Phase 1 - Medical Facility Phase 2 - Medical Facility	475,000 SF 799,000 SF
17	Cross Roads School Expansion	1649 17th St.	School (approx 20 classrooms)	400 stu
18	School	9760 Pico Bl	School	60,000 SF
19	20th Century Fox Expansion	10201 Pico Bl	Movie Studio	771,000 SF
20	Santa Monica YMCA	1332 6th St.	Recreation	16,000 SF
21	Westside Media Project Phase I	S/S Olympic Bl B/W Centinela Av & Bundy Dr	Office Studio/Office/Multi-Media Uses	165,000 SF 74,913 SF
	Westside Media Project Phase II	S/S Olympic Bl B/W Centinela Av & Bundy Dr	Office/Retail/Restaurant	165,000 SF
22	Library Expansion	627 Santa Monica Bl	Library	66,000 SF
23	Rand Corporation	Main/Colorado	Office (Office - Removal)	309,000 SF (295,000 SF)
24	West Bluff	7400 West 80th St	Single Family Homes	120 homes
25	LMU Expansion	7101 West 80th St	Non-Residential Residential	115,000 SF 420,000 SF
26	Airport Park	Douglass Loop	Park Dog Park Playing Fields (Parking Lot - Removal; approx. 105,000 SF)	4 acres 1 acre 1 acre (310 spaces)
27	High Bay Lab	901 N. Nash St.	Office	55,772 SF

TABLE 3--1
THE VILLAGE AT PLAYA VISTA PROJECT
LIST OF RELATED PROJECTS

MAP NUMBER	PROJECT NAME	LOCATION	LAND USE	SIZE
28	Gas Station/Fast Food	7300 La Tijera Bl	Gas Station (approx. 10,000 SF) Fast Food	10 pumps 1,659 SF
29	Office	2260 E. El Segundo Bl	Office (Industrial - Removal)	38,000 SF (114,000 SF)
30	Office	11855 La Cienega Bl	Office	170,000 SF
31	Culver City Retail / Theater	Washington / Culver	Theater	78,000 SF
32	L.A. Airforce Base-Area A	2400-2460 El Segundo Bl	Retail Hotel (Office - Removal)	640,000 SF 320 rooms (835,000 SF)
33	L.A. Airforce Base-Area B	Aviation Bl/El Segundo Bl	Office Warehouse Base Exchange (Office - Removal) (Day Care Center - Removal) (Gas Station - Removal; approx. 6,000 SF)	713,500 SF 63,000 SF 93,750 SF (552,666 SF) (16,681 SF) (6 pumps)
34	LAX Master Plan	L.A. International Airport	Airport & Related Uses	78 MAP
35	Continental City - Phase 1 (2005)	Aviation Bl / Imperial Hwy	Office/High Technology/Industrial Commercial/Retail	3,000 ksf 100,000 SF
36	LAX Northside	Westchester Pkwy / Loyola Bl	Office Airport Related Industrial Office Industrial Park Hotel Restaurant Specialty Retail	1,305 ksf 1,036 ksf 1,595 ksf 1,050 rooms 55,000 SF 65,000 SF
37	Marina del Rey Development	Marina Del Rey		
37a.		Parcel 9U/10R/FF	Hotel (Timeshare) Residential Park	288 rooms 531 units 2 + acres
37b.		Parcel 44U	Hotel Retail Restaurant	226 rooms 3,000 SF 19,000 SF
37c.		Parcel 77W	Dry Boat Storage Parking Structure	306 SF 645 SF
37d.		Parcel 55/56S/W Fisherman's Village	Hotel Restaurant Retail	144 rooms 20,900 SF 11,700 SF
37e.		Parcel GR	Hotel	175 rooms
37f.		Parcel IR	Hotel	200 rooms
37g.		Parcel NR	Hotel	160 rooms
37h.		Parcel OT	Public Parking	235 spaces
37i.		Parcel 145R	Hotel	276 rooms
37j.		Parcel 27R	Hotel	133 rooms
37k.		Parcel 100S/101S	Residential	780 units
37l.		Parcel K-6	Personal Storage	34,488 SF
37m.		Parcel 140V	Residential	179 units
37n.		Parcel 95S/LLS	Office/ Retail/ Restaurant	55,870 SF
37o.		Parcel 49/ 52/ GG	Retail	295,000 SF
37p.		Parcel 64	Residential	479 units
37q.		Parcel 12 & 15 (a)	Residential	614 units
37r.		Parcel 20(a)(b)	Residential	99 units
37s.		Parcel 111 & 112(a)	Residential	120 units

TABLE 3--1
THE VILLAGE AT PLAYA VISTA PROJECT
LIST OF RELATED PROJECTS

MAP NUMBER	PROJECT NAME	LOCATION	LAND USE	SIZE
38	I. A. Airforce Base-Hawthorne Property	Marine Bl/Aviation Bl	Residential (Office - Removal)	208 units (30,000 SF)
39	Civic Center/Metlox Development	Valley Dr/Manhattan Beach Bl	Commercial Restaurant Office Retail Hotel	63,850 SF 6,400 SF 15,000 SF 16,450 SF 35 rooms
40	Playa Vista Phase I	Playa Vista	Residential Office Retail Community Serving Vsps Stages Production & Stage Support	3,246 units 2,077,050 SF 35,000 SF 120,000 SF 332,500 SF 797,400 SF
41	Office	330 S. Sepulveda Bl	Office	56,000 SF
42	In-N-Out Parking	6335 W. 92nd St	Parking Structure (approx. 589,875 SF)	1,815 spaces
43	Retail	5299 Sepulveda Bl	Retail	14,728 SF
44	Residential	5250 Sepulveda Bl	Single-Family Housing Private School	57 units 38,500 SF
45	Culver City Senior Center	Culver Bl/Overland Av	Senior Center	27,270 SF
46	Retail	1000 W. Manchester Bl	New Car Sales	801,500 SF
47	School	830 N. La Brea Bl	Elementary School	30,112 SF
48	Faithful Church Center	E. of La Cienega	Church	55,000 SF
49	Auto Dealership	Rosecrans Av/I-405 NB Ramps	Auto Dealership	150,000 SF
50	Airport Marina Ford	Centinela E of Bristol	New Car Sales	73,000 SF
51	Hayden Av Project	3505 Hayden Av	Light Industrial (Warehouse - Removal) Office	102,000 SF (70,000 SF) 68,000 SF
52	Office/Retail	El Segundo Bl/Hawthorne Bl	Office/Retail	850,000 SF
53	Samitaur	5800 Jefferson Bl	Office Light Industrial	69,300 SF(Net) 161,600 SF(Net)
54	Mica Site	3585 Hayden Av	Light Industrial Office Restaurant	15,000 SF 15,000 SF 1,000 SF
55	Pratt Coffee Architects	9599 Jefferson Bl	Office	38,285 SF
56	Grand Avenue Courtyard	1950 E. Grand Avenue	Office	93,569 SF
57	Sony Pictures Studios	10202 Washington Bl	Office	1,102,500 SF
58	Fox Hills Mall Expansion	Sepulveda Bl	Shopping Center	254,461 GLSF
59	Commercial	1733 Ocean Av	Retail Restaurant Office	8,000 SF 3,720 SF 58,330 SF
60	Hotel	1746 Ocean Av	Hotel Restaurant	175 rooms 5,000 SF
61	888 N. Sepulveda Bl	Sepulveda Bl, El Segundo	Office	120,610 SF
62	Mayfair Theater Site	210 Santa Monica Bl	Commercial	45,000 SF

TABLE 3--1
THE VILLAGE AT PLAYA VISTA PROJECT
LIST OF RELATED PROJECTS

MAP NUMBER	PROJECT NAME	LOCATION	LAND USE	SIZE
63	898 N. Sepulveda Bl	Sepulveda Bl, El Segundo	Office - 50% Occupied	87,000 SF
64	2300 E. Imperial Hwy	E. Imperial Hwy, El Segundo	Office (Office - Removal)	100,000 SF (157,225 SF)
65	Knowlton Av Senior Housing	Knowlton/La Tijera	Senior Housing	187 units
66	Lantana Project	3030 Olympic Boulevard 3131 Exposition Boulevard	Office, Studio Office, Studio	64,105 SF(Net) 152,000 SF(Net)
67	Retail	120 Wilshire Bl	Retail	39,529 SF
68	Sea Castle Apartments	1725 The Promenade	Residential	135,173 SF
69	Santa Monica/UCLA Hospital	1502 Wilshire Bl	Hospital	65,140 SF
70	Convalescent Hospital	1338 20th St	Hospital	148 Beds
71	Hotel	1249-1255 20th St	Hotel	75 rooms
72	Assisted Living Facility	1312 15th St	Residential	81 rooms
73	Santa Monica Public Safety Facility	1685 Main St	Commercial	118,700 SF
74	McDonald's Mixed Use	1540 2nd St	Office	64,485 SF
75	Transportation Facility Master Plan	Colorado Av	Commercial Office	40,000 SF 8,000 SF
76	CDC	2301 Rosecrans	Office	290,096 SF
77	Xerox Phase IV	1951 -1961 El Segundo Bl	Office Hotel	255,242 SF 350 rooms
78	Pioneer Boulangerie	2012 & 2029 Main St.	Residential Retail	133 units 19,000 SF
79	Mattel	445 & 475 Continental	Research & Dev. Bldg.	300,000 SF
80	El Segundo Corporate Campus	700 N. Nash 800 N. Nash	Office Retail Day Care Medical Office Health Club Restaurant Hotel Light Industrial Research & Development	1,740 KSF 75,000 SF 7,000 SF 7,000 SF 19,000 SF 75,000 SF 100 rooms 25,000 SF 140,000 SF
81	Commercial	155-555 N. Nash	Office	125,000 SF
82	Corporate Pointe - I	Slauson Av/SR-90	Office	650,000 GSF
83	Corporate Pointe - II	Slauson Av/SR-90	Office	250,000 GSF
84	Commercial	SW Corner of Douglas & Mariposa	Office Light Industrial Restaurant	99,450 SF 110,000 SF 1,000 SF
85	Shopping Center	3737 Crenshaw Bl	Retail	63,674 SF
86	Shopping Center	8985 Venice Bl	Shopping Center	132,802 SF
87	National Hayden Partners LLC	National Bl/Hayden Ave	Office Light Industrial	37,900 SF(Net) 88,500 SF(Net)
88	Mixed-Use	1430 Lincoln Bl	Apartment Retail	280 units 197,000 SF
89	Mixed-Use Project	3480 S. La Brea	Office Shopping Center	20,000 SF 79,750 SF

TABLE 3--1
THE VILLAGE AT PLAYA VISTA PROJECT
LIST OF RELATED PROJECTS

MAP NUMBER	PROJECT NAME	LOCATION	LAND USE	SIZE
90	Santa Barbara Plaza	Martin Luther King Jr. Bl/ /Buckingham Rd	Mixed-Use	500,000 SF
91	Sawtelle Apartments	3101 Sawtelle Bl	Apartment	206 units
92	Office Building	8787 Venice Bl	Office	45,712 SF
93	Western Office Building	11110 W. Pico Bl	Office	74,653 SF
94	Warehouse	3450 S. La Brea Av	Warehouse	190,000 SF
95	Apartments	Pershing/Talbert	Apartment	305 units
96	Santa Monica Studios	3025 Olympic Bl @ Nebraska	Studio	379,000 SF

THE VILLAGE AT PLAYA VISTA PROJECT
ANALYZED INTERSECTION LOCATIONS BY JURISDICTION

Number	Intersection	
CITY OF LOS ANGELES		
192	* LA CIENEGA BL	@
220	12TH ST	@
64	* SEPULVEDA BL	@
91	* SEPULVEDA BL	@
45	* LINCOLN BL	@
92	* SEPULVEDA BL	@
44	* SEPULVEDA BL	@
68	* AIRPORT BL	@
171	** ABBOTT KINNEY BL	@
2	* AIRPORT BL	@
3	* AIRPORT BL	@
172	* AIRPORT BL	@
1	* AIRPORT BL	@
69	** ALLA RD	@
4	* AVIATION BL	@
6	* AVIATION BL	@
7	* AVIATION BL	@
216	PLAYA VISTA DR	@
70	** BEETHOVEN ST	@
152	** SAWTELLE BL	@
71	** MAIN ST	@
173	* BUNDY DR	@
72	* BUNDY DR	@
11	** CENTINELA AV	@
12	** CENTINELA AV	@
13	* LA CIENEGA BL	@
14	* LA TIJERA BL	@
73	** CENTINELA AV	@
74	** CENTINELA AV	@
75	MESMER AV	@
123	** CENTINELA AV	@
76	** BLUFF CREEK DR	@
209	* CENTINELA AV	@
17	* SEPULVEDA BL	@
180	CRENSHAW BL	@
178	CRENSHAW BL	@
174	* CRENSHAW BL	@
77	** INGLEWOOD BL	@
18	** CULVER BL	@
19	** CULVER BL	@
20	** CULVER BL	@
78	* CULVER BL	@
215	PLAYA VISTA DR	@
161	* CULVER BL	@
22	* CULVER BL	@
142	LINCOLN BL RAMP	@
67	* LA CIENEGA BL	@
179	* FAIRFAX AV	@
79	* FAIR MOUTH AV	@
80	** GLENCOE AV	@
177	* VISTA DEL MAR	@
26	* SEPULVEDA BL	@
81	** LINCOLN BL	@
186	* LA BREA AV	@
191	LA CIENEGA BL	@
210	WASHINGTON BL	@
187	* LA BREA AV	@
211	* WASHINGTON BL	@
63	SEPULVEDA BL	@
30	** I-405 NB RAMPS	@
40	* I-405 NB RAMPS	@
31	** I-405 SB RAMPS	@
	111TH ST	@
	BLUFF CREEK DR	@
	77TH ST/76TH ST	@
	80TH ST/79TH ST	@
	83RD ST	@
	83RD ST	@
	88TH ST/ LA TIJERA BL	@
	96TH ST	@
	VENICE BL	@
	CENTURY BL	@
	LA TIJERA BL	@
	MANCHESTER AV	@
	WESTCHESTER PKWY/ARBOR VITAE ST	@
	JEFFERSON BL	@
	ARBOR VITAE ST	@
	CENTURY BL	@
	IMPERIAL HWY	@
	B ST	@
	JEFFERSON BL	@
	BRADDOCK DR	@
	BROOKS AV/ABBOTT KINNEY BL	@
	I-10 EB ON-RAMP	@
	OCCAN PARK BL	@
	CULVER BL	@
	JEFFERSON BL	@
	CENTINELA AV	@
	CENTINELA AV	@
	MARINA FWY EB RAMPS	@
	MARINA FWY WB RAMPS	@
	CENTINELA AV	@
	SHORT AV	@
	CENTINELA AV	@
	VENICE BL	@
	CENTURY BL	@
	FLORENCE AV	@
	SLAUSON AV	@
	STOCKER ST	@
	CULVER BL	@
	JEFFERSON BL	@
	MARINA EXWY EB RAMPS	@
	MARINA EXWY WB RAMPS	@
	NICHOLSON ST	@
	CULVER BL	@
	VENICE BL	@
	VISTA DEL MAR	@
	CULVER BL (SOUTHEAST)	@
	FAIRFAX AV	@
	WASHINGTON BL	@
	MANCHESTER AV	@
	MAXELLA AV	@
	GRAND AV	@
	HOWARD HUGHES PKWY	@
	HUGHES TER	@
	I-10 EB OFF RAMP	@
	I-10 EB OFF RAMP	@
	I-10 EB ON-RAMP	@
	I-10 WB OFF RAMP	@
	I-10 WB OFF RAMP/APPLE ST	@
	I-105 WB OFF RAMP	@
	JEFFERSON BL	@
	LA TIJERA BL	@
	JEFFERSON BL	@

THE VILLAGE AT PLAYA VISTA PROJECT
ANALYZED INTERSECTION LOCATIONS BY JURISDICTION

Number	Intersection		
CITY OF LOS ANGELES, continued			
41	* I-405 SB RAMP	@	LA TIJERA BL
201	* LA CIENEGA BL	@	I-405 SB RAMP N/O CENTURY BL
194	* LA CIENEGA BL	@	I-405 SB RAMP N/O IMPERIAL HWY
193	* LA CIENEGA BL	@	I-405 SB RAMP S/O CENTURY BL
185	* LA CIENEGA BL	@	IMPERIAL HWY
27	* PERSHING DR	@	IMPERIAL HWY
28	* SEPULVEDA BL	@	IMPERIAL HWY
184	* VISTA DEL MAR	@	IMPERIAL HWY
82	** INGLEWOOD BL/CENTINELA AV	@	JEFFERSON BL
32	* LA CIENEGA BL	@	JEFFERSON BL
33	** LINCOLN BL	@	JEFFERSON BL
83	McCONNELL AV	@	JEFFERSON BL
84	** MESMER AV	@	JEFFERSON BL
163	* JEFFERSON BL	@	NATIONAL BL
217	** PLAYA VISTA DR	@	JEFFERSON BL
164	* JEFFERSON BL	@	RODEO RD
85	** WESTLAWN AV	@	JEFFERSON BL
36	* LA CIENEGA BL	@	LA TIJERA BL
37	* LA CIENEGA BL	@	RODEO RD
198	* LA CIENEGA BL	@	VENICE BL
42	* LINCOLN BL	@	LA TIJERA BL
43	* LA TIJERA BL	@	MANCHESTER AV
86	* LINCOLN BL	@	LOYOLA BL
46	* LINCOLN BL	@	MANCHESTER AV
47	** LINCOLN BL	@	MARINA EXWY
48	** LINCOLN BL	@	MAXELLA AV
50	** LINCOLN BL	@	ROSE AV
51	* SEPULVEDA BL	@	LINCOLN BL
52	** LINCOLN BL	@	BLUFF CREEK DR (HUGHES WAY)
53	** LINCOLN BL	@	VENICE BL
54	** LINCOLN BL	@	WASHINGTON BL
55	** MAIN ST	@	ROSE AV
56	* PERSHING DR	@	MANCHESTER AV
57	* SEPULVEDA BL	@	MANCHESTER AV
87	** MINDANAO WY	@	MARINA EXWY EB RAMP
88	** MINDANAO WY	@	MARINA EXWY WB RAMP
219	McCONNELL AV	@	BLUFF CREEK DR
160	* MOTOR AV	@	VENICE BL
94	** OCEAN AV/VIA MARINA	@	WASHINGTON BL
212	* OVERLAND AV	@	PALMS BL
157	* OVERLAND AV	@	VENICE BL
89	** PACIFIC AV	@	WASHINGTON BL
90	PALAWAN WAY	@	WASHINGTON BL
59	* PERSHING DR	@	WESTCHESTER PKWY
218	PLAYA VISTA DR	@	BLUFF CREEK DR
200	* SEPULVEDA BL	@	WESTCHESTER PKWY
93	** WILGROVE AV	@	VENICE BL
COUNTY OF LOS ANGELES			
112	ADMIRALTY WAY	@	BALI WAY
113	ADMIRALTY WAY	@	FIJI WAY
114	ADMIRALTY WAY	@	MINDANAO WAY
115	PALAWAN WAY	@	ADMIRALTY WAY
116	VIA MARINA	@	ADMIRALTY WAY
140	* ALVERN ST	@	CENTINELA AV
10	** LINCOLN BL	@	BALI WAY
141	SHERBOURNE DR	@	CENTINELA AV
202	I-405 NB OFF RAMP	@	CENTURY BL
144	CORNING AV	@	SLAUSON AV
147	FAIRFAX AV	@	SLAUSON AV
24	** LINCOLN BL	@	FIJI WAY
203	HAWTHORNE BL	@	I-105 EB OFF RAMP
204	HAWTHORNE BL	@	LENNOX BL
205	INGLEWOOD AV	@	LENNOX BL
145	KINGS RD	@	SLAUSON AV

THE VILLAGE AT PLAYA VISTA PROJECT
ANALYZED INTERSECTION LOCATIONS BY JURISDICTION

Number	Intersection		
COUNTY OF LOS ANGELES, continued			
189	LA BREA AV	@	SLAUSON AV
190	LA BREA AV/OVERHILL DR	@	STOCKER ST
195	* LA CIENEGA BL	@	LENNOX BL
197	LA CIENEGA BL	@	STOCKER ST
38	LA CIENEGA BL RAMPS N	@	SLAUSON AV
39	LA CIENEGA BL RAMPS S	@	SLAUSON AV
146	LA TIJERA BL	@	SLAUSON AV
49	** LINCOLN BL	@	MINDANAO WAY
143	SHENANDOAH AV	@	SLAUSON AV
CITY OF CULVER CITY			
159	* OVERLAND AV	@	BRADDOCK DR
153	* SEPULVEDA BL	@	BRADDOCK DR
96	BRISTOL PKWY	@	CENTINELA AV
95	BRISTOL PKWY	@	SLAUSON AV
97	BUCKINGHAM PKWY	@	SLAUSON AV
98	GREEN VALLEY CIR	@	CENTINELA AV
15	* SEPULVEDA BL	@	CENTINELA AV
16	** CENTINELA AV	@	WASHINGTON BL
99	** CENTINELA AV	@	WASHINGTON PL
21	* CULVER BL	@	MAIN ST/WASHINGTON BL
100	* OVERLAND AV	@	CULVER BL
102	* SAWTELLE BL	@	CULVER BL
101	* SEPULVEDA BL	@	CULVER BL
165	JEFFERSON BL	@	DUQUESNE AV
103	** GLENCOE AV/COSTCO DWY	@	WASHINGTON BL
166	* SEPULVEDA BL	@	GREEN VALLEY CIR
104	* HANNUM AV	@	PLAYA ST
105	* HANNUM AV	@	SLAUSON AV
156	* SEPULVEDA BL	@	I-405 NB RAMPS S/O VENICE BL
151	* SAWTELLE BL	@	I-405 SB OFF RAMP N/O CULVER BL
29	** INGLEWOOD BL	@	WASHINGTON BL
34	JEFFERSON BL	@	OVERLAND AV
35	* JEFFERSON BL	@	SEPULVEDA BL (N)
106	* JEFFERSON BL	@	SLAUSON AV
199	* LA CIENEGA BL	@	WASHINGTON BL
107	MARINA FWY	@	SLAUSON AV
148	* SAWTELLE BL	@	MATTESON AV/I-405 SB RAMPS
162	* MOTOR AV	@	WASHINGTON BL
158	* OVERLAND AV	@	WASHINGTON BL
60	* SEPULVEDA BL	@	PLAYA ST/JEFFERSON BL
108	** REDWOOD AV	@	WASHINGTON BL
170	* SEPULVEDA BL	@	SAWTELLE BL
62	* SAWTELLE BL	@	VENICE BL
150	** SAWTELLE BL	@	WASHINGTON BL
149	** SAWTELLE BL	@	WASHINGTON PL
65	* SEPULVEDA BL	@	SLAUSON AV
66	* SEPULVEDA BL	@	VENICE BL
155	* SEPULVEDA BL	@	WASHINGTON BL
154	* SEPULVEDA BL	@	WASHINGTON PL
167	WALGROVE AV	@	WASHINGTON BL
CITY OF SANTA MONICA			
133	23RD ST	@	OCEAN PARK BL
132	23RD ST	@	PICO BL
136	28TH ST	@	WILSHIRE BL
137	4TH ST	@	COLORADO AV
129	4TH ST	@	OCEAN PARK BL N
130	4TH ST	@	OCEAN PARK BL S
128	4TH ST	@	PICO BL
127	4TH ST	@	WILSHIRE BL
138	CLOVERFIELD BL	@	I-10 EB ON RAMP
139	CLOVERFIELD BL	@	I-10 WB OFF RAMP
135	CLOVERFIELD BL	@	OCEAN PARK BL
134	CLOVERFIELD BL	@	PICO BL
168	LINCOLN BL	@	I-10 EB ON RAMP
169	LINCOLN BL	@	I-10 WB OFF RAMP

THE VILLAGE AT PLAYA VISTA PROJECT
ANALYZED INTERSECTION LOCATIONS BY JURISDICTION

Number	Intersection		
CITY OF SANTA MONICA, continued			
109	LINCOLN BL	@	OCEAN PARK BL
124	LINCOLN BL	@	PICO BL
131	LINCOLN BL	@	WILSHIRE BL
110	MAIN ST	@	OCEAN PARK BL
117	MAIN ST	@	PICO BL
111	NEILSON WAY	@	OCEAN PARK BL
126	OCEAN AV	@	PALISADES BEACH RD RAMP
125	OCEAN AV	@	WILSHIRE BL
118	OCEAN AV/NEILSON WAY	@	PICO BL
CITY OF INGLEWOOD			
5	LA CIENEGA BL	@	ARBOR VITAE ST
208	CENTINELA AV	@	FLORENCE AV
175	LA BREA AV	@	CENTINELA AV
8	FLORENCE AV/AVIATION BL	@	MANCHESTER BL
188	LA BREA AV	@	MANCHESTER BL
196	LA CIENEGA BL	@	MANCHESTER BL
SOUTH BAY CITIES			
208	SEPULVEDA BL/PCH	@	ARTESIA BL
9	AVIATION BL	@	ROSECRANS AV
176	* DOUGLAS ST	@	IMPERIAL HWY
23	SEPULVEDA BL	@	EL SEGUNDO BL
120	SEPULVEDA BL	@	GRAND AV
207	HIGHLAND AV	@	MANHATTAN BEACH BL
181	I-405 NB RAMP	@	IMPERIAL HWY
183	* I-105 WB OFF RAMP/NASH ST	@	IMPERIAL HWY
182	* MAIN ST	@	IMPERIAL HWY
122	SEPULVEDA BL	@	MANHATTAN BEACH BL
119	SEPULVEDA BL	@	MAPLE AV
121	SEPULVEDA BL	@	MARINE AV
58	SEPULVEDA BL	@	MARIPOSA AV
61	SEPULVEDA BL	@	ROSECRANS AV
25	VISTA DEL MAR/HIGHLAND AV	@	ROSECRANS AV

Note: [1] INT # corresponds to intersection numbers shown on Figure 2.1.

[2] South Bay Cities include El Segundo, Manhattan Beach, Hawthorne and Hermosa Beach.

* LADOT ATISAC LOCATION

** LADOT ATISAC LOCATION

THE VILLAGE AT PLAYA VISTA PROJECT

APPENDIX VOLUME 1B

MODEL DEVELOPMENT PROCESS

APPENDIX 1B

MODEL DEVELOPMENT PROCESS

A travel demand forecasting model was developed for the Village at Playa Vista Project using the City of Los Angeles General Plan Framework (GPF) Model as the base or starting point. The model was implemented on EMME/2, a transportation modeling software package, in the personal computer environment. This section details this model development process, the overall data flow process and the post-processing techniques utilized in the overall traffic estimation process developed and used for this project study.

MODEL DEVELOPMENT PROCESS

The Playa Vista Transportation Model is a 'focussed' model based on the City of Los Angeles General Plan Framework Model. The City of Los Angeles GPF Model was enhanced to include greater network detail and a finer or more detailed traffic analysis zone system (TAZs) within the study area to help produce accurate travel forecasts. The various steps involved in the development of mathematical models constituting the Playa Vista Transportation Model are:

- Traffic Analysis Zone System Development
- Highway Network Development
- Trip Table Development including Trip Generation, Trip Distribution, Mode Split and Vehicle Trips Conversion
- Volume Delay Function Development and Traffic Assignment
- Overall Model Validation

Traffic Analysis Zone (TAZ) System Development

The TAZ system for the Playa Vista Model was derived from the City of Los Angeles GPF Planning Analysis Zone system. The GPF zones were disaggregated within the project study area to include more detail both in the Playa Vista site as well as in the LAX airport areas. Further, most TAZs on the westside of the City of Los Angeles were also disaggregated to sub-census tract level to provide more detail within the study area. The model's study area is defined

as the area enclosed by the Pacific Ocean to the west, PCH / Sepulveda Boulevard to the south, the I-110 to the east and Wilshire Boulevard to the north. The other areas within the westside of Los Angeles and the other areas of the City of Los Angeles were continued as census tract level areas or bigger, same as those defined in the GPF model. The Playa Vista site was divided into 48 TAZs in all.

Highway Network Development

Representation of the transportation system supply in the Playa Vista Model was accomplished through the highway network coding process, where a series of links (representing roadway segments) connecting nodes (representing intersections or intermediate access points) were defined. The TAZs were represented by centroids, a specialized version of nodes in the EMME/2-based Playa Vista Model. The centroids were connected to the highway network using centroid connectors. Each link in the base highway network is characterized by a series of physical and operational attributes like link length, link type denoting both functional class and area type, number of lanes and volume delay function code (the function definitions for which include capacities and speeds).

The network development process involved three distinct steps: base network coding and refinement, link characteristics update and network validation. A brief description of each of the above tasks follows:

The network coding and refinement step involved starting with the City's GPF model network and adding the centroids (TAZs) detailed above. Centroid connectors were next added and additional network detail was included such that all collector streets and some local streets within the study area were represented in the base network.

Every link in the base highway network includes key physical and operational attribute data associated with it. Consistency in the representation of these attributes is of critical importance in the traveler's choice of routes in the model. Key attributes included link length, number of lanes and volume delay function code for all the links in the model. Detailed checks were designed within the EMME/2 software package to validate the coded highway network, and discrepancies, if any, were reconciled using the software's network editor.

Network validation checks including network connectivity and shortest path checks were performed. Network connectivity check was performed to ensure that all the centroids or TAZs in the model were properly connected to the highway network. This was performed in the following manner. A unit matrix was assigned using the 'all-or-nothing' technique to the highway network and the output report was examined to make sure that the number of unassigned trips (intra-zonal trips) was equal to the number of TAZs or centroids in the model. The shortest path checks using link lengths and travel times were next performed to ensure that the coded lengths of the facilities added to the network were consistent relative to that of facilities that existed in the network. Further, a comparison of the coded versus computed link lengths was also performed and those with greater than 10% differences were examined and discrepancies resolved.

Trip Table Development

The trip table development process used by the City of Los Angeles GPF Model (which Playa Vista Model is identical to) represents a sophisticated process which relates tripmaking to various socio-economic, land use and travel characteristics for the entire modeling region (which in the case of the GPF and Playa Vista models includes the five counties in the SCAG modeling area – Los Angeles, Orange, Ventura, San Bernardino and Riverside). For example, the GPF Trip Generation Model (same as the SCAG's Trip Generation Model) relates trip productions and attractions (P&A) within a given TAZ to socio-economic characteristics such as population, number of multi-family and single-family dwelling units, vehicle ownership, average household income, retail employment, total employment and so on. A brief discussion of the various steps involved in the trip table development process including the base assumptions utilized and the specific structure of the mathematical model formulations is provided in the following section.

The trip table development process involves the following major sub-tasks:

- Trip Generation
- Trip Distribution
- Modal Split and Vehicle Trips Estimation

Trip Generation: The trip generation model predicts the level of trip-making to and from a zone, based on the land-use and socio-economic data for that zone. The trip production and attraction models predict the daily trip ends in production and attraction format by trip purpose. After the trip

productions and attractions are calculated, the attractions are normalized (scaled) by purpose such that the regional trip productions match the regional attractions. The GPF TG Model (and the Playa Vista Model) uses directly the SCAG's current Trip Generation Model set. This model set uses a cross-classification submodel for calculating trip productions and a set of linear regression model formulations for trip attractions. These models were adapted to the GPF (and consequently to the Playa Vista Model) zone system by adding another variable and using the same to allocate the zonal constants used by the regional model set. The trip generation models use the following variables as input: population, number of single family and multi-family dwelling units, income and employment (retail and total). Trip vectors by purpose in production and attraction format on a daily basis are obtained as output from the trip generation model.

Trip Distribution: The same trip distribution model as that used by the SCAG model set was utilized for the GPF and consequently, the Playa Vista Model, i.e., the Gravity Model. The Trip Distribution Model links the trip productions to attractions, by purpose. The productions from each zone are matched to attractions of other zones based on their relative attractiveness (measured by the zone's attractions compared to overall attractions) and their impedance (function of travel time) from the zone of origin. The trip distribution model uses the balanced trip productions and attractions, and zone-to-zone travel impedances as the input to the model, and provides trip interchange matrices, by purpose, as outputs from the model. The functional form of the Gravity Model used for trip distribution is given below:

$$T_{ij} = P_i * ((A_j * F_{ij} * K_{ij}) / \text{Sum over } j \text{ of } (A_j * F_{ij} * K_{ij}))$$

where:

T_{ij} = Trips from zone i to zone j

P_i = Productions in zone i

A_j = Attractions in zone j

F_{ij} = Friction Factor from zone i to zone j (travel propensity - usually a function of travel time)

K_{ij} = K-factor - a factor to adjust zonal interchange attractiveness

Modal Split and Vehicle Estimation: The GPF mode choice and auto occupancy modules use the mode split and auto occupancy information from the SCAG's mode split and auto occupancy models. The Playa Vista model utilized the information available from the GPF model data set. The next step in the trip table development process is the conversion of the vehicular trip tables by purpose on a daily basis in P&A format to peak hour vehicular trip tables in origin-destination (O-

D) format. This conversion was accomplished utilizing the SCAG's regional conversion factors.

Volume Delay Function Definition & Traffic Assignment

The volume delay function (vdf) code for each link depends upon the link type or the link's functional class. The definitions for each of the vdf codes generally follow the standard Bureau of Public Roads (BPR) type capacity restraint function formulation detailed below:

$$\text{Travel Time} = X * \text{Free-flow travel time} * [1 + Y * (\text{Link Demand} / \text{Link Capacity})^Z]$$

where:

X = Calibration factor whose default value is unity

Y = Coefficient with a default value of 0.15 for all facilities

Z = Exponent with a default value of 4 for all facilities

The centroid connectors travel times are computed using just the free-flow travel times (i.e., without the congestion term – the term within parenthesis above).

Traffic assignment is the process by which the model estimates the flows or volume of traffic on each individual link of the transportation system. Alternate paths are developed in the model and trips are assigned to these paths. When all the trips from all the zone pairs are added together, an estimate of total travel on each link is obtained. The traffic assignment process for the Playa Vista model utilized the iterative capacity restrained (equilibrium) assignment technique. This technique recognizes that several routes between any given pair of zones that have nearly equal impedances and therefore, equal use exist. This technique is a reasonable realistic representation of traffic on the network.

The equilibrium traffic assignment technique employs the following approach: starting with speeds on each link which approximate the free-flow speed, the minimum travel time (impedance) paths between zones are determined by the model and zone-to-zone trips are assigned to these paths. After all trips have been assigned, the model adjusts speeds and travel impedances to reflect the flows on each link using a series of functions (called volume delay functions) that relate volume and delay or travel time. As minimum time paths change between zones as a result of these adjustments, the model determines new routes and performs a new allocation of trips. This

process continues for a number of iterations until an approximate equilibrium is reached whereby all potential paths between each zone pair have equal minimum impedances. In other words, no path or route between each zone pair with impedance less than that calculated at equilibrium can be found.

The 1995/96 trip tables for AM and PM peak hours synthesized as described above were next converted to the detailed focussed Playa Vista Transportation Model zone system and then assigned to the respective highway networks within the Playa Vista Transportation Model database. A comparison of the flows with the actual ground counts was next performed in the model validation step.

Playa Vista Transportation Model Validation

The purpose of the model calibration and validation process is to adjust the model such that it produces traffic volume assignments that closely resemble ground counts on streets and highways within the study area. The overall Playa Vista Model Validation was performed at two different levels of abstraction – across screenlines and across cutlines. Screenlines are imaginary lines drawn across the network. Traffic volumes (counted or model produced) are recorded at points where lines intersect the network. These volumes are then totalled to allow a comparison of the total traffic volume that crosses the wide corridor covered by the screenline in the model assignment versus the ground counts. Cutlines are specific locations along certain regional roadway facilities where model volumes were compared to ground counts along these individual facilities. The criteria for model validation were set for screenlines and cutlines as follows – screenline differences to be less than or equal to 10% across all screenlines and cutline differences to be within one-half of a lane's capacity of that facility.

The assigned Playa Vista Transportation Model volumes were compared to the observed ground counts and the need for calibration adjustments evaluated. Calibration is typically achieved by modifying one or more of the following in order to affect the model's assignment of traffic flows:

- Trip Table adjustment
- Centroid connector location / addition
- Volume Delay Function adjustment
- Link speed and / or capacity adjustment

The characteristics to be modified depend upon whether the differences between simulated volumes and ground counts are systemwide or local. For example, if the assigned volumes are consistently high or low across all the screenlines, then adjustment of the trip table may be necessary. However, if the assigned volumes generally match ground counts on an overall basis but differ for individual links across or within screenlines, modification of centroid connector locations, volume delay function definition modifications, and link speeds and/or capacity modifications may be appropriate.

As part of the Playa Vista Transportation Model Validation, numerous model runs were performed with adjustments to various model parameters in response to observed discrepancies in the initial model assignments. The required adjustments of the model parameters ranged from adjustments to volume delay function definitions (including modifications to link capacity and speed values), centroid connector additions / modifications and link calibration factors.

In many instances, centroid connectors were moved from their initial locations and additional connectors were provided to the network to better represent trips accessing the traffic analysis zones. These adjustments were made in locations where inspection of the assigned volumes revealed that traffic to and from a particular zone was overloading certain streets adjacent to the zone while under utilizing certain other adjacent streets. These changes were made based on actual available access points or driveways or local streets in the roadway system.

The validation of the Playa Vista Transportation Model was performed at two levels for both the AM and PM peak hours. To validate the model on an overall basis, nine screenlines or corridors were evaluated and approximately 1,200 individual locations were evaluated to determine if they were being under- or over-simulated by more than half a lane's worth of traffic capacity.

Five east-west and four north-south screenlines were identified for the Village at Playa Vista Project study area. The model assigned traffic volumes were compared against existing base year traffic counts across all the screenlines after each set of simulation runs and adjustments made until final validation runs were identified. In addition to meeting the specified validation criteria detailed above, the Playa Vista Transportation Model was utilized to project future year 2010 traffic volumes to obtain logical comparisons to existing conditions forecasts. These initial future forecasts assisted in completing the model validation process by verifying and identifying the behavior of the model as logical under assumptions of specific future conditions.

The Playa Vista Transportation Model screenlines were:

North-South Screenlines

- I. West of Aviation Boulevard
- II. West of La Brea Avenue / Hawthorne Boulevard
- III. West of La Cienega Boulevard
- IV. East of Lincoln Boulevard

East-West Screenlines

- I. South of Manchester Boulevard
- II. South of Imperial Highway
- III. South of Jefferson Boulevard / Slauson Avenue
- IV. North of Rosecrans Avenue
- V. South of Venice Boulevard

Tables 1B –1 and 1B – 2 summarize the screenline analysis for the final AM and PM peak hour model calibration runs. It can be observed that in the AM peak hour, the overall model assignment was within 2% of the ground counts at all the screenlines and that in the PM peak hour, the model assignment was within 1% of the observed ground counts at all the screenlines. Further, differences at the cutlines were also examined to make sure that most of the were less than one-half a lane's capacity while still maintaining the screenline standards. At a few locations where the differences along certain facilities were outside the threshold defined above, these differences were reconciled in the post-processing step of the overall data processing for the Study. However, this was conducted only after ensuring that a consistent under- or over-simulation along a certain facility did not occur for any appreciable length of that facility. A number of plots showing these differences were created and discrepancies resolved with the City of Los Angeles Department of Transportation staff as well as the Los Angeles County Department of Public Works staff prior to proceeding with the data post-processing step.

TABLE 1B-1
Playa Vista Master Plan
AM Peak Hour Model Calibration

Screenline Number	Screenline Description	From Node	To Node	1995 Count NB/EB	Model Vol NB/EB	D/N %	1995 Count SB/MB	Model Vol SB/MB	Diff	%	1995 Count 2-Way	Model Vol 2-Way	Diff	%
21 & 22	Manchester Blvd	12390	99009	1374	1531	167	192	145	-47		1800	1678	110	
	1 Vista Del Mar	99770	10209	906	991	85	354	332	-22		1290	1293	33	
	2 Pershing Dr	99769	50118	233	307	124	128	214	86		361	571	210	
	3 Fairmouth Av	50026	10211	1922	1992	40	1181	1283	72		3103	3215	112	
	4 Lincoln Blvd	16090	10210	172	28	-144	165	289	124		337	317	-20	
	5 Emerson Av	99378	10214	1967	2023	56	1172	1141	-31		3139	3164	25	
	6 Sepulveda Blvd	99824	10215	456	208	-246	441	603	162		897	811	-86	
	7 La Tijera Blvd	99495	99496	22	15	-7	7	247	240		28	292	203	
	8 Wiley Post	99990	10216	689	496	-69	805	665	-143		1397	1161	-236	
	9 Airport Blvd													
	Screenline Total			7941	7581	-80	4446	4888	441	10%	12069	12470	361	3%
23 & 24	Aviation Blvd													
	1 Arbor Vire St	15702	10532	578	721	-167	792	741	-51		1670	1482	-208	
	2 Century Blvd	3714	10369	1358	1376	-13	2159	2090	-69		3576	4035	459	
	3 Imperial Hwy	98017	10435	698	853	337	978	1078	100		1572	2008	437	
	Screenline Total			2682	3026	167	3956	4477	521	13%	6816	7506	690	10%
25 & 26	Imperial Hwy													
	1 Vista Del Mar	99546	10431	1948	1947	-1	369	173	-196		2317	2120	-197	
	2 Sheldon St	10486	16804	632	678	46	471	514	43		1103	1192	89	
	3 Sepulveda Blvd	10487	50120	2757	2886	129	1794	1878	84		4821	4564	-257	
	4 Neah St	13405	50121	484	323	-161	598	736	138		1080	1058	-22	
	5 Douglas St	13405	99947	418	273	-145	362	193	-169		780	466	-314	
	Screenline Total			6219	6107	-112	3552	3293	-259	-8%	9781	9400	-381	-4%
31 & 32	Jefferson Blvd/Slauson Av													
	1 Quiver Blvd	10273	10196	2432	2457	25	572	668	96		3004	3115	111	
	2 Lincoln Blvd	99853	10199	2336	2508	186	1623	1490	-143		3981	4016	35	
	3 Centinela Av	10073	50101	1139	1224	35	693	777	79		1887	2001	114	
	4 Sepulveda Blvd	99566	9983	2685	2779	-387	1080	991	-89		3758	3273	-485	
	5 Hannum Av (West)	50084	6718	364	407	23	298	38	-261		963	443	-520	
	6 Britton Pkwy	50096	16710	84	0	-84	250	37	-213		314	37	-277	
	7 Hannum Av (East)	50095	99904	356	274	-82	494	208	-286		850	452	-398	
	8 Wooder Av	99968	99970	88	0	-88	65	0	-65		144	0	-144	
	9 Sherbourne Dr	99968	99749	137	173	36	144	71	-73		281	244	-37	
	10 La Chienega Blvd	10154	16537	3235	3396	160	2721	2417	-304		5966	5312	-654	
	11 Kings Rd	99814	99874	68	245	177	41	410	360		106	853	747	
	12 La Tijera Blvd	99813	99868	142	333	191	93	48	-44		236	382	147	
	13 Fairfax Av	99817	99976	596	519	-80	182	282	100		779	793	20	
	Surface streets			13995	13939	144	8293	7418	-875	-10%	21968	21257	-701	-3%

TABLE 1B-1

Playa Vista Master Plan
AM Peak Hour Model Calibration

Screenline Number	Screenline Description	From Node	To Node	1995 Count NB/EB	Model Vol NB/EB	Diff	%	1995 Count SB/WB	Model Vol SB/WB	Diff	%	1995 Count 2-Way	Model Vol 2-Way	Diff	%
14	I-405 NB	6796	69715	8193	8055	-138		0	0	0		8193	8055	-138	
15	I-405 SB	6797	6790	0	0	0		8341	8165	824		8341	8165	824	
	Screenline Total			21886	21594	6	0%	16504	16563	-21	-0%	38492	38477	-15	-0%
33 & 34	La Brea Av/Hawthorne Blvd														
1	9 Fairfax Av	99617	10201	313	282	-31		234	616	252		647	798	251	
2	Centinela Av	10081	10052	796	1103	307		1272	1483	181		2088	2566	488	
3	Flornoa Av	15623	10220	966	792	-173		658	563	-125		1653	1366	-288	
4	Manchester Blvd	15622	10276	911	760	-151		-246	1253	7		2157	2033	-124	
5	Anser Vase	16518	10335	438	386	-53		660	642	82		998	1027	29	
6	Century Blvd	16617	10372	669	907	148		1207	1423	186		1898	2230	334	
7	Lennox Blvd	15781	10401	371	212	-159		417	433	18		788	846	64	
8	Imperial Hwy	10437	10438	648	711	82		766	941	185		1436	1632	217	
9	120th St	15791	10491	339	313	-26		408	423	17		796	738	-58	
10	El Segundo Blvd	99540	10528	767	996	229		931	1170	239		1093	1808	715	
11	130th St	15758	10553	87	128	41		74	63	-8		161	186	35	
	Surface streets			6346	6209	-136	-2%	7851	8866	1034	13%	14196	16094	598	5%
12	I-105 EB	26034	26046	8368	9630	262		0	0	0		8368	9630	262	
13	I-105 WB	26036	26050	0	0	0		8811	8815	134		8811	8815	104	
	Screenline Total			12713	12639	129	1%	16652	17300	1135	7%	28876	30839	1264	4%
35 & 36	Rosecrans Av														
1	Vista Del Mar	10519	99646	2061	2376	24		382	272	-120		2449	2347	-99	
2	Reynolds Blvd	10668	99646	3460	3516	69		1109	805	-304		4866	4324	-236	
3	Aviation Blvd	10667	99628	1736	1957	221		651	624	-27		2037	2581	184	
4	Ingleswood Av	10589	99629	873	946	73		655	458	-126		1456	1406	-53	
	Surface streets			5110	5487	387	5%	2737	2180	-577	-21%	13847	10857	-1990	-2%
5	I-405 NB	7108	7007	9504	9441	-63		0	0	0		9504	9441	-63	
6	I-405 SB	7103	7009	0	0	0		7220	6997	-223		7220	6997	-223	
	Screenline Total			17614	17833	324	2%	9957	9167	-800	-8%	27571	27095	-476	-2%

TABLE 18-1

Playa Vista Master Plan
AM Peak Hour Model Calibration

Screenline Number	Screenline Description	From Node	To Node	1995 Count NB/EB	Model Vol NB/EB	Diff %	1995 Count SB/WS	Model Vol SB/WS	Diff %	1995 Count 2-Way	Model Vol 2-Way	Diff %
41 & 42	Venice Blvd											
	1 Pacific Av	12360	3066	798	1082	284	506	793	198	1383	1825	482
	2 Abbot Kinney Blvd	9946	80078	568	820	262	297	180	-147	965	970	105
	3 Lincoln Blvd	12367	50077	1633	1893	80	1458	1833	77	3288	3428	137
	4 Wairowe Av	99570	9947	619	699	88	317	360	33	930	1048	118
	5 Bathoven	12431	9948	132	132	0	440	368	-72	572	500	-72
	6 Centinla Av	12432	8518	1008	1178	171	724	742	18	1732	1821	169
	7 Inglewood Blvd	12433	8520	500	168	-331	157	392	175	887	531	-156
	8 McLaughlin Av	99977	8821	408	88	-392	163	309	181	618	405	-211
	9 Santa Fe Av	3088	3032	1170	1201	91	861	1032	171	1871	2253	282
	10 Sepulveda Bl	8688	8822	1876	1667	-118	975	1083	88	2961	2920	-31
	11 Overland Av	8680	8823	828	867	-261	774	678	-88	1002	1243	-356
	12 Motor Av	3708	8824	815	729	-88	601	845	147	1318	1377	68
	13 Hughes Av	8591	8528	169	194	-6	394	403	9	563	587	4
	14 Cuyler Blvd	12618	99803	336	354	48	326	693	325	703	1077	374
	15 Higuera St	12615	8826	69	222	153	83	637	464	152	789	607
	16 La Cienega	12519	8593	445	864	208	732	882	180	1180	1539	359
	17 S. Fairfax	8728	99802	569	842	273	710	706	-11	1285	1550	262
	Surface streets			11959	12373	411	9551	11249	1898	21610	23619	2109
	18 I-405 NB	3701	6297	9484	9385	-89	0	0	0	9484	9385	-99
	19 I-405 SB	6655	6298	0	0	0	8346	8928	583	8346	8929	583
	Screenline Total			21443	21755	312	17887	20178	2281	38340	41933	2593
						1%			13%			7%
43 & 44	La Cienega Blvd											
	1 Redso Rd	8728	8727	832	725	93	1204	1093	-111	1838	1818	-18
	2 Stanton Av	99740	15053	1750	1891	-89	2641	2489	-82	4321	4150	-171
	Screenline Total			2412	2416	4	3745	3582	-163	6167	5968	-189
						0%			-6%			-3%

TABLE 1B-1

Playa Vista Master Plan
AM Peak Hour Model Calibration

Screenline Number	Screenline Description	From Node	To Node	1995 Count NB/EB	Model Vol NB/EB	DIF	%	1995 Count SB/WB	Model Vol SB/WB	DIF	%	1995 Count 2-Way	Model Vol 2-Way	DIF	%
51 & 52	Lincoln Blvd	50077	9947	571	1075	204		0	0			571	1075	204	
1	Venice Blvd	9948	12370	0	0	0		995	1148	153		995	1148	153	
2	Venice Blvd	12387	99465	35	505	471		63	72	-11		118	578	460	
3	Van Buren Av	9963	99496	1307	1486	179		755	788	33		2052	2274	212	
4	Washington Blvd	50016	99467	272	442	170		374	133	-241		648	575	-71	
5	Maxella Av	12384	99093	38	99	60		0	31	31		38	130	91	
6	Ball Wy	10192	50007	1019	1009	-10		520	661	138		1542	1670	128	
7	Mindanao Wy	50005	50006	171	112	-59		171	14	-157		342	123	-215	
8	Fiji Wy	99707	99818	1720	1442	-278		334	397	63		2054	1836	-218	
9	Culver Blvd	10196	12440	1158	951	-207		488	578	90		1876	1558	-317	
10	Jefferson Blvd	99850	60013	12	0	-12		15	0	-15		27	0	-27	
11	Taste St	99463	99464	310	79	-231		56	34	-24		388	113	-275	
12	Hughes Ter	10227	99008	307	276	-31		382	337	-45		689	613	-76	
13	33rd St	10211	99607	925	760	-165		786	752	-34		1713	1542	-171	
14	Manchester Av														
	Surface streets			8175	8267	91	-1%	4936	4975	39	1%	13112	13242	130	1%
15	Marina Expy EB	50014	50015	737	703	-34		0	0	0		737	703	-34	
16	Marina Expy WB	10047	50013	0	0	0		861	739	-122		861	739	-122	
	Screenline Total			5913	8970	57	1%	5797	5714	-83	-1%	14710	14684	-26	-0%
	Overall Total			109816	111029	1211	1%	85385	87803	2418	3%	195150	196829	1679	2%

TABLE 1B-2

Playa Vista Master Plan
PM Peak Hour Model Calibration

Screenline Number	Screenline Description	From Node	To Node	1996 Count NB/EB	Model Vol NB/EB	DIV %	1996 Count SB/MB	Model Vol SB/MB	DIV %	1996 Count 2-Way	Model Vol 2-Way	DIV %
21 & 22	Manchester Blvd											
1	Vista Del Mar	12300	99808	407	472	86	1289	1188	-103	1698	1958	-38
2	Pershing Dr	99770	10209	853	706	183	740	829	89	1293	1636	242
3	Falmouth Av	99789	60118	176	133	-43	186	141	-46	362	274	-83
4	Lincoln Blvd	50026	10211	1489	1640	181	1500	1592	92	2969	3232	243
5	Emerson Av	15690	10213	199	375	178	108	151	43	307	526	219
6	Bepulveda Blvd	99079	10214	1801	1817	-184	1687	1798	211	3338	3416	27
7	La Tijera Blvd	99324	10218	748	1140	392	444	535	82	1192	1878	484
8	Willey Post	96496	96496	29	203	174	24	84	44	63	271	213
9	Alford Blvd	99690	10218	1042	1039	-3	622	541	-81	1664	1580	-84
	Screenline Total			8444	7326	861	6500	5842	342	12844	14167	-223
						14%			5%			9%
23 & 24	Aviation Blvd											
1	Arbor Vista St	15702	10332	1973	781	-322	830	584	-46	1703	1335	-368
2	Century Blvd	3714	10308	2397	2630	133	1837	1562	178	3784	4392	306
3	Imperial Hwy	98017	10435	1837	2084	257	637	908	371	2374	3032	628
	Screenline Total			5307	5378	63	2554	3064	520	7861	9429	565
						1%			20%			7%
25 & 26	Imperial Hwy											
1	Vista Del Mar	99345	10431	577	496	-81	1278	1274	-4	1855	1770	-85
2	Sheldon St	10486	16034	876	907	232	686	891	103	1263	1588	326
3	Bepulveda Blvd	10487	60120	2274	2404	130	2747	2756	8	5621	5188	-138
4	Nash St	10405	60121	345	42	-303	412	210	-202	757	232	-605
5	Douglas St	13408	99347	504	732	228	378	387	-18	880	1089	209
	Screenline Total			4375	4581	206	5407	6287	-114	9778	9858	82
						5%			-2%			1%
31 & 32	Jefferson Blvd/Slauson Av											
1	Dulver Blvd	10273	10198	1193	1259	66	2285	2120	-168	3451	3378	-72
2	Lincoln Blvd	99560	10199	2624	2475	-49	2435	2303	-56	4969	4855	-104
3	Centinella Av	10078	60101	975	1028	51	1405	1144	-261	2380	2170	-210
4	Bepulveda Blvd	99558	9993	1721	1741	20	1896	1433	-463	3517	3174	-443
5	Hannum Av (West)	50094	8718	693	303	-280	449	420	-29	1032	723	-309
6	Bristol Hwy	50095	15710	140	0	-140	182	108	-46	292	108	-185
7	Hannum Av (East)	50098	9984	540	493	-77	423	213	-210	963	878	-88
8	Wootter Av	99896	99870	86	95	28	88	58	-9	134	164	20
9	Sharbourne Dr	99885	99748	86	11	-74	139	82	-67	224	93	-131
10	La Cienega Blvd	10164	15637	3019	3322	303	3381	3216	-46	8700	8638	-62
11	King Rd	99814	99874	61	74	23	77	296	219	128	370	242
12	La Tijera Blvd	99913	9986	149	415	266	158	137	-49	305	522	217
13	Fairfax Av	99817	99876	388	383	0	482	438	-44	870	825	-44
	Surface Streets			11404	11572	163	13851	12014	-1637	25056	23538	-1498
						1%			-12%			-6%

TABLE 1B-2

Playa Vista Master Plan
PM Peak Hour Model Calibration

Screenline Number	Screenline Description	From Node	To Node	1995 Count NB/EB	Model Vol NB/EB	Diff	%	1996 Count SB/WB	Model Vol SB/WB	Diff	%	1995 Count 2-Way	Model Vol 2-Way	Diff	%
33 & 34	14 I-405 NB	n/o	La Tijera	9207	8943	-264		0	0	0		9207	8943	-264	
	16 I-405 SB	n/o	La Tijera	0	0	0		8584	8714	130		8584	8714	130	
	Screenline Total			20211	20816	-60	-0%	22235	20728	-1507	-7%	42348	41243	-1103	-4%
	La Brea Av/Hawthorne Blvd														
	1 8 Fairfax Av	99817	10201	310	438	128		441	388	-53		751	820	78	
	2 Centinella Av	10081	10082	1427	1616	39		1395	1135	-40		2622	2651	29	
	3 Florence Av	16023	10220	713	872	159		578	799	221		1291	1671	380	
	4 Manchester Blvd	15022	10278	1301	1228	-73		1031	1148	117		2302	2376	44	
	5 Arbor Vista	18818	10335	697	615	-82		663	802	49		1150	1217	67	
	6 Century Blvd	15817	10372	841	1294	313		983	1393	410		1804	2087	723	
	7 Lennox Blvd	16781	10401	533	564	21		642	820	-22		1078	1074	-1	
	8 Imperial Hwy	10437	10438	1095	1304	209		765	494	-291		1050	1798	-82	
	9 120th St	15791	10491	898	658	-22		612	800	88		1048	1153	110	
35 & 36	10 El Segundo Blvd	90540	10528	1045	1222	174		973	1393	820		1921	2615	694	
	11 130th St	16789	10353	60	339	279		105	146	41		166	485	320	
	Surface streets			8601	9843	1338	16%	7463	8583	1120	15%	18089	18528	2439	15%
	12 I-105 EB	28034	28049	8166	8181	15		0	0	0		8166	8181	15	
	13 I-105 WB	28036	28050	0	0	0		8407	8591	184		8407	8591	184	
	Screenline Total			18786	18121	-1355	8%	15878	17179	1304	8%	32641	35300	2659	8%
	Rosecrans Av														
	1 Vista Del Mar	10619	99845	645	638	-7		1439	1273	-166		2034	1912	-122	
	2 Sepulveda Blvd	10586	99846	1807	1769	-38		3647	3524	-123		5464	5613	149	
	3 Aviation Blvd	10587	99828	1284	1267	-17		2180	2207	27		3484	3474	-10	
	4 Inglewood Av	10588	99829	771	997	226		908	697	-209		1737	1694	-43	
	Surface streets			4317	4892	375	9%	3442	4301	859	-5%	12769	12693	-76	-1%
	5 I-405 NB	7105	7007	8079	8188	89		0	0	0		8079	8188	89	
	6 I-405 SB	7108	7009	0	0	0		9976	10269	293		9976	10269	293	
	Screenline Total			12386	12860	464	4%	18418	18270	-148	-1%	30314	31130	316	1%

TABLE 1B-2

Playa Vista Master Plan
PM Peak Hour Model Calibration

Screenline Number	Screenline Description	From Node	To Node	1995 Count NB/EB	Model Vol NB/EB	Diff %	1995 Count SB/AB	Model Vol SB/AB	Diff %	1995 Count 2-Way	Model Vol 2-Way	Diff %
41 & 42	Vanice Blvd											
1	Pacific Av	12030	3056	505	426	-80	1133	1093	-40	1608	1518	-120
2	Abbot Kinney Blvd	9948	50078	595	563	-12	329	337	11	921	920	-1
3	Lincoln Blvd	12037	50077	1418	1362	-86	1832	1714	-118	3250	3079	-171
4	Wilmington Av	99570	9947	444	371	-73	795	579	-217	1240	980	-260
5	Lycium Av	12431	9948	161	340	179	461	308	-153	622	678	56
6	Cantabria Av	12432	8518	809	750	-69	1446	1499	24	2254	2216	-38
7	Ingwood Blvd	12433	8520	316	343	30	471	122	-349	783	467	-419
8	McLaughlin Av	99377	8521	199	312	113	430	174	-256	829	446	-143
9	Seaville Av	3098	3032	975	694	-281	1506	1498	-41	2484	2182	-322
10	Sepulveda Bl	8658	8522	1810	1795	-15	1626	1458	-167	3436	3253	-182
11	Overland Av	8660	8523	777	411	-366	872	849	-23	1649	1080	-569
12	Motor Av	3756	8524	502	370	-132	860	718	-38	1182	1068	-114
13	Hughes Av	8561	8525	324	332	8	395	203	-192	719	586	-134
14	Quiver Blvd	12515	99803	366	710	345	532	400	-132	947	1110	163
15	Higuera Bl	12516	8526	114	605	392	185	389	194	279	865	689
16	La Cienega	12519	8563	645	699	64	909	849	-240	1264	1545	281
17	B. Fairfax	8726	90302	592	616	24	1233	1272	39	1926	1898	-28
	Surface streets			10547	10871	124	14897	13202	-1695	25114	23873	-1241
18	I-405 NB	3721	6287	9492	8955	-537	0	0	0	9492	8955	-537
19	I-405 SB	8255	8298	0	0	0	8024	7859	-165	8024	7859	-165
	Screenline Total			20039	19926	-413	22581	21061	-1520	42630	40697	-1933
43 & 44	La Cienega Blvd											
1	Rodeo Rd	8728	8727	1374	1262	-82	787	779	-8	2161	2071	-90
2	Stanton Av	96740	15635	1852	1974	82	1530	1549	19	3422	3523	101
	Screenline Total			3226	3236	0	2317	2328	11	5583	5594	11

TABLE 1B-2

Playa Vista Master Plan
PM Peak Hour Model Calibration

Screenline Number	Screenline Description	From Node	To Node	1996 Count NB/EB	Model Vol NB/EB	Diff	%	1996 Count SB/MB	Model Vol SB/MB	Diff	%	1996 Count 2-Way	Model Vol 2-Way	Diff	%
51 & 52	Lincoln Blvd	60077	9947	571	1107	236		0	0	0		871	1107	236	
1	Venice Blvd	9946	12370	0	0	0		1312	1428	114		1312	1428	114	
2	Venice Blvd	12387	99465	109	134	25		111	223	112		220	357	137	
3	Van Buren Av	9953	99496	1375	1257	-118		1030	1146	116		2405	2403	-2	
4	Washington Blvd	50018	99497	354	308	44		723	752	29		1077	1150	73	
5	Maxella Av	12384	99093	83	81	-22		0	0	0		83	81	-22	
6	Bell Wy	10192	50007	950	979	29		816	842	26		1766	1821	55	
7	Mindanao Wy	50006	50006	171	50	-121		143	160	17		314	230	-84	
8	Fiji Wy	99707	99618	588	718	130		1286	1254	-32		1863	1972	109	
9	Culver Blvd	10199	12440	728	904	176		1076	936	-142		1804	1840	36	
10	Jefferson Blvd	99560	60013	12	0	-12		11	0	-11		23	0	-23	
11	Teale St	99483	99464	38	76	38		327	134	-193		363	209	-154	
12	Hughes Ter	10227	99008	338	348	10		336	334	-2		673	682	9	
13	53rd St	10211	99007	836	803	-32		898	904	6		1708	1737	29	
14	Manchester Av														
	Surface streets			8448	8334	114	6%	8019	8231	212	3%	14467	15063	596	4%
15	Marina Expy EB	50014	50016	768	903	135		0	0	0		768	903	135	
16	Marina Expy WB	10047	50013	0	0	0		781	816	35		781	816	35	
	Screenline Total			2215	7737	5521	7%	8800	9146	346	4%	18018	18813	795	5%
	Overall Total			100737	104098	3361	3%	113133	111898	-1237	-1%	213870	215994	2124	1%

Overall Data Flow – Playa Vista Transportation Study

The overall data flow for the Village at Playa Vista Project EIR/EIS Transportation Study is shown in Figure 1B – 1. From this figure, it can be observed that a major portion of the study data flow can and has been automated. This minimizes the chances for errors and discrepancies that usually plague manual methods of data handling, particularly in studies that involve a huge amount of data. The data output from the Playa Vista Transportation model on a link by link basis is imported to an Excel-based spreadsheet template, where this data is processed using Growth-Factor or Furness methods to obtain intersection turning movement forecasts. These forecasts are next imported to paradox-readable database format to be read in CALCADB, a software package developed by the City of Los Angeles Department of Transportation for performing intersection capacity calculations. The other software utilized for intersection capacity calculations include Highway Capacity Software and Traffix (for City of Santa Monica intersection locations). The results from CACADB are output and read in another Excel spreadsheet template and the overall scenario level of service at all the analyzed intersection locations are summarized. Comparing the volume to capacity ratios and levels of service at all intersection locations for future scenarios with and without the project, an assessment of project impacts are made and locations where significant impacts occur are highlighted. Specific intersection improvements are next investigated and the effects of the same analyzed. The Emme/2 output from the Playa Vista Transportation Model are also utilized in performing the Congestion Management Program Analysis at affected study CMP freeway system monitoring locations.

Conversion of the link-based data output from the transportation model to intersection turning movements was achieved using two methods of data processing. The first method called the growth factor method was utilized at locations where the number of legs at an analyzed location changed from current conditions and where the Furness method of iterative data processing was not applicable. In the Growth Factor method, the existing count data was used to factor model output in the same proportion in the future forecasts for individual turning movements at all the approaches. Where new links were proposed, turning movement data from the transportation model was used as the starting point to balance the travel forecasts at the intersection location. In this method, data is processed based on only the approach volumes at any specific intersection.

The Furness and Mekky method is an iterative, directional volume data processing technique. A brief description of this method follows.

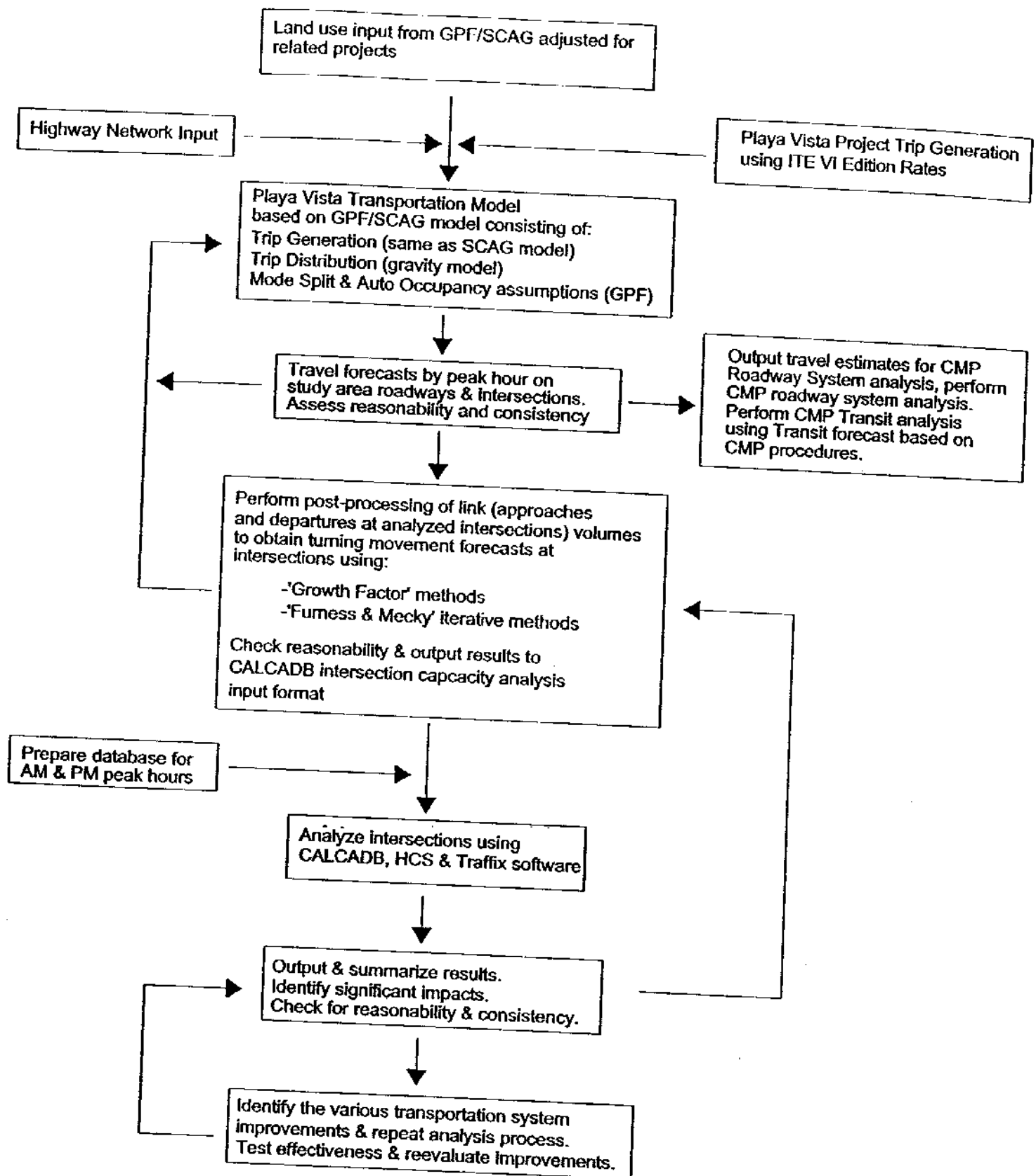


FIGURE 1B-1

PLAYA VISTA TRANSPORTATION MODEL DEVELOPMENT
AND DEMAND ANALYSIS PROCESS

Furness & Mekky Method

This method is an iterative procedure for obtaining turning volumes from directional link flows. Iteration involves applying a technique repeatedly until the results converge to an acceptable result or value. This method is based on a basic iteration technique developed by Furness and modified for intersection flows by Mekky. This procedure derives future year turning movements at intersections based on available future link flows and base year turning percentages. Iteration is required to balance the volume of traffic entering at the approaches and exiting at the departures of the intersection. The number of iterations required to produce an acceptable set of turning volumes is dependent on the ability of the analyst to make a reasonable a priori set of estimates of turning percentages. The turning percentages for the Playa Vista Study application were obtained from the existing traffic counts conducted recently.

In this methodology, using user-specified turning percentages, the process proceeds through an iterative computational technique to provide a final set of future year turning movement volumes. The computations involve alternately balancing the rows (inflows) and the columns (outflows) of a turning movement matrix until an acceptable convergence is reached. Future year link volumes are always held fixed in this method and the turning movements are adjusted or balanced to match.

The Furness method is most applicable in cases where the future year turning movement forecasts are not expected to be radically different from the base year turning movement patterns.

If large differences occur, several more iterations of the methodology would be needed to obtain acceptable forecasts. For the Playa Vista Transportation Study, the Furness Method was implemented on Microsoft Excel using Visual Basic. All locations where Furness was being used were processed in batch form by the program for each scenario.

Figure 1B-2 shows the conceptual implementation of the Furness Method of synthesizing future year turning movement forecasts from future year link forecasts. Detailed technical specifications of this methodology can be found in the TRB document NCHRP 255 – Highway Traffic Data for Urbanized Area Project Planning and Design.

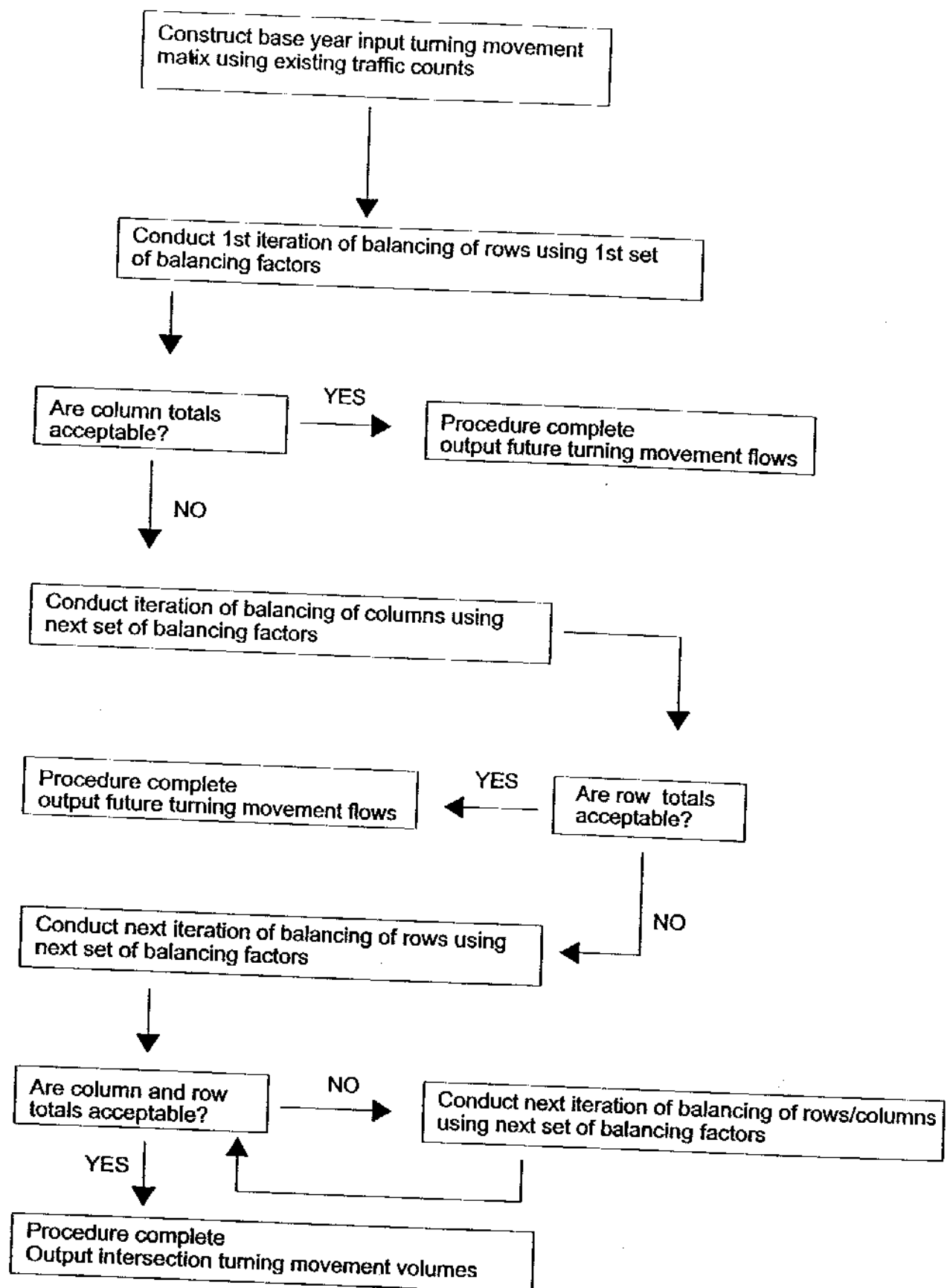


FIGURE 1B-2

FURNESS AND MEKKY METHOD IMPLEMENTATION FOR
PLAYA VISTA TRANSPORTATION STUDY

In summary, the Furness method used in the Playa Vista Study involves the following five steps:

- Prepare Initial Turning Movement Matrix (using existing traffic counts)
- Conduct the First Iteration of balancing of Rows
- Conduct the First Iteration of balancing of Columns. Check for Row totals and if balanced, procedure is complete. If not, continue
- Conduct the next iteration of balancing of Rows, Check column totals for balance
- Continue until both Rows and Columns are balanced.

THE VILLAGE AT PLAYA VISTA PROJECT

APPENDIX VOLUME 1C

TRIP GENERATION

APPENDIX 1C

TRIP GENERATION

The following is the series of trip generation spreadsheets that was used to develop the Playa Vista Second Phase Project trip estimates summarized in Chapter V (Table 4-2) of the transportation plan.

The spreadsheets summarize the trip generation estimates for the different land use components of the project. The zones included in the tables correspond to the zone map included in Chapter V (figure 4-2). The spreadsheets include trip estimates for the following:

- Office – Table 1C-1
- Residential – Table 1C-2
- Retail – 1C-3
- Retail Pass-by Discounts – Table 1C-4
- Community serving uses – Table 1C-5

The last table (Table 1C-6) of this appendix summarizes the land uses for each zone and the resulting trip generation estimates.

APPENDIX 1C

TRIP GENERATION

The following is the series of trip generation spreadsheets that was used to develop The Village at Playa Vista Project trip estimates summarized in Chapter V (Table 4-2) of the transportation plan.

The spreadsheets summarize the trip generation estimates for the different land use components of the project. The zones included in the tables correspond to the zone map included in Chapter V (figure 4-2). The spreadsheets include trip estimates for the following:

- Office – Table 1C-1
- Residential – Table 1C-2
- Retail – 1C-3
- Retail Pass-by Discounts – Table 1C-4
- Community serving uses – Table 1C-5

The last table (Table 1C-6) of this appendix summarizes the land uses for each zone and the resulting trip generation estimates.

TABLE 1C-1
PLAYA VISTA TRIP GENERATION ANALYSIS
Year 2010 - 48 ZONE SYSTEM
ITE 6th EDITION RATES

FILE: MPOFFICE IN MPGEN.XLS (1.2 persons per automobile)

AREA	ZONE	NET SIZE	DAILY	AM PEAK HOUR			PM PEAK HOUR		
				IN	OUT	TOTAL	IN	OUT	TOTAL
D	9	0	0	0	0	0	0	0	0
D	10	0	0	0	0	0	0	0	0
D	11	0	0	0	0	0	0	0	0
D	12	0	0	0	0	0	0	0	0
D	13	0	0	0	0	0	0	0	0
D	14	0	0	0	0	0	0	0	0
D	15	0	0	0	0	0	0	0	0
D	16	0	0	0	0	0	0	0	0
D	17	0	0	0	0	0	0	0	0
D	18	0	0	0	0	0	0	0	0
D	19	0	0	0	0	0	0	0	0
D	20	55,000	714	90	12	102	16	80	96
D	21	40,000	519	65	9	74	12	58	70
D	22	80,000	1038	131	18	149	24	116	139
D	23	0	0	0	0	0	0	0	0
D	24	0	0	0	0	0	0	0	0
D	25	0	0	0	0	0	0	0	0
Total Project		175,000	2271	287	39	326	52	253	305

(1) - Office rates increased 15.0% to reflect net usable versus gross leasable square feet.

TABLE 1C-2
 PLAYA VISTA TRIP GENERATION ANALYSIS
 Year 2010 - 48 ZONE SYSTEM
 ITE 6th EDITION RATES
 FILE: MPRESID IN MPGEN.XLS

AREA	ZONE	SIZE	DAILY	AM PEAK HOUR			PM PEAK HOUR		
				IN	OUT	TOTAL	IN	OUT	TOTAL
D	9	344	2016	26	126	151	124	61	186
D	10	130	762	10	47	57	47	23	70
D	11	130	762	10	47	57	47	23	70
D	12	312	1828	23	114	137	113	56	168
D	13	54	316	4	20	24	20	10	29
D	14	68	398	5	25	30	25	12	37
D	15	187	1096	14	68	82	68	33	101
D	16	48	281	4	18	21	17	9	26
D	17	35	205	3	13	15	13	6	19
D	18	300	1758	22	110	132	109	53	162
D	19	50	293	4	18	22	18	9	27
D	20	155	908	12	57	68	56	28	84
D	21	80	469	6	29	35	29	14	43
D	22	150	879	11	55	66	54	27	81
D	23	185	1084	14	68	81	67	33	100
D	24	318	1863	24	116	140	115	57	172
D	25	54	316	4	20	24	20	10	29
Total Project		2,600	15236	194	950	1144	941	463	1404

RATE - RESIENTIAL CONDO/TOWNHOUSI	5.86	17%	83%	0.44	67%	33%	0.54
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TABLE 1C-3
 PLAYA VISTA TRIP GENERATION ANALYSIS
 Year 2010 - 48 ZONE SYSTEM
 ITE 6th EDITION RATES
 FILE: MPRETAIL IN MPGEN.XLS

AREA	ZONE	SIZE	DAILY	AM PEAK HOUR			PM PEAK HOUR		
				IN	OUT	TOTAL	IN	OUT	TOTAL
D	9	0	0	0	0	0	0	0	0
D	10	0	0	0	0	0	0	0	0
D	11	0	0	0	0	0	0	0	0
D	12	0	0	0	0	0	0	0	0
D	13	0	0	0	0	0	0	0	0
D	14	0	0	0	0	0	0	0	0
D	15	0	0	0	0	0	0	0	0
D	16	0	0	0	0	0	0	0	0
D	17	0	0	0	0	0	0	0	0
D	18	0	0	0	0	0	0	0	0
D	19	40,000	2359	33	21	54	105	114	219
D	20	50,000	2949	41	26	68	131	142	274
D	21	20,000	1180	17	11	27	53	57	109
D	22	40,000	2359	33	21	54	105	114	219
D	23	0	0	0	0	0	0	0	0
D	24	0	0	0	0	0	0	0	0
D	25	0	0	0	0	0	0	0	0
Total Project		150,000	8847	124	79	203	394	427	821

TABLE 1C-4
 PLAYA VISTA TRIP GENERATION ANALYSIS
 Year 2010 - 48 ZONE SYSTEM
 RETAIL PASS BY (Based on LADOT Policy on Pass-By Trips)

AREA	ZONE(1)	SIZE	DAILY	AM PEAK HOUR			PM PEAK HOUR			Pass-By
				IN	OUT	TOTAL	IN	OUT	TOTAL	
D	9	0	0	0	0	0	0	0	0	
D	10	0	0	0	0	0	0	0	0	30%
D	11	0	0	0	0	0	0	0	0	50%
D	12	0	0	0	0	0	0	0	0	50%
D	13	0	0	0	0	0	0	0	0	50%
D	14	0	0	0	0	0	0	0	0	50%
D	15	0	0	0	0	0	0	0	0	50%
D	16	0	0	0	0	0	0	0	0	50%
D	17	0	0	0	0	0	0	0	0	50%
D	18	0	0	0	0	0	0	0	0	50%
D	19	40,000	708	10	6	16	32	34	66	50%
D	20	50,000	885	12	8	20	39	43	82	30%
D	21	20,000	354	5	3	8	16	17	33	30%
D	22	40,000	708	10	6	16	32	34	66	30%
D	23	0	0	0	0	0	0	0	0	30%
D	24	0	0	0	0	0	0	0	0	50%
D	25	0	0	0	0	0	0	0	0	20%
										50%
Total Project		150,000	2654	37	24	61	118	128	246	

TABLE 1C-5

PLAYA VISTA TRIP GENERATION ANALYSIS

YEAR 2010 - 48 ZONE SYSTEM

ITE 6th EDITION RATES

FILENAME: MPCOMSER IN MPGEN.XLS

AREA	ZONE(1)	COMMUNITY		DAILY TRIPS	AM PEAK HOUR		PM PEAK HOUR	
		CENTER	TOTAL		IN	OUT	IN	OUT
D	9		0	0	0	0	0	0
	10		0	0	0	0	0	0
	11		0	0	0	0	0	0
	12		0	0	0	0	0	0
	13		0	0	0	0	0	0
	14		0	0	0	0	0	0
	15		0	0	0	0	0	0
	16		0	0	0	0	0	0
	17		0	0	0	0	0	0
	18		0	0	0	0	0	0
	19		0	0	0	0	0	0
	20		0	0	0	0	0	0
	21		0	0	0	0	0	0
	22	400,000	400,000	520	9	4	6	12
	23		0	0	0	0	0	0
	24		0	0	0	0	0	0
	25		0	0	0	0	0	0
Total		400,000	400,000	520	9	4	6	12

Assumes 75% internal capture.

TABLE 1C-6
THE VILLAGE AT PLAYA VISTA PROJECT
TRIP GENERATION ANALYSIS BY TRAFFIC ANALYSIS ZONES - AREA D

AREA	PV ZONE	RETAIL (SF)	OFFICE (SF)	COMM. SERVING (SF)	MF DWELLING UNITS	AM			PM			DAILY TOTAL
						IN	OUT	TOTAL	IN	OUT	TOTAL	
D	9	0	0	0	344	26	126	151	124	61	186	2,016
D	10	0	0	0	130	10	47	57	47	23	70	762
D	11	0	0	0	130	10	47	57	47	23	70	762
D	12	0	0	0	312	23	114	137	113	56	168	1,828
D	13	0	0	0	54	4	20	24	20	10	29	316
D	14	0	0	0	68	5	25	30	25	12	37	398
D	15	0	0	0	187	14	68	82	68	33	101	1,096
D	16	0	0	0	48	4	18	21	17	9	26	291
D	17	0	0	0	35	3	13	15	13	6	19	205
D	18	0	0	0	300	22	110	132	109	53	162	1,758
D	19	40,000	0	0	50	27	33	60	92	89	180	1,944
D	20	50,000	55,000	0	155	131	87	218	164	207	371	3,686
D	21	20,000	40,000	0	80	83	46	129	78	112	189	1,814
D	22	40,000	80,000	40,000	150	174	91	266	157	234	391	4,089
D	23	0	0	0	185	14	68	81	67	33	100	1,084
D	24	0	0	0	318	24	116	140	115	57	172	1,863
D	25	0	0	0	54	4	20	24	20	10	29	316
Total		150,000	175,000	40,000	2,600	577	1,049	1,626	1,275	1,027	2,302	24,220

THE VILLAGE AT PLAYA VISTA PROJECT

APPENDIX VOLUME 1D

**ANCILLARY ANALYSIS
NEIGHBORHOOD TRAFFIC ANALYSIS**

NEIGHBORHOOD IMPACT ANALYSIS FOR THE VILLAGE AT PLAYA VISTA

SIGNIFICANCE THRESHOLD FOR NEIGHBORHOOD INTRUSION IMPACTS

The City of Los Angeles Draft CEQA Thresholds Guide (1998, p.F.4-2) offers recommended thresholds for neighborhood intrusion impacts based on the addition of project traffic on the future traffic conditions of neighborhood streets, as follows:

A proposed project would normally have a significant neighborhood intrusion impact if project traffic increases the average daily traffic (ADT) volume on a local residential street in an amount equal to or greater than the following:

- ADT increase \geq 120 trips if final ADT* $<$ 1,000
- ADT increase \geq 12% if final ADT* \geq 1,000 and $<$ 2,000
- ADT increase \geq 10% if final ADT* \geq 2,000 and $<$ 3,000
- ADT increase \geq 8% if final ADT* \geq 3,000

*Final ADT is defined as total projected future daily volume including project, ambient, and related project growth.

Based on these guidelines, the number of trips required to trigger a potential impact starts at 120 project trips per day and increases as a function of the traffic conditions on the street.

The most conservative significance threshold of all of those mentioned, 120 additional trips, has been applied as the significance threshold for the Proposed Project. Hence, for any neighborhood in which traffic could be increased by 120 trips per day or more on any local residential streets within that neighborhood, a potentially significant impact, prior to mitigation, is identified.

The Proposed Project would therefore be considered to have a significant impact if:

The Proposed Project may add 120 or more trips per day to any local residential street(s) within a local neighborhood.

METHODOLOGY FOR DETERMINATION OF IMPACT

Three conditions need to be present to create the conditions under which there could be a significant impact on local streets within a neighborhood:

- Sufficient congestion on arterial corridors such that motorists traveling along the corridor may desire to divert to a parallel route through a residential neighborhood. Unless congestion is severe, travel along arterial streets is generally faster than through neighborhoods, since arterial streets typically provide greater capacities, higher travel speeds, less driveway access, less stop signs, etc. For the purposes of this analysis, projected over-capacity conditions of level of service (LOS) F at key intersections along an arterial corridor were considered to represent congested conditions sufficient to cause motorists to seek alternative routes.
- Sufficient additional traffic projected to be added to the arterial corridor by the Proposed Project such that the volume that may shift to an alternative route could exceed the minimum significance threshold of 120 or more daily trips. The majority of vehicles on an arterial corridor tend to remain on that corridor even under congested conditions, with only a small portion of motorists inclined to seek alternative routes. Therefore, corridors were examined to which the Proposed Project may add 1,200 or more daily trips, assuming that at most only 10% of these trips may shift to alternative routes on average across a 24-hour period (the proportion that may shift could be higher than 10% during congested peak periods of the day but much less than 10% or almost none during uncongested non-peak periods of the day).
- Availability of local neighborhood street(s) providing a parallel route of travel.

If one or more of these factors is absent, significant neighborhood traffic impacts would not be anticipated.

NEIGHBORHOOD INTRUSION IMPACT ANALYSIS

The Proposed Project is projected to generate approximately 24,220 new daily vehicle trips and 2,300 new PM peak hour trips (see Section IV.K.(1) of the EIR). Using the travel demand model developed for use in the EIR for the Proposed Project, the amount of trips that may be added to any particular arterial corridor was projected, and the extent of the projected addition

of 1,200 or more daily trips was determined. (Since the model provides peak hour assignments but not daily, daily project trips were estimated by multiplying the PM peak hour project trips by a factor of 10.) Figure 1 illustrates the extent of this area along each of the corridors leading to/from the Proposed Project site.

Intersections along the arterial corridors that are projected to operate at LOS F under future cumulative with project conditions (see Section IV.K.(1) of the EIR) are also identified on Figure 1.

As can be seen, corridors to which 1,200 or more daily trips are projected to be added by the Proposed Project include:

- Centinela Avenue between Culver Boulevard and Jefferson Boulevard and between Jefferson Boulevard and La Tijera Boulevard
- Inglewood Boulevard between Culver Boulevard and Jefferson Boulevard
- Jefferson Boulevard between Lincoln Boulevard and Overland Avenue
- Lincoln Boulevard between Maxella Avenue and Jefferson Boulevard and between Bluff Creek Drive and Sepulveda Boulevard
- Sepulveda Boulevard between Centinela Avenue and Imperial Highway

The presence of congested cumulative conditions and the availability of local street(s) providing a parallel route of travel in the vicinity of congested portions of the corridors was then investigated for each of the corridors. The following discusses the results of this investigation for each corridor:

- Centinela Avenue, Culver Boulevard to Jefferson Boulevard - No intersections are projected to operate at LOS F along the Centinela Avenue corridor from Culver Boulevard to Jefferson Boulevard. Due to this condition plus the presence of physical barriers to local north/south travel created by the Marina Freeway and Ballona Creek (and the resultant lack of parallel routes via local residential streets), no significant neighborhood intrusion impacts would be anticipated in this area.
- Centinela Avenue, Jefferson Boulevard to La Tijera Boulevard - The sole intersection along the Centinela Avenue corridor from Jefferson Boulevard to La Tijera Boulevard that is projected to operate at LOS F is the intersection of Centinela Avenue at Sepulveda Boulevard. Due to the physical barriers created by the San Diego Freeway and the Westchester Bluffs, there are no parallel routes via local residential streets available as a bypass to Centinela Avenue around the Sepulveda Boulevard intersection. Therefore, no significant neighborhood intrusion impacts would be anticipated in this area.

- Inglewood Boulevard, Culver Boulevard to Jefferson Boulevard - No intersections are projected to operate at LOS F along the Inglewood Boulevard corridor from Culver Boulevard to Jefferson Boulevard. No significant neighborhood intrusion impacts would therefore be anticipated in this area.
- Jefferson Boulevard, Lincoln Boulevard to Overland Avenue - The intersections of Jefferson Boulevard/Lincoln Boulevard and Jefferson Boulevard/San Diego Freeway northbound ramp are projected to operate at LOS F. No local streets are available in the vicinity of the Jefferson Boulevard/Lincoln Boulevard intersection that could be used as an alternative route. Due to the physical barrier created by the San Diego Freeway, there are no close parallel routes via local residential streets available as a bypass to Jefferson Boulevard around the San Diego Freeway interchange. However, routes such as Inglewood Avenue to McDonald Street to Sawtelle Boulevard could potentially be used.
- Lincoln Boulevard, Maxella Avenue to Jefferson Boulevard - A number of intersections in this corridor are projected to operate at LOS F, including Lincoln Boulevard at Mindanao Way, at Bali Way, and at the Marina Expressway. Since access from Fiji Way to La Villa Marina has been blocked, there are no nearby parallel routes via local residential streets available to be used as an alternative route to this portion of Lincoln Boulevard. Therefore, no significant neighborhood intrusion impacts would be anticipated in this area.
- Lincoln Boulevard, Bluff Creek Drive to Sepulveda Boulevard - A number of intersections in this corridor are projected to operate at LOS F, including Lincoln Boulevard at 83rd Street and at Manchester Avenue. A potential alternative route that would avoid the Lincoln Boulevard/Manchester Avenue intersection (but not the Lincoln Boulevard/83rd Street intersection) could be 83rd Street to Rayford Drive to Villanova Avenue to Loyola Boulevard to La Tijera Boulevard.
- Sepulveda Boulevard, Centinela Avenue to Imperial Highway - A number of intersections in this corridor are projected to operate at LOS F, including Sepulveda Boulevard at Centinela Avenue, at Howard Hughes Parkway, at 76th Street/77th Street, at 79th Street/80th Street, at Manchester Avenue, and at Westchester Parkway. There are no continuous parallel local street routes in the Centinela Avenue/Howard Hughes Parkway portion of the corridor. Similarly, further south in the vicinity of LAX, there are no parallel local street routes that could be impacted. Through the Westchester portion of the corridor, however, potential alternative routes could include 74th or 76th Streets to Airport Boulevard, 77th Street to Kentwood Avenue, or 78th Street to Truxton Avenue.

On the bases of the above investigation, four neighborhoods were identified that may be subject to significant neighborhood intrusion impacts. They are also illustrated in Figure 1, and they include the areas bounded by the following:

- Inglewood Boulevard, Ballona Creek, Sawtelle Boulevard, Bray Street/Port Road
- Kentwood Avenue, 77th Street, Sepulveda Boulevard, Manchester Avenue
- Sepulveda Boulevard, 74th Street, La Tijera Boulevard, Manchester Avenue

- Rayford Drive, 83rd Street, Lincoln Boulevard, La Tijera Boulevard

NEIGHBORHOOD INTRUSION MITIGATION MEASURES

Mitigation of neighborhood traffic intrusion impacts requires development and implementation of a neighborhood traffic management plan which would identify measures to make local routes less attractive to through traffic, such as turn restrictions, chokers or narrowing of street widths, diverters or semi-diverters, cul-de-sacs or street closures, speed humps, and stop signs. Because implementation of neighborhood traffic controls on one street can cause intruding traffic to shift to other streets, an effective neighborhood traffic management plan can only be implemented on an area-wide basis with all affected parties involved in development of the plan, including neighborhood residents, Council representatives, planners, and traffic engineers.

The City of Los Angeles has a neighborhood traffic management process in place that includes a number of specific steps. In the event that neighbors are concerned with the potential impact of a proposed project, they may petition LADOT for a neighborhood traffic study. If a sufficient number of neighbors agree that there is a potential significant problem, LADOT will collect "before" data summarizing existing conditions. Once the development in question is open and generating traffic, LADOT will again collect traffic flow data and will analyze the data to see if the conditions have indeed changed from the "before" project conditions. If the traffic conditions have changed and if LADOT staff believes that the changes are attributable to the project, LADOT staff will work with the neighbors to identify traffic calming/traffic management improvements that would address the traffic problem. If the neighbors agree that the suggested solutions are workable, the improvements are installed on a temporary, trial basis. Once the improvements have been in place for a sufficient trial (usually six months) the neighbors are asked if they want the improvements to be installed on a permanent basis. If a sufficient number of neighbors approve, the improvements are installed permanently.

Accordingly, the following mitigation measure is recommended to provide mechanisms for the development of neighborhood traffic management plan(s) in the potentially impacted neighborhoods, should they be requested by residents in the community:

- Pursuant to the schedule established in the final adopted subphasing program, the project applicant shall provide a funding mechanism acceptable to LADOT for necessary City staff support for development of neighborhood traffic management plan(s) and for subsequent implementation of traffic calming measures contained in the plan(s). Development of a plan for any particular community would be initiated at the request of the residents in the community. Eligible communities would include the residential neighborhoods within the boundaries listed below:

- Inglewood Boulevard, Ballona Creek, Sawtelle Boulevard, Bray Street/Port Road
- Kentwood Avenue, 77th Street, Sepulveda Boulevard, Manchester Avenue
- Sepulveda Boulevard, 74th Street, La Tijera Boulevard, Manchester Avenue
- Rayford Drive, 83rd Street, Lincoln Boulevard, La Tijera Boulevard

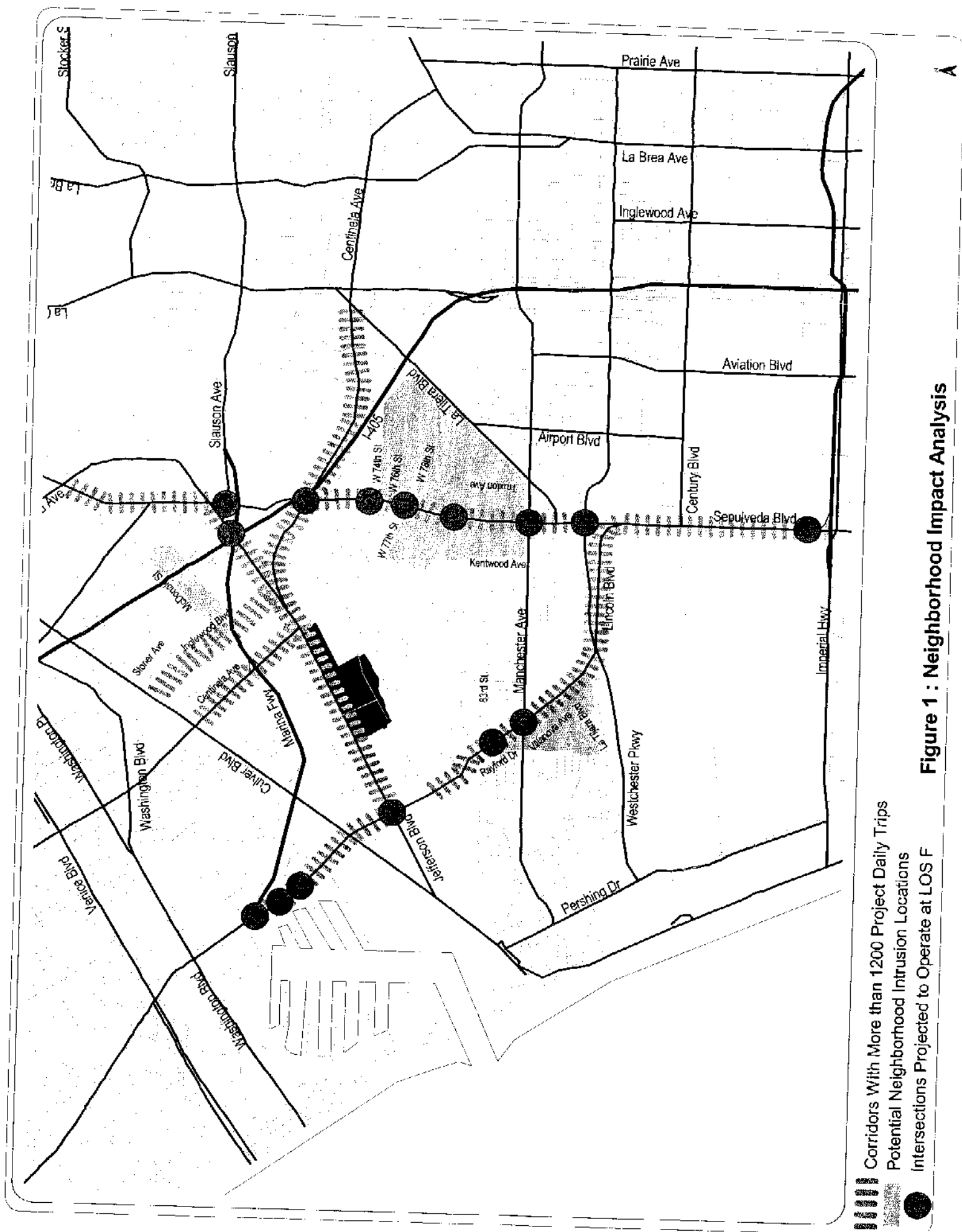


Figure 1 : Neighborhood Impact Analysis

THE VILLAGE AT PLAYA VISTA PROJECT

APPENDIX VOLUME 1E

PROJECT ACCESS ANALYSIS

VOLUME 1E- PROJECT ACCESS ANALYSIS

Thresholds Regarding Project Access

Operational Impacts

With regard to operational impacts, the City of Los Angeles Draft CEQA Thresholds Guide (1998,p.F.5-3) states:

A project would normally have a significant project access impact if the intersection(s) nearest the primary site access is/are projected to operate at LOS E or F during the a.m. or p.m. peak hour, under cumulative plus project conditions.

Based on this guideline, the Proposed Project would have a significant access impact if:

- Any of the intersections providing access into the Proposed Project site would be operating at LOS E or F during the A.M. or P.M. peak hour, under cumulative plus project conditions.

Safety Impacts

With regard to bicycle, pedestrian and vehicular safety, the City of Los Angeles Draft CEQA Thresholds Guide states (1998,p.F.5-3) states that the determination of significance shall be on a case-by-case basis, considering the following factors:

- The amount of pedestrian activity at project access points.
- Design features/physical configurations that affect the visibility of pedestrians and bicyclists to drivers entering and exiting the site, and the visibility of cars to pedestrians and bicyclists.

- The type of bicycle facility the project driveway(s) crosses and the level of utilization.
- The physical conditions of the site and surrounding area, such as curves, slopes, walls, landscaping or other barriers, that could result in vehicle/pedestrian, vehicle/bicycle or vehicle/vehicle impacts.

Based on these factors, the Proposed Project would have a significant impact if:

The design features/physical configurations of the Proposed Project would affect the visibility of pedestrians and bicyclists to drivers entering and exiting the site, and the visibility of cars to pedestrians and bicyclists so as to create a hazardous condition.

Impacts on Project Access

The Draft Los Angeles CEQA Thresholds Guide identifies a recommended significance threshold regarding traffic congestion at the intersections nearest the primary site access, and four factors to be used for determining the significance of a project's impacts on the safety of site accessibility (See section above). With regard to congestion, the first threshold has been applied directly as a significance threshold for the Proposed Project. With regard to the four safety of site accessibility factors, the second factor has been incorporated into a second access threshold. The remaining three safety factors describe design considerations that can affect safety conditions, and the amount of population exposure to hazards that would occur, if unsafe designs were implemented. The design and population exposure conditions were considered in the analysis and application of the safety threshold.

Impacts on Operational Accessibility

The roadways providing access to the Proposed Project site are illustrated on Figure 4-1 from the Traffic Study. Proposed Project obtains access along Jefferson Boulevard, Centinela Avenue and Bluff Creek Drive. With

implementation of the Proposed Project and its Project Design Features/mitigation measures, there will be seven intersections that provide access to the Proposed Project site. The expected 2010 operating conditions at these intersections is presented in Table 5-2 from the Traffic Study. The intersections are as follows:

- Jefferson Boulevard / Centinela Avenue
- Jefferson Boulevard / Alla Road
- Bluff Creek Drive / Playa Vista Drive
- Bluff Creek Drive / Campus Center Drive
- Jefferson Boulevard / McConnell Avenue
- Jefferson Boulevard / Westlawn Avenue
- Bluff Creek Drive / McConnell Avenue

As indicated in Table 5-2, 2010 operating conditions with the Proposed Project would be at LOS A during both the A.M. and P.M. peak hours at all of the intersections except one. This is considered excellent service. Conditions at Jefferson Boulevard and Centinela Avenue would be at LOS C during the A.M. peak hour, and LOS D during the P.M. peak hour, good and fair levels of services, respectively. Since none of the intersections providing access into the Proposed Project site would be operating at LOS E or F during the A.M. or P.M. peak hours, Project impacts with regard to operational accessibility would be less than significant.

Impacts on the Access Safety

The Proposed Project is a planned community that is implementing new interior roadways, and linkages to the regional system, with mitigation measures

addressing roadway improvements along the Project's access corridors. As such all roadways would be required to meet all current roadway standards and protocols for safety.

The Proposed Project's internal streets including Runway Road, Millennium Drive, McConnell Avenue and Westlawn Avenue are all planned to include Class II (on-street) Bicycle Lanes designed to meet all applicable safety standards. Additionally, pedestrian amenities including shelters at bus stops, sidewalks, painted crosswalks (mostly at intersections), parkways and direct-connections to the Village Center area of the Project from adjacent uses are being proposed as part of the design features for the Proposed Project. All of the Proposed Project access and circulation roadways and intersections would be designed such that no sight-distance (horizontal and/or vertical) hazards would be created and that no project design features would create any other safety hazards for pedestrians, bicyclists and vehicles. Further, appropriate roadway geometrics relative to lane-widths, lane transitions, turn pockets and driveway spacing and distances from key intersections and adequate traffic control would be provided in accordance with all applicable safety standards. Therefore, no obstructions to the visibility of pedestrians and bicyclists toward drivers, nor visibility of drivers toward pedestrians and bicyclists that would cause hazardous conditions would occur. The Proposed Project would not cause any significant impacts regarding the safety of project accessibility.

Impacts on Project Access – After Mitigation

With the Proposed Project's mitigation measures, operating conditions at all of the intersections providing access to the Proposed Project would be at acceptable levels of service. There would be excellent levels of service (LOS A) at all intersections during the A.M. and P.M. peak hours except Jefferson Boulevard and Centinela Avenue. At that intersection there would be LOS C (good service) and LOS D (fair service) operations during the A.M. and P.M. peak hours respectively. Service would not operate at conditions considered

significant, LOS E and F (poor/failure service). Access impacts with regard to roadway operations would be less than significant.

The design of the Proposed Project has been prepared to meet all safety regulations, and avoid hazardous conditions (e.g. inadequate sight lines, conflict between travel modes, etc). Mitigation measures have been included to protect public safety from construction activities. Hazardous conditions would be avoided, and access impacts with regard to safety of Project accessibility would be less than significant.

Summary of the Proposed Project's Unavoidable Adverse Impact

Impacts on Project Access: Impacts at all intersections providing access to the Project site would operate at services levels rates as having excellent, good or fair levels of service. Access to the Project site through these intersections would be less than significant. Project design would avoid hazardous conditions at points of site access, and access impacts with regard to safety of Project accessibility would be less than significant.

Cumulative Impacts

Cumulative impacts regarding Proposed Project access would be cumulatively less than significant, since the operating conditions at the Project Project's access points are projected to be better than LOS E during both the A.M. and P.M. peak hours inclusive of anticipated cumulative traffic growth and there are no related projects in the immediate vicinity that would contribute to an obstruction of visual conditions for travelers or pedestrians accessing the Proposed Project site.

THE VILLAGE AT PLAYA VISTA PROJECT

APPENDIX VOLUME 1F

TRANSIT MITIGATION PROGRAM

APPENDIX 1F

THE VILLAGE AT PLAYA VISTA TRANSIT MITIGATION PROGRAM

INTRODUCTION

The Los Angeles Department of Transportation requires every proposed project to develop a mitigation program to address any significant transportation impacts found in the traffic impact analysis. The hierarchy for the components of this mitigation program is as follows¹:

Transportation Demand Management (TDM)
Transportation Systems Management (TSM)
Physical Improvements

Mitigation Plan Components

TDM -- The Transportation Demand Management portion of the mitigation program seeks to reduce the amount of automobile traffic generated by a new development during the peak hours of the day. TDM measures include measures such as work-hour staggering, flexible work hours, on-site car pools and van pools, four-day work weeks and other such measures intended to promote travel outside of the traditional commuter peak hours. These types of TDM measures are typically most effective in office or other employment-based projects. Since the Village at Playa Vista is primarily a residential-based development, the most effective TDM measure would be the provision of transit service to allow trips to/from the project to be made by a mode other than automobile.

Transit -- The intent of the transit improvements is not only to provide additional transit service to residents, visitors, and employees of the Village at Playa Vista but also to increase transit service to residents and employees of the study area. The enhanced and expanded transit service is aimed at:

1. Reducing the automobile travel by project travelers, and
2. Reducing current automobile travel by study area residents/ employees who will be offered more travel alternatives than they currently have available.

National research has shown that increased transit service is linked to increased ridership². "The service characteristic that has been found to be most influential in predicting ridership is the quantity of service."³ There is a direct correlation between

¹ City of Los Angeles Draft L.A. CEQA Thresholds Guide, adopted March 2003., page F.1-8 & Traffic Impact Study Guidelines, Los Angeles Department of Transportation, June 2002

² Multivariate Time-Series Model of Transit Ridership Based on Historical, Aggregate Data: The Past, Present and Future of Honolulu, Malcolm S. McLeod, Jr. et. al, Transportation Research Record 1297, January 1991

³ *ibid*, pg 77

increased transit service and increased ridership on those lines with the increased service.

The final section of this Appendix presents examples of increased transit ridership as a result of the provision of increased service. Los Angeles Bus Rapid Transit lines in the Wilshire and Ventura corridors have experienced patronage increases of 42% and 27%, respectively. Bus service increases in Miami, Orange County (California), and Santa Cruz offer other examples of increased transit service producing increased ridership.

TSM -- Transportation Systems Management measures include the refinement of traffic signal systems to enhance the flow of automobile and transit traffic, on-street parking restrictions to increase roadway corridor and intersection capacity during peak periods, turn restriction/prohibitions, etc.

Physical Improvements -- Finally, if complete mitigation cannot be achieved through TDM and TSM measures, physical changes to street corridors and key intersections are investigated.

The Village at Playa Vista mitigation program includes TDM (Transit), TSM and physical improvements, many of which are related to improved transit service to the project and to the study area.

1. The TDM improvements related to transit include the addition of bus service to existing routes, the addition of buses to extend existing routes and the addition of buses to provide new premium service to an underserved corridor. In addition, the project mitigation program includes the expansion of the on-site shuttle bus system to serve the entire Playa Vista development and to serve key off-site destinations.
2. The TSM improvements related to transit include transit priority enhancements for 25 traffic signals along Lincoln Boulevard through the study area, and upgrading a number of traffic signals in the study area to enhance the computerized system control of these locations.

ANALYSIS OF TRANSIT POTENTIAL & CANDIDATE CORRIDOR SELECTION

Travel Demand by Corridor

The north-south travel corridors in the vicinity of the Project include Lincoln Boulevard, Sepulveda Boulevard, and Centinela Boulevard-Inglewood Avenue. All of these corridors currently experience congestion during both the A.M. and P.M. peak hours. In order to estimate market potential for additional transit service along these north-south travel corridors, an origin-destination (O-D) study of trips utilizing these corridors was performed. The Playa Vista Transportation Model was utilized for this study.

Both A.M. and P.M. peak hour vehicular trip tables were examined and specific trip interchanges that used these specific travel corridors were isolated. The methodology involved isolating the key travel corridors in the vicinity of the Village at Playa Vista project and then using the model to identify the number of trips that had both an origin and a destination within walking distance of these corridors. By isolating those trips that had both their origin and destination within one-quarter mile of the corridor, the trips that were potential transit trips could be quantified.

Utilizing the average vehicle ridership (AVR) recommended by the Los Angeles County Congestion Management Program (CMP), the number of automobile trip interchanges utilizing these specific travel corridors was converted to person trips. Next, the transit market potential along these congested travel corridors was estimated by applying the most conservative mode split estimate level assumed in the Los Angeles Congestion Management Plan transit analysis procedure. The LA CMP transit analysis procedures indicate that a reasonable estimate of mode split to transit is:

<u>Transit Mode Split</u>	<u>Land Use and Available Transit Service</u>
0%	No Transit within reasonable walking distance
3.5%	Total Person Trips generated for most cases
5%	Residential within ¼ mile of CMP Transit Corridor
7%	Commercial within ¼ mile of CMP Transit Corridor
up to 15%	Commercial within 1/4 mile of CMP Transit Ctr.

In this analysis of transit potential, only the 3.5% level of mode split was assumed (i.e., 3.5% of all person trips would be estimated to use transit), even though land uses with higher potential mode split are common along the tested corridors.

Table F1 shows the auto and person trip travel demand along the key corridors in the vicinity of the Village at Playa Vista.

Potential Transit Ridership by Corridor

Table F2 groups the travel demand by each transit route that could provide service to that set of travel demands. Specific corridor transit market potential was assessed based on an aggregation of all the relevant trip interchanges and includes potential transfers and linked trips. The first section on the second page of Table F2, for example, shows that the travel demand that could be served along the corridors that are served by Culver City Line 2 totals 2,496 person trips in the morning peak hour and 3,622 person trips in the afternoon peak hour. These trip interchanges include both Village at Playa Vista trips, the adjacent Playa Vista First Phase Project office and studio/commercial trips and trips not associated with the project that move along the Culver City Line 2 corridor.

When the conservative CMP estimate of a 3.5% transit mode split factor is applied to the total person trips along the Culver City Line 2 corridor, the estimated transit demand to the Line 2 is 87 trips in the morning ($0.035 \times 2,496 = 87$) and 127 trips in the afternoon peak hour ($0.035 \times 3,622 = 127$). These transit market potential and demand computations do not include the effect of making connections to the regional transit

system, particularly the Green Line, the planned Expo LRT line and the rest of the regional bus transit system and are therefore, conservative.

It should be emphasized that the potential transit ridership levels shown in Table F2 were **not** used to quantify the mode split resulting from the Village at Playa Vista transit mitigation program. Rather, these estimates were used to verify the reasonableness of the mode split estimates that result from the project mitigation program effectiveness computations.

Corridor Identification

Following estimation of the potential demand along these congested corridors, the transit supply along these corridors was next investigated. The transit service that currently operates along these congested north-south travel corridors namely the Lincoln Boulevard, Sepulveda Boulevard, and Centinela Boulevard-Inglewood Avenue travel corridors was examined.

The **Lincoln Boulevard** corridor is currently served by Santa Monica Big Blue Bus Line 3. Line 3 is currently experiencing boardings of approximately 1,960 riders in the morning peak hours and 2,550 riders in the afternoon peak hours. Several segments along this route are currently experiencing overcrowding. The Playa Vista First Phase Project is enhancing this route by the provision of four additional buses (plus one spare bus) to improve operating frequencies along this corridor. Additional opportunities to enhance transit service on this corridor are available through the implementation of Rapid Bus technology and service.

The **Sepulveda Boulevard** corridor travel is currently being served by Culver City Bus Line 6 and to a certain extent by Line 4. The trip interchanges between the Playa Vista First Phase and the Village Project, and the Century Boulevard office corridor indicates that significant transit market potential exists along this heavily traveled corridor.

Additionally, as shown in Figures F1-A and F1-B, Line 6 is frequently overcrowded under existing conditions. In the northbound direction, the maximum load point along the route shows most buses are full between 5:45am and 9:15am. During this time period, eleven of the twenty bus trips have passenger demand exceeding 125% of the seating capacity of the bus. Another four of the twenty bus trips operate with completely full buses leaving only five of the twenty morning buses with any available seats. Northbound buses fill again during the 3:30pm to 5:30pm time period.

Southbound buses show a similar pattern with some southbound buses full during the morning peak and eleven of the 25 bus trips exceeding 125% of seating capacity in the 2pm to 6:30pm time period. Only six of the 25 southbound trips in the 4.5-hour afternoon peak period have any seating capacity available.

Based on the trip making projected along this corridor and the currently observed heavy transit usage along this route, Culver City Line 6 was chosen for improvement. Further, given the interaction between the Proposed Project, the adjacent Playa Vista First Phase Project, and the Century Boulevard office corridor, a new and efficient Limited Stop Route was proposed along this corridor to maximize and capitalize on this potential market.

The **Inglewood Boulevard-Centinela Avenue** travel corridor interchanges along with the Playa Vista First Phase Commercial and the Village Project patronage potential were evaluated against service availability along that corridor. The Culver City Bus Line 2 provides service along this corridor at hourly frequencies only.

Figures F2-A and F2-B show that the peak hour demand for the Line 2 bus is heavy but mid-day demand is light. The westbound bus fills to crush load levels (i.e. almost twice as many passengers as there are seats on the bus) for the 7 a.m. run. The 8 a.m. run again almost fills up, as does the 3pm run. In the eastbound direction, the 7:30 a.m. run as well as two afternoon runs fill up beyond capacity.

In addition to evaluating the potential to enhance existing transit service, connections to and from the Proposed Project and adjacent Playa Vista First Phase Project generators and the rest of the regional transit system was evaluated. Culver City Bus Line 4 was identified as the best candidate to provide that connection. Additionally, Line 4 was also proposed to be extended along the Playa Vista project frontage (Jefferson Boulevard) to Playa del Rey to improve potential additional market capture.

A detailed description of the transit mitigation program enhancing service along congested north-south travel corridors within the Village at Playa Vista Project study area follows.

MITIGATION PROGRAM

The Village at Playa Vista mitigation program supplements peak period transit service along three Culver City Bus lines, extends one of those lines, adds new service along one corridor and enhances/expands shuttle service. Each element is described below.

The mitigation program would purchase the capital equipment needed to provide the service described below and it would also contribute toward operations and maintenance (O&M) costs.

Regional Bus -- Enhanced Transit Service

Culver City Line 6 - The mitigation program proposes to add one bus to the Line 6 service during the morning and afternoon peak periods of the day. With the additional equipment, the headways along this route would be reduced to 10 minutes.

This north-south route provides service between the LAX Transit Center and UCLA via Sepulveda Boulevard. Line 6 also serves the Fox Hills Transit Center, which is where the major interface with project patrons would occur.

Culver City Line 2 - Line 2 provides service north of the Village at Playa Vista with the service traversing Inglewood Boulevard, Washington Boulevard and, Washington Street to serve Venice High School. Line 2 also serves the Fox Hills Transit Center where patrons are offered the opportunity to transfer to the remainder of the regional buses.

The Village at Playa Vista mitigation program would add one bus to Line 2 during the morning and afternoon peak periods. This would allow service headways to be reduced to 30-minute headways from the current 60-minute service.

In addition to serving current demand levels, it would take only a small route adjustment in the area of Inglewood/Jefferson to provide direct service into the most concentrated portion of the Playa Vista employment base within the adjacent Playa Vista First Phase employment area. Thus, transit service added to the Culver City Line 2 would serve existing north-south demand along Centinela Avenue / Inglewood Avenue travel corridors as well as anticipated Playa Vista demand.

Regional Bus -- Extended Transit Service

Culver City Line 4 – Line 4 provides service between Fox Hills Mall Transit Center and the West Los Angeles Transit Center using the Sepulveda Boulevard and Jefferson Boulevard travel corridors. The proposed mitigation program proposes to extend this route to the Playa del Rey area. This service provides passengers two major transfer points at the Fox Hills Mall and the West Los Angeles Transit Centers where connections to the regional transit system are available.

The Village at Playa Vista mitigation program proposes to add one bus for peak period service and one bus for all day service on this route so that headways can be reduced and so that the geographic coverage of the route can be expanded. The intent is to extend the route along Jefferson Boulevard to the west of the Fox Hills Transit Center so that it traverses the length of the Village at Playa Vista and the Playa Vista First Phase project. The extended Line 4 service would parallel the Playa Vista shuttle service that would run in an east-west direction along Runway Road. The Line 4 extended service would offer Playa Vista residents and employees an additional connection to the Fox Hills Transit Center and a direct connection to the West Los Angeles Transit Center.

Culver City Bus would likely test the westerly extension of the route to determine the appropriate bus stop locations and the routing of the bus. The westerly terminus of the route would be in Playa del Rey, Marina del Rey or the western portion of Playa Vista depending on the patronage generated.

While the Line 4 buses are not completely full today, the additional coverage offered by the extended route is expected to offer enough service to an area that will have sufficient residential and employment density to meet the patronage projections for this route. Additionally, connections to regional transit buses offering service to major destinations including Century City, Westwood, Beverly Hills and downtown Los Angeles with coordinated transfer possibilities will offer the required market area to meet the patronage projections for this route.

Regional Bus – New Service

The Village at Playa Vista mitigation program would provide two additional buses for the implementation of a Limited Stop Bus Service (to be operated by the Culver City Bus) during peak hours. Service frequency would be approximately 30 minutes during the peak hours.

This Limited Stop Bus would originate from the Fox Hills Mall Transit Center and would travel along the Jefferson, Centinela, Sepulveda, and Century Boulevard corridors. Area served would include the office, studio and residential uses within the Village at Playa Vista and the adjacent First Phase Playa Vista project, the retail, office and entertainment complex at Howard Hughes Center, downtown Westchester, and the Century Boulevard Office Corridor.

The Limited Stop Bus Service would offer connections and potentially coordinated transfers with other regional bus service and the Playa Vista intelligent internal shuttle.

Since this is proposed as a new transit service in the area, no current patronage levels are available to examine. However, the mitigation credit taken as part of the Village at Playa Vista assumes only 76 peak hour automobile trips would be reduced as a result of the new service. A total of 10,400 peak hour person trips (4,400 in the a.m. and 6,000 in the p.m. peak hour) are moving in the corridor served by the new service. Thus, the mode split shift to transit is a very conservative mode split assumption given the high volume of travel demand projected in this corridor.

Shuttle Bus Program – Extended Service

The Village at Playa Vista would extend and expand the Internal Shuttle System, creating an intelligent demand-responsive Expanded Shuttle System, which provides enhanced transit service for Village residents, visitors, employees, and the surrounding community. The expanded service would focus on providing connections to key destinations such as Marina del Rey, Howard Hughes Center, and the Fox Hills Mall. Connections to regional transit service shall be provided at Lincoln Boulevard/Jefferson Boulevard and Fox Hills Mall Transit Center. This shuttle will consist of the following key features:

Core Service Area – The central portion of the service area includes the area within the Village at Playa Vista as well as Playa Vista First Phase Project sites. This core service area shall be continuously served by a core route along Runway Road from Crescent Park on the west side of the development to the Campus on the east. Minimum 15 minute-headways shall be provided during the daytime and evening hours along this core route. Key neighboring destinations including Marina Del Rey, Fox Hills Mall and Howard Hughes Center will be included as part of the demand-responsive component within the service area.

Specially Equipped Buses – Buses shall be low emission or zero emission buses sized appropriate to their role within the project (approximately 20-25 passenger vehicles). The buses shall be equipped with GPS (global positioning system) or other vehicle tracking system devices and communications systems in order to be able to provide the "Next Bus" location and status information and to respond to calls from the extended service areas on a real-time basis.

"Next Bus" Real Time Information – Information on bus location and status shall be available over the internet and at bus shelters.

Bus Call Ability – Patrons at bus stops outside of the central system core shall

have the ability to call for the shuttle bus at the bus stop; whereby the shuttle operator would proceed to the requested location. Information on the status of the bus and the anticipated wait time would then be given to the patron.

CALCULATION OF EFFECTIVENESS

Calculation Methodology

To quantify the potential effects of the additional bus service on the key intersections along each corridor the number of bus seats added to the corridor were converted to automobile trips diverted to transit. The number of bus seats added to the corridor was divided by the typical auto occupancy to determine the number of automobile trips that might be diverted to transit. The calculation was as follows:

$$\frac{\text{Number of new bus seats}}{1.2 \text{ persons/auto trip}} = \text{Number of auto trip reduced}$$

One to two additional bus trips per hour would be added to the four corridors where buses would be added to the Culver City Bus routes. The additional shuttle bus service would also add one to two bus trips per hour to the external destinations (Marina del Rey, Howard Hughes Center, and Fox Hills Transit Center).

The total auto trips reduced by the new transit service were calculated as listed below:

<u>Line</u>	<u>Auto Trips Reduced</u>
Line 2	38 trips
Line 4	76 trips
Line 6	38 trips
New Sepulveda Limited	76 trips
Shuttle	21 trips

Corridor Travel Demand and Resulting Mode Split Calculation

The Playa Vista travel demand model was investigated to determine the peak hour travel demand along each of the routes. Table F3 shows the total travel demand within walking distance of each of the corridors served by the bus routes where new service will be added by the Village at Playa Vista project.

As discussed previously, the Los Angeles Congestion Management Plan suggests that a 3.5% mode split to transit is a reasonable projection for mode shift to transit. As shown in Table F3, the auto trips reduced by the addition of transit service range from a low of 1% along Line 2 in the afternoon peak hour to a maximum of 3.3% along Line 4 in the morning peak hour. All mode split shifts fall within the Los Angeles CMP range.

EXAMPLES OF INCREASED TRANSIT RIDERSHIP RESULTING FROM INCREASED SERVICE

Examples of increased transit ridership resulting from increased service are well documented within the transit industry. One of the most recent examples of ridership increases resulting from increased service is the Bus Rapid Transit (BRT) improvement in Los Angeles County. New BRT service along the Wilshire Boulevard and the Ventura Boulevard corridors has dramatically increased ridership. Ridership levels before the addition of BRT service totaled 63,500 passengers per day along Wilshire. This ridership increased to 90,300 passengers per day after the implementation of the increased service, and increase of 42%⁴. The Ventura line also experienced ridership increases from 13,500 passengers per day to 17,100 passengers per day after implementation of the new service, an increase of 27%.

The implementation of the Wilshire and the Ventura BRT systems was so successful that the Los County MTA is planning to implement similar increased service in other corridors in the county. Lincoln Boulevard, Sepulveda Boulevard and Manchester Boulevard are three corridors within the Village at Playa Vista Project study area that are scheduled to have Bus Rapid Transit service implemented within the next five to seven years.

In Miami Florida, the addition of service on the South Miami-Dade Busway attracted new riders to the service. Even after the Busway had been in operation for many years, passenger surveys showed that 67% of the riders were not former Miami-Dade Transit system users and that the new service offered by the busway was a major reason to start using public transit.⁵

Premium bus service such as LA MTA's Bus Rapid Transit and Miami-Dade's Busway are not the only bus service that experiences ridership as a result of increased service. Transit surveys in Orange County, California found that the heaviest bus ridership levels were generated in the central portion of the county where the bus transit service was the most frequent and geographic coverage was the most extensive.⁶ In June 2002, Orange County Transportation Authority announced service expansions/enhancements to 11 local bus routes. The press release indicated that OCTA expected to increase annual ridership by 429,000 passengers as a result of these service enhancements.⁷

The Santa Cruz Metropolitan Transit District experienced an 8.2% increase in ridership during the first quarter of FY01 as a result of an increase of 8.9% in vehicle hours of service. The increase in hours of service was along the local bus routes in the MTD District.⁸

⁴ Final Report, Los Angeles Metro Rapid Demonstration Project, Los Angeles County Metropolitan Transportation Authority, Los Angeles Department of Transportation, Transportation Management & Design, Inc. February 2002, page 6

⁵ South Miami-Dade Busway On-Board Survey Project, National BRT Institute, Center for Urban Transportation Research, July 2002, pg. 28

⁶ Integrating Geographic Information Systems with Transit Survey Methodology, Barnali Barua, et. al., Transportation Research Record 1753, January 2001, pg. 34

⁷ OCTA Press Release, June 7, 2002

⁸ FY01 Performance Report, Santa Cruz MTD, February 22, 2000

Shuttle bus service at San Jose State University experienced increased ridership as service was increased. Increased bus service (in terms of bus frequency) resulted in more students and faculty/staff being willing to park in remote parking lots away from the main campus.

Increased shuttle bus frequency between the Rose Bowl and remote parking in Old Pasadena resulted in increased usage of the remote parking lots for Rose Bowl events.

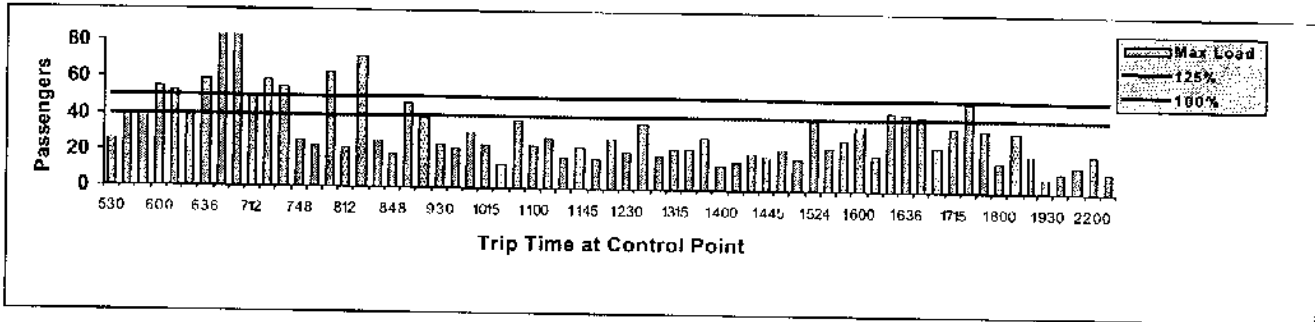
LADOT DASH buses have adjusted routes and frequencies to reflect changes in population and employment distribution in the areas served by the various DASH routes. This pattern of evaluating and adjusting bus service levels is similar to the ongoing evaluation that will take place as the Village at Playa Vista and First Phase Playa Vista grow.

**Figure F1-A
Loading Analysis**

**Culver CityBus 6
Sepulveda Blvd.**

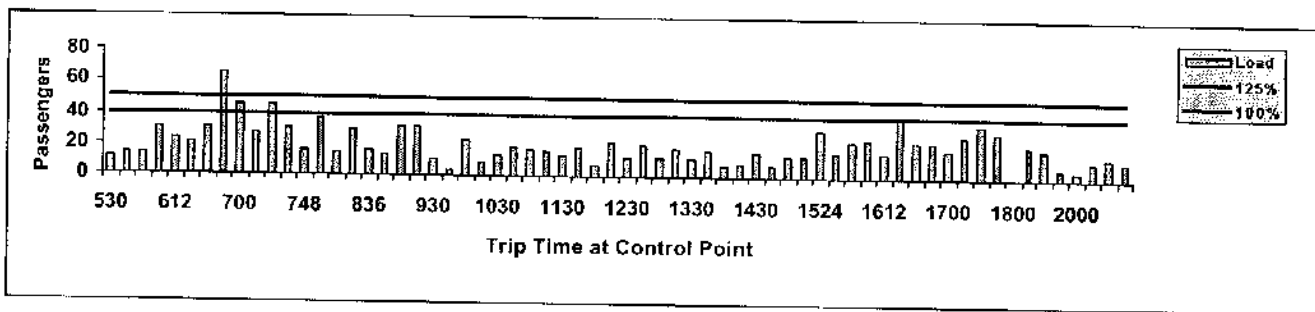
**Northbound
Weekday**

MAXIMUM LOAD PER TRIP - ALL STOPS

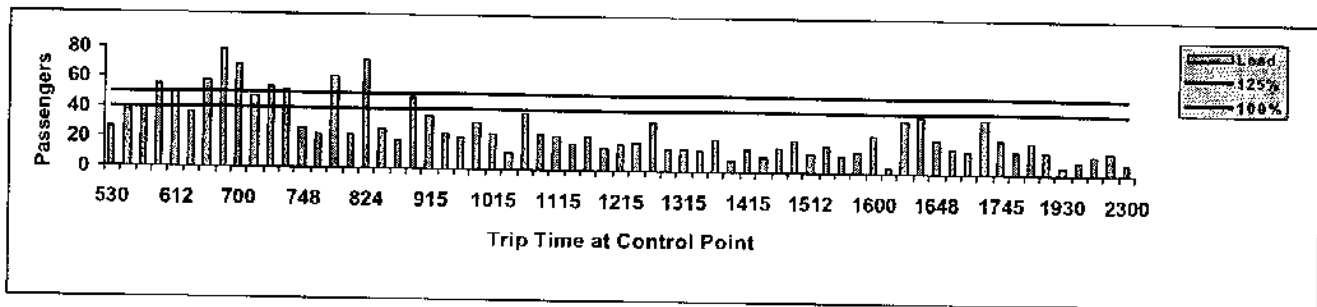


LOAD ANALYSIS BY TRIP

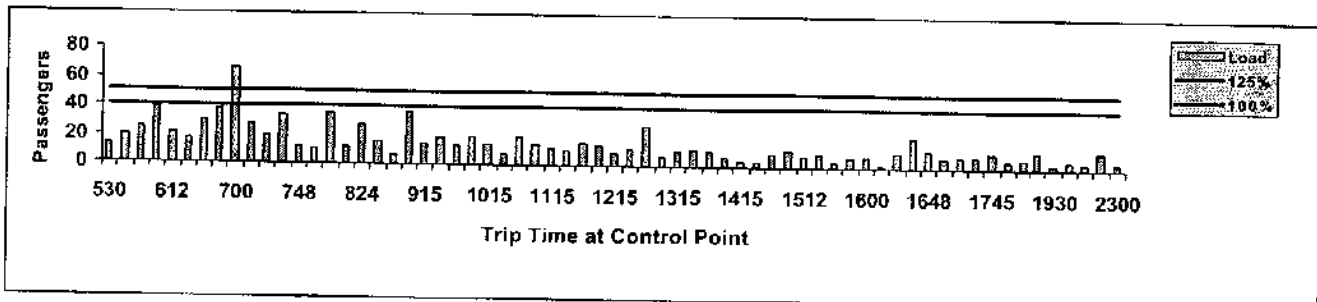
Fox Hills Mall Transit Center



Sepulveda Blvd & Queensland St



Sepulveda Blvd & Santa Monica Blvd

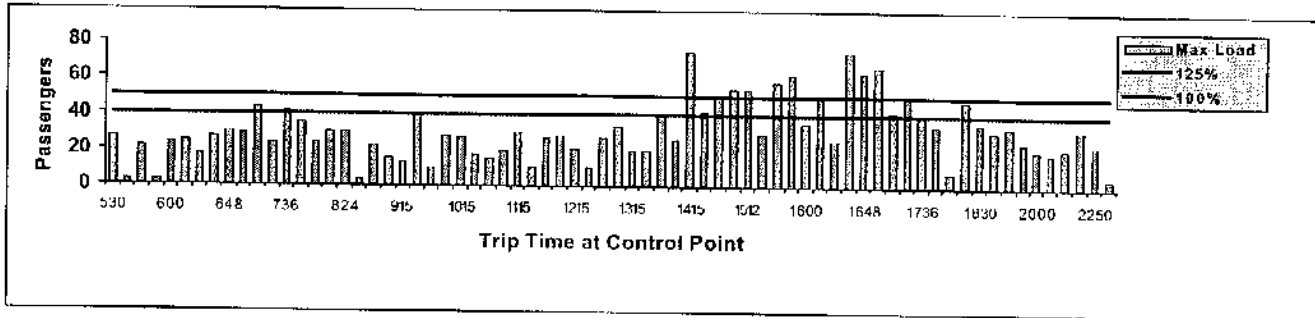


**Figure F1-B
Loading Analysis**

**Culver CityBus 6
Sepulveda Blvd.**

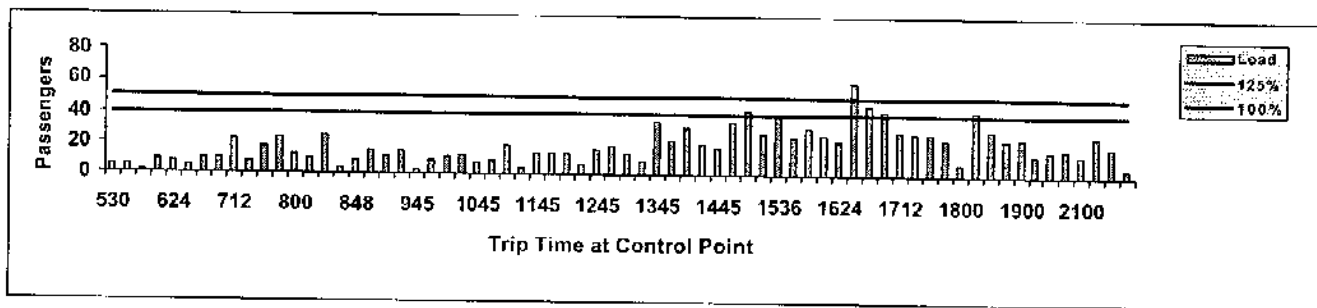
**Southbound
Weekday**

MAXIMUM LOAD PER TRIP - ALL STOPS

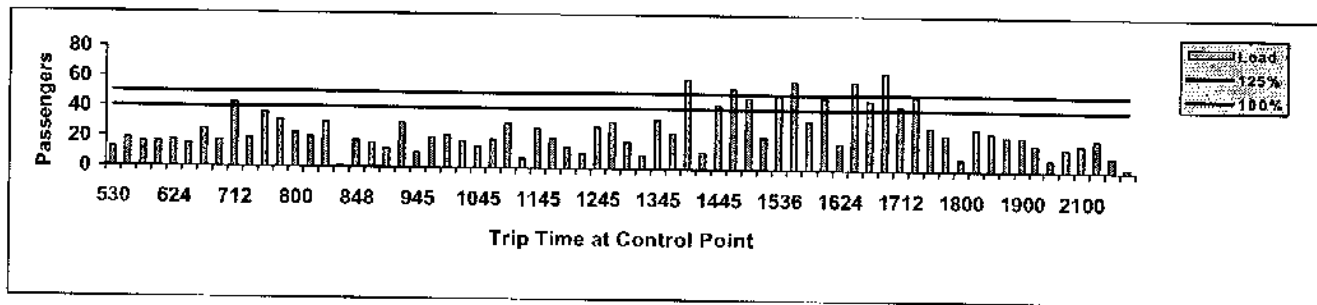


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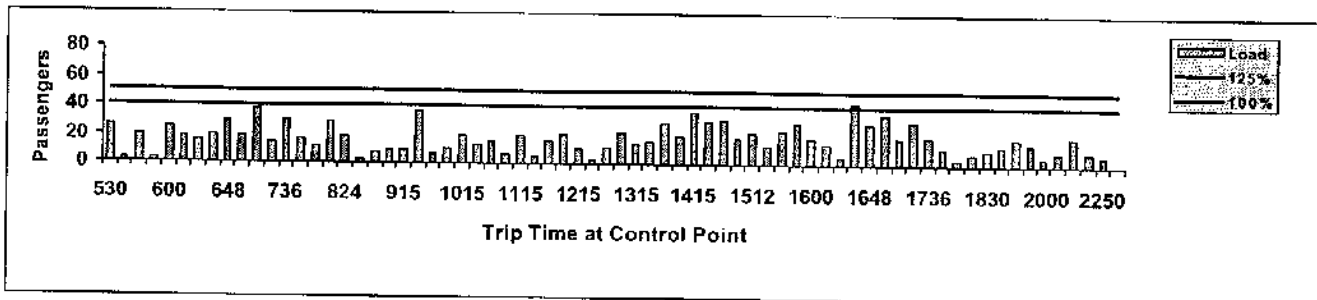
Sepulveda Blvd & Santa Monica Blvd



Sepulveda Blvd & Venice Blvd



Fox Hills Mall Transit Center

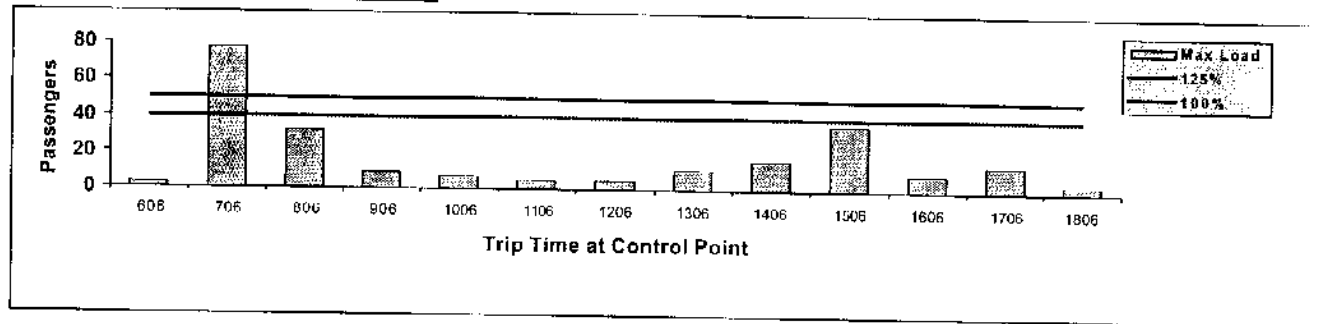


**Figure F2-A
Loading Analysis**

**Culver CityBus 2
Sunkist Park**

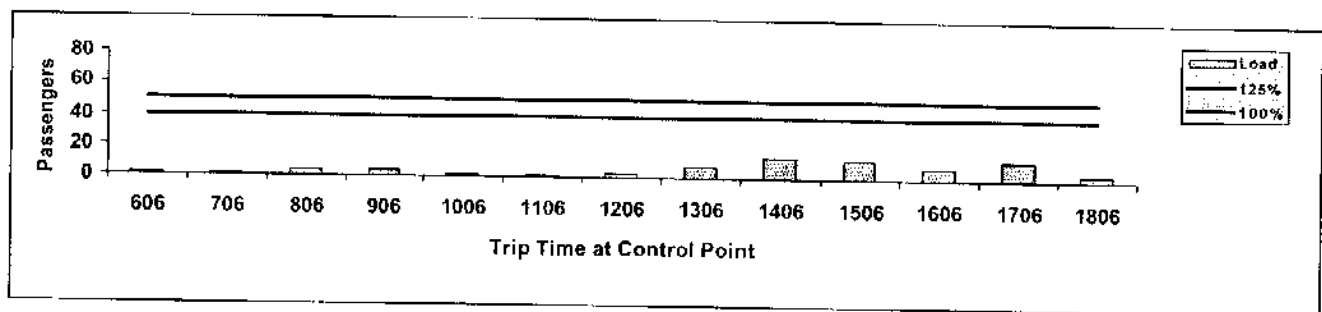
**Westbound
Weekday**

MAXIMUM LOAD PER TRIP - ALL STOPS

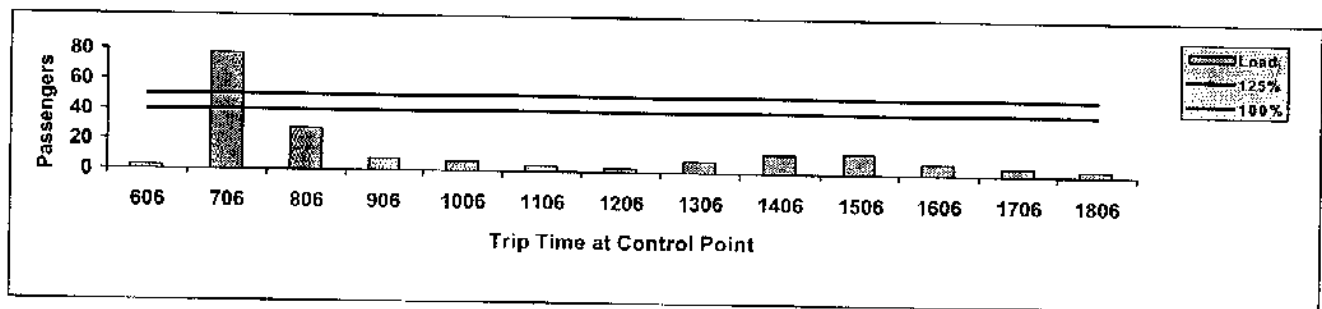


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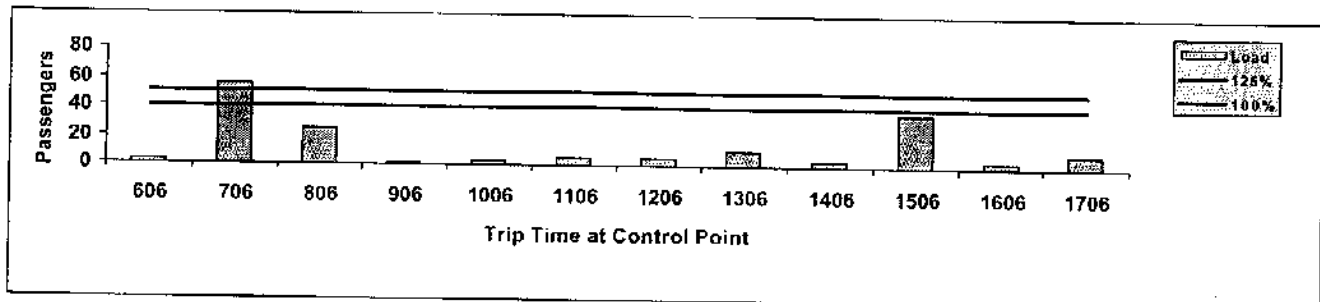
Fox Hills Mall Translt Center



Inglewood Blvd & Braddock Dr



Washington Blvd & Glencoe Ave

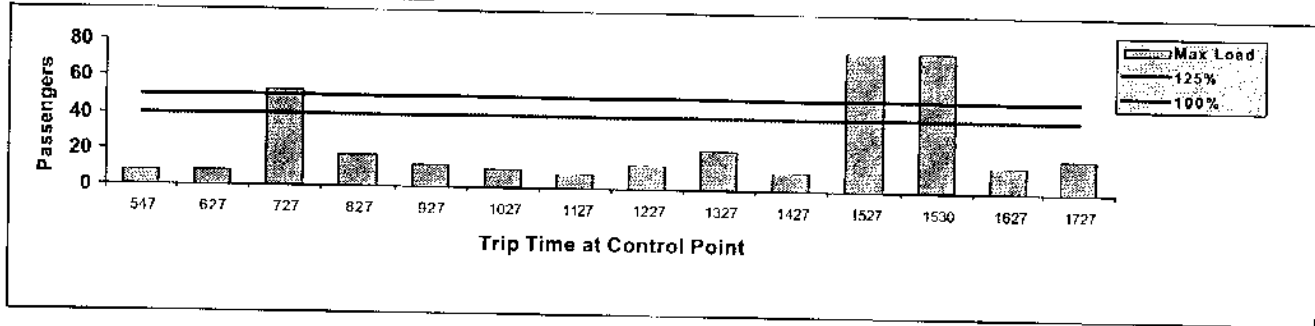


**Figure F2-B
Loading Analysis**

**Culver CityBus 2
Sunkist Park**

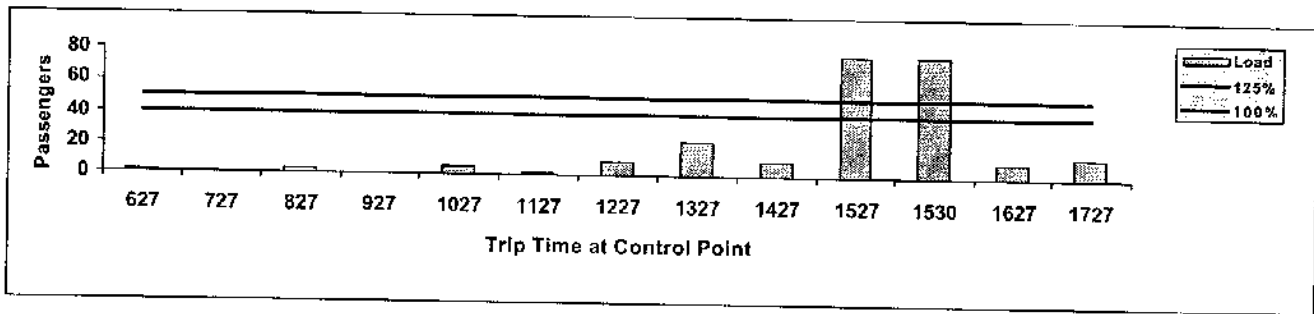
**Eastbound
Weekday**

MAXIMUM LOAD PER TRIP - ALL STOPS

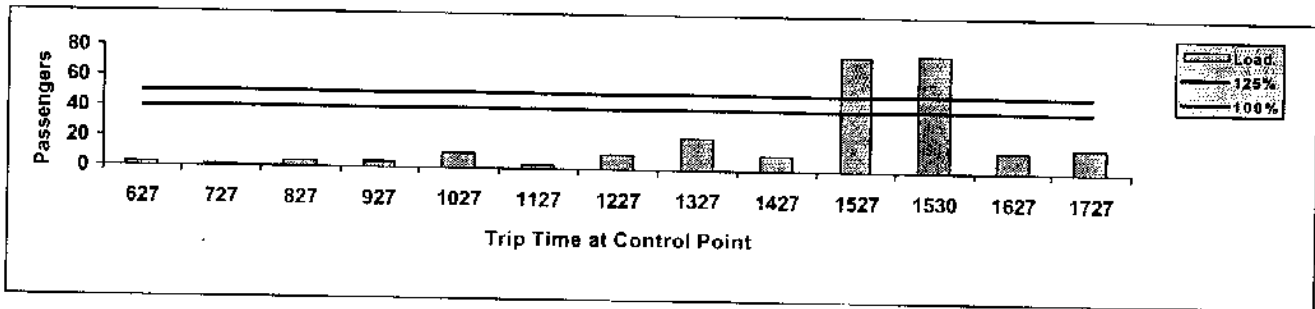


LOAD ANALYSIS BY TRIP

Venice Blvd @ Venice High School



Washington Blvd & Grandview Ave



Inglewood Blvd & Braddock Dr

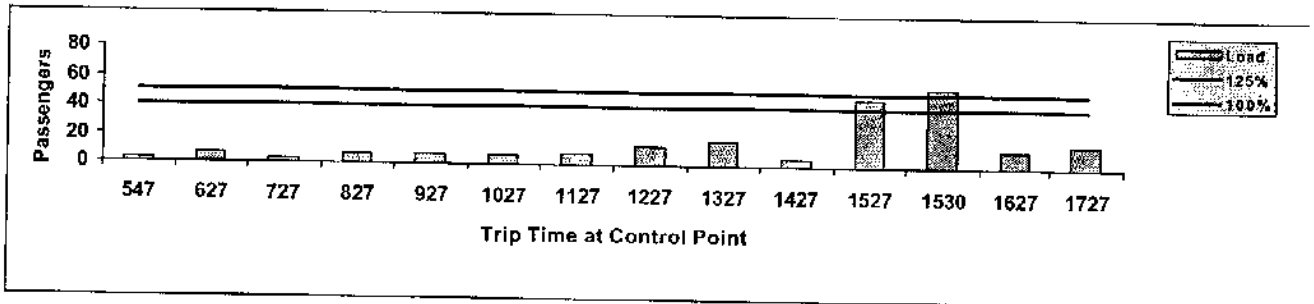


Table F1
The Village at Playa Vista
Analysis of Transit Market Potential

Interchange Descriptions	A.M. Peak Hour Trips		P.M. Peak Hour Trips	
	Total Vehicle Trips	Total Person Trips	Total Vehicle Trips	Total Person Trips
Playa Vista to Playa Vista interchanges	382	535	298	418
Playa Vista to Sepulveda Boulevard North	189	264	249	348
Playa Vista to Sepulveda Boulevard South	181	253	250	350
Playa Vista to Marina del Rey	50	70	73	102
Playa Vista to Century Boulevard Office Corridor	94	132	459	643
Playa Vista to LMU & Playa del Rey	36	51	72	101
Playa Vista to Centinela/Inglewood Corridor North	90	127	173	242
Sepulveda BI North to Playa Vista	123	172	164	230
Sepulveda BI North to Sepulveda Boulevard North	913	1278	1247	1745
Sepulveda BI North to Sepulveda Boulevard South	166	232	197	276
Sepulveda BI North to Marina del Rey	62	86	126	176
Sepulveda BI North to Century BI Corridor	100	140	136	190
Sepulveda BI North to LMU & Playa Del Rey	23	33	35	49
Sepulveda BI North to Centinela/Inglewood North	177	248	306	428
Sepulveda BI South to Playa Vista	94	131	159	222
Sepulveda BI South to Sepulveda Boulevard North	122	171	206	289
Sepulveda BI South to Sepulveda Boulevard South	154	216	224	314
Sepulveda BI South to Marina del Rey	31	44	74	104
Sepulveda BI South to Century BI Corridor	234	327	188	263
Sepulveda BI South to LMU & Playa Del Rey	23	32	39	55
Sepulveda BI South to Centinela/Inglewood North	63	88	122	171
Marina Del Rey to Playa Vista	50	70	74	103
Marina Del Rey to Sepulveda BI North	141	197	106	148
Marina Del Rey to Sepulveda BI South	83	116	64	89
Marina Del Rey to Marina Del Rey	392	548	575	805
Marina Del Rey to Century BI Corridor	114	159	116	163
Marina Del Rey to LMU & Playa del Rey	40	56	43	60
Marina Del Rey to Centinela/Inglewood Corridor	234	328	249	348
Century BI Corridor to Playa Vista	91	128	404	566
Century BI Corridor to Sepulveda BI North	90	126	225	316
Century BI Corridor to Sepulveda BI South	137	192	301	422
Century BI Corridor to Marina Del Rey	48	68	214	299
Century BI corridor to Century BI Corridor	1512	2117	1290	1806
Century BI Corridor to LMU & Playa del Rey	64	89	189	264
Century BI Corridor to Centinela/Inglewood Corridor	83	116	273	382
LMU & Playa del Rey Corridor to Playa Vista	44	61	38	53
LMU & Playa del Rey Corridor to Sepulveda BI North	30	42	31	43
LMU & Playa del Rey Corridor to Sepulveda BI South	36	50	35	49
LMU & Playa Del Rey Corridor to Marina Del Rey	27	38	44	61
LMU & Playa del Rey corridor to Century BI Corridor	188	263	102	143
LMU & Playa del Rey Corridor to LMU & Playa del Rey	20	28	28	40
LMU & Playa Del Rey to Centinela/Inglewood Corridor	37	52	47	66
Centinela Ave/Inglewood BI Corridor to Playa Vista	175	245	94	131
Centinela Ave/Inglewood BI to Sepulveda BI North	250	350	289	405
Centinela/Inglewood BI Corridor to Sepulveda BI South	105	146	113	158
Centinela/Inglewood BI Corridor to Marina Del Rey	128	179	263	368
Centinela/Inglewood BI corridor to Century BI Corridor	121	169	152	213
Centinela/Inglewood BI Corridor to LMU & Playa del Rey	32	45	50	70
Centinela/Inglewood to Centinela/Inglewood Corridor	288	403	458	641

Table F2
The Village at Playa Vista
Transit Potential Assessment and Selection of Candidate Corridors

Interchange Descriptions	A.M. Peak Hour		P.M. Peak Hour		Identification of Corridors & Routes
	Total Person	Trips	Total Person	Trips	
LMU & Playa Del Rey to Centinela/Inglewood Corridor	52		66		Service provided by Internal Shuttle & CC-2
Centinela/Inglewood BI Corridor to LMU & Playa del Rey	45		70		Service provided by Internal Shuttle & CC-2
Centinela Ave/Inglewood BI Corridor to Playa Vista	245		131		Service provided by Internal Shuttle & CC-2
Centinela/Inglewood BI Corridor to Sepulveda BI South	146		158		Service provided by CC-2 & Limited Stop Bus
Sepulveda BI South to Centinela/Inglewood North	88		171		Service provided by Limited Stop Bus & CC-2
Centinela/Inglewood BI corridor to Century BI Corridor	169		213		Service provided by Limited Stop & CC-2
Playa Vista to Centinela/Inglewood Corridor North	127		242		Service provided by Internal Shuttle & CC-2
Marina Del Rey to Centinela/Inglewood Corridor	328		348		Service provided by Internal Shuttle & CC-2
Centinela/Inglewood BI Corridor to Marina Del Rey	179		368		Service provided by Internal Shuttle & CC-2
Century BI Corridor to Centinela/Inglewood Corridor	116		382		Service provided by Limited Stop & CC-2
Centinela Ave/Inglewood BI to Sepulveda BI North	350		405		Service provided by CC-2 & CC-6
Centinela/Inglewood to Centinela/Inglewood Corridor	403		641		Service provided by CC-2
Sepulveda BI North to Centinela/Inglewood North	248		428		Service provided by CC-2 & CC-6
Potential Ridership on CC-2 @ 3.5% MS	2496		3622		Credit taken equates to AM:1.75%MS & PM:1%MS
	87		127		& includes transfers
Marina Del Rey to Sepulveda BI North	197		148		Service provided by Internal Shuttle & CC-6
Sepulveda BI North to Marina del Rey	86		176		Service provided by Internal Shuttle & CC-6
Sepulveda BI North to Century BI Corridor	140		190		Service provided by CC-4 & CC-6; Limited Stop Bus
Sepulveda BI North to Playa Vista	172		230		Service provided by Internal Shuttle CC-4 & CC-6
Playa Vista to Sepulveda BI North	264		348		Service provided by Internal Shuttle CC-4 & CC-6
Sepulveda BI South to Sepulveda Boulevard North	171		289		Service provided by Limited Stop Bus & CC-6
Sepulveda BI North to Sepulveda Boulevard South	232		276		Service provided by Limited Stop Bus & CC-6
Century BI Corridor to Sepulveda BI North	126		316		Service provided by Limited Stop Bus & CC-6
Sepulveda BI North to Sepulveda Boulevard North	1278		1745		Service provided by CC-4 & CC-6
Potential Ridership on CC-6 @ 3.5% MS	2666		3717		Credit taken equates to AM:1.75%MS & PM:3.1%MS
	93		130		& includes transfers

Table F2
The Village at Playa Vista
Transit Potential Assessment and Selection of Candidate Corridors

Interchange Descriptions	A.M. Peak Hour		P.M. Peak Hour		Identification of Corridors & Routes
	Total Person	Trips	Total Person	Trips	
LMU & Playa del Rey Corridor to LMU & Playa del Rey	28		40		Service provided by Internal Shuttle
LMU & Playa del Rey Corridor to Playa Vista	61		53		Service provided by Internal Shuttle
Playa Vista to LMU & Playa del Rey	51		101		Service provided by Internal Shuttle
Marina Del Rey to LMU & Playa del Rey	56		60		Service provided by Internal Shuttle
LMU & PDR to MDR	38		61		Service provided by Internal Shuttle
Playa Vista to Marina del Rey	70		102		Service provided by Internal Shuttle
Marina Del Rey to Playa Vista	70		103		Service provided by Internal Shuttle
Playa Vista to Playa Vista interchanges	535		418		Service provided by Internal Shuttle
Marina Del Rey to Marina Del Rey	548		805		Service provided by Internal Shuttle
Linked Trips to and from other routes	2505		3214		Service provided by Internal Shuttle
Overall Market for Internal Shuttle	3962		4957		
Potential Ridership on Internal Shuttle @ 3.5% MS	139		173		Includes linked trips.
LMU & Playa del Rey Corridor to Sepulveda BI North	42		53		Service provided by Internal Shuttle & CC-6, CC-4
Sepulveda BI North to LMU & Playa del Rey	33		49		Service provided by Internal Shuttle; CC-4 & CC-6
Marina del Rey to Sepulveda BI North	66		49		Service provided by Internal Shuttle & CC-4
Sepulveda BI North to Marina del Rey	86		176		Service provided by Internal Shuttle CC-4 & CC-6
Playa Vista to Sepulveda Boulevard North	264		348		Service provided by Internal Shuttle CC-4 & CC-6
Sepulveda BI North to Playa Vista	172		230		Service provided by Internal Shuttle CC-4 & CC-6
Linked Trips and transfers	1590		2228		Service provided by Internal Shuttle CC-4 & CC-6
Overall Market for CC-4	2253		3133		Credit taken equates to AM:1.75%MS & PM:1%MS
Potential Ridership on CC-4 @ 3.5% MS	79		110		& includes transfers
LMU & Playa del Rey Corridor to Sepulveda BI South	50		49		Service provided by Internal Shuttle & Limited Stop Bus
Sepulveda BI South to LMU & Playa del Rey	32		55		Service provided by Internal Shuttle & Limited Stop Bus
Marina Del Rey to Sepulveda BI South	116		89		Service provided by Internal Shuttle & Limited Stop Bus
Sepulveda BI South to Marina del Rey	44		104		Service provided by Internal Shuttle & Limited Stop Bus
Marina Del Rey to Century BI Corridor	159		163		Service provided by Internal Shuttle & Limited Stop Bus
Sepulveda BI South to Playa Vista	131		222		Service provided by Limited Stop Service
Sepulveda BI South to Century BI Corridor	327		263		Service provided by Limited Stop Service
Sepulveda BI North to Sepulveda Boulevard South	232		276		Service provided by CC-4 & CC-6; Limited Stop Bus
Sepulveda BI South to Sepulveda BI North	171		289		Service provided by CC-4 & CC-6; Limited Stop Bus
Century BI Corridor to Marina Del Rey	68		299		Service provided by Internal Shuttle & Limited Stop Bus
Sepulveda BI South to Sepulveda Boulevard South	216		314		Service provided by Limited Stop Service & CC-6
Playa Vista to Sepulveda Boulevard South	253		350		Service provided by Limited Stop Service
Century BI Corridor to Sepulveda BI South	192		422		Service provided by Limited Stop Service & CC-6
Century BI Corridor to Playa Vista	128		566		Service provided by Limited Stop Service
Playa Vista to Century Boulevard Office Corridor	132		643		Service provided by Limited Stop Service
Century BI Corridor to Century BI Corridor	2117		1806		Service provided by Limited Stop Service
Overall Market for Limited Stop Bus	4368		5910		Credit taken equates to AM:1.9%MS & PM:1.4%MS
Potential Ridership on Limited Stop Bus @ 3.5% MS	153		207		& includes transfers

Table F3

The Village at Playa Vista
Summary of O-D Analysis & Transit Evaluation

Transit Bus Route	Proposed Improvement	Person Trip Travel in Corridor in Peak Direction		Potential Ridership based on O-D trips analysis & 3.5% Transit Mode Split (per LACMP)		Credit taken in PV Analysis - Trips & % Mode Split (MS)	
		A.M. Peak	P.M. Peak	A.M. Peak	P.M. Peak	A.M. Peak	P.M. Peak
Limited Bus Route	Add 2 buses - 30 min frequency	4,370	5,910	153 trips	207 trips	76 trips 1.7% MS	76 trips 1.3% MS
CC Line 2	Add 1 bus for 30 min frequencies overall	2,495	3,625	87 trips	127 trips	38 trips 1.5% MS	38 trips 1% MS
CC Line 4	Add 2 buses to Line 4 & extension	2,255	3,135	79 trips	110 trips	76 trips 3.4% MS	76 trips 2.4% MS
CC Line 6	Add 1 bus to get 10 min frequencies	2,665	3,720	93 trips	130 trips	38 trips 1.4% MS	38 trips 1% MS
Extended Internal Shuttle	Add shuttle buses to increase internal service and serve external sites	3,960	4,960	139 trips	173 trips	21 trips 0.5% MS	21 trips 0.4% MS