

## **Appendix D Traffic Study**





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**CITY OF NEWPORT BEACH  
GENERAL PLAN TRANSPORTATION STUDY  
NEWPORT BEACH, CALIFORNIA**

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**CITY OF NEWPORT BEACH  
GENERAL PLAN TRANSPORTATION STUDY**

**ES.0 EXECUTIVE SUMMARY**

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This Executive Summary concisely summarizes all of the information in the Newport Beach General Plan Transportation Study (Urban Crossroads, Inc., March, 2006). For full details, the reader should also review the main body of the report. This report summarizes the Existing conditions and buildout alternatives traffic analysis completed for the City of Newport Beach General Plan update. Existing conditions are described and two General Plan buildout alternatives are evaluated: Without Project (buildout of existing General Plan) and With Project (buildout of proposed General Plan) conditions.

The buildout alternatives are analyzed using a roadway system that incorporates the constrained roadway network (with only those improvements from the currently adopted General Plan Circulation Element that have not been deemed “uncertain”), with the addition of the 19th Street bridge over the Santa Ana River, and the widening of Coast Highway through Mariner’s Mile. Alternative modes of transport are also discussed in the report.

**ES.1 Trip Generation**

Trip generation is the initial step in determining future traffic conditions. Trip distribution (where people are going) and traffic assignment (what route, what time of day, and even what direction people are going) are equally important parts of the traffic forecasting process.

The potentially beneficial effects achieved through improved mixes of complimentary land use leads to the true measure of future traffic volumes and, most importantly, intersection peak hour operations. As demonstrated in subsequent sections of this report, the slightly increased trip generation for the

With Project scenario compared to the Without Project (currently adopted General Plan) scenario actually results in a decrease in the number of projected intersection deficiencies (with no improvements to the roadway system) and a reduced list of the needed roadway improvements.

Trip generation calculations have been performed for existing, Without Project, and With Project scenarios. Tables ES-1 through ES-3 summarize the results of this analysis for daily, AM peak hour, and PM peak hour conditions, respectively. Citywide trip generation for the Without Project scenario is projected to increase by 27%. For the With Project scenario, trip generation is expected to increase by 31%, a difference of 4%. Existing represents 2002 conditions, consistent with the rest of the Environmental Impact Report. Existing differs slightly from previously published reports as the data sets continue to be reviewed, refined, updated, and generally improved. Increased trip generation / volume may not necessarily increase congestion. The effects are dependent on many other factors, including peaking characteristics of traffic, directional split, even quantity of cross-street traffic.

Trip generation rates were derived during the Newport Beach Traffic Model update to reflect conditions in Newport Beach. In Coastal areas, residential uses were found to generate less traffic than in other areas of the City. Daily Coastal trip generation is approximately 85 to 87% of trip generation in the majority of the City. Therefore, an adjustment of approximately 12 to 15% was made in trip generation for land uses in this area as part of the traffic model validation and is reflected in the General Plan Transportation Study.

The analysis documented herein is a series of steps that lead, ultimately, to the real meaning: How does the system work during peak traffic hours, with the recommended / planned improvements?

This is the real measure of performance, not changes in trip generation or traffic volumes.

TABLE ES-1

DAILY TRIP GENERATION SUMMARY

AREA	EXISTING	CURRENTLY ADOPTED GENERAL PLAN			WITH PROJECT		
		TRIPS	GROWTH	% GROWTH	TRIPS	GROWTH	% GROWTH
AIRPORT	99,667	117,430	17,763	17.8%	128,638	28,971	29.1%
BALBOA VILLAGE	18,733	19,981	1,248	6.7%	20,849	2,116	11.3%
BANNING RANCH	73	22,075	22,002	30139.7%	14,296	14,223	19483.6%
CANNERY VILLAGE	13,051	14,190	1,139	8.7%	10,342	-2,709	-20.8%
CORONA DEL MAR	45,707	54,431	8,724	19.1%	54,534	8,827	19.3%
LIDO VILLAGE	12,748	13,871	1,123	8.8%	15,653	2,905	22.8%
MARINERS MILE	43,137	51,410	8,273	19.2%	55,576	12,439	28.8%
MCFADDEN SQUARE	7,496	8,490	994	13.3%	12,988	5,492	73.3%
NEWPORT CENTER/FASHION ISLAND	103,075	110,372	7,297	7.1%	118,395	15,320	14.9%
OLD NEWPORT BOULEVARD	6,899	9,816	2,917	42.3%	14,073	7,174	104.0%
WEST NEWPORT HIGHWAY AND ADJOINING RESIDENTIAL	8,440	9,076	636	7.5%	9,901	1,461	17.3%
WEST NEWPORT MESA	26,265	46,038	19,773	75.3%	54,769	28,504	108.5%
<b>SUBAREA ALTERNATIVES TOTAL</b>	<b>385,291</b>	<b>477,180</b>	<b>91,889</b>	<b>23.8%</b>	<b>510,014</b>	<b>124,723</b>	<b>32.4%</b>
<b>REMAINDER OF CITY - 2002 EXISTING</b>	<b>375,934</b>	<b>488,531</b>	<b>112,597</b>	<b>30.0%</b>	<b>486,094</b>	<b>110,160</b>	<b>29.3%</b>
<b>REMAINDER OF CITY - 2005 EXISTING</b>	<b>418,702</b>	<b>488,531</b>	<b>69,829</b>	<b>16.7%</b>	<b>486,094</b>	<b>67,392</b>	<b>16.1%</b>
<b>CITY TOTAL - 2002 EXISTING</b>	<b>761,225</b>	<b>965,711</b>	<b>204,486</b>	<b>26.9%</b>	<b>996,108</b>	<b>234,883</b>	<b>30.9%</b>
<b>CITY TOTAL - 2005 EXISTING</b>	<b>803,993</b>	<b>965,711</b>	<b>161,718</b>	<b>20.1%</b>	<b>996,108</b>	<b>192,115</b>	<b>23.9%</b>

TABLE ES-2

AM PEAK HOUR TRIP GENERATION SUMMARY

AREA	EXISTING	CURRENTLY ADOPTED GENERAL PLAN			WITH PROJECT		
		TRIPS	GROWTH %	% GROWTH	TRIPS	GROWTH	% GROWTH
AIRPORT	8,875	10,178	1,303	14.7%	11,137	2,262	25.5%
BALBOA VILLAGE	1,474	1,595	121	8.2%	1,699	225	15.3%
BANNING RANCH	8	2,080	2,072	25900.0%	1,317	1,309	16362.5%
CANNERY VILLAGE	930	1,022	92	9.9%	755	-175	-18.8%
CORONA DEL MAR	3,721	4,413	692	18.6%	4,416	695	18.7%
LIDO VILLAGE	931	1,028	97	10.4%	1,102	171	18.4%
MARINERS MILE	3,521	4,160	639	18.1%	4,445	924	26.2%
MCFADDEN SQUARE	545	621	76	13.9%	949	404	74.1%
NEWPORT CENTER/FASHION ISLAND	8,523	9,042	519	6.1%	9,718	1,195	14.0%
OLD NEWPORT BOULEVARD	594	852	258	43.4%	1,189	595	100.2%
WEST NEWPORT HIGHWAY AND ADJOINING RESIDENTIAL	746	787	41	5.5%	854	108	14.5%
WEST NEWPORT MESA	2,564	4,590	2,026	79.0%	5,347	2,783	108.5%
<b>TOTAL</b>	<b>32,432</b>	<b>40,368</b>	<b>7,936</b>	<b>24.5%</b>	<b>42,928</b>	<b>10,496</b>	<b>32.4%</b>
<b>REMAINDER OF CITY - 2002 EXISTING</b>	<b>35,303</b>	<b>43,969</b>	<b>8,666</b>	<b>24.5%</b>	<b>43,672</b>	<b>8,369</b>	<b>23.7%</b>
<b>REMAINDER OF CITY - 2005 EXISTING</b>	<b>38,782</b>	<b>43,969</b>	<b>5,187</b>	<b>13.4%</b>	<b>43,672</b>	<b>4,890</b>	<b>12.6%</b>
<b>CITY TOTAL - 2002 EXISTING</b>	<b>67,735</b>	<b>84,337</b>	<b>16,602</b>	<b>24.5%</b>	<b>86,600</b>	<b>18,865</b>	<b>27.9%</b>
<b>CITY TOTAL - 2005 EXISTING</b>	<b>71,214</b>	<b>84,337</b>	<b>13,123</b>	<b>18.4%</b>	<b>86,600</b>	<b>15,386</b>	<b>21.6%</b>

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TABLE ES-3

PM PEAK HOUR TRIP GENERATION SUMMARY

AREA	EXISTING	CURRENTLY ADOPTED GENERAL PLAN			WITH PROJECT		
		TRIPS	GROWTH	% GROWTH	TRIPS	GROWTH	% GROWTH
AIRPORT	9,182	10,798	1,616	17.6%	11,752	2,570	28.0%
BALBOA VILLAGE	1,684	1,809	125	7.4%	1,889	205	12.2%
BANNING RANCH	7	1,990	1,983	28328.6%	1,285	1,278	18257.1%
CANNERY VILLAGE	1,180	1,279	99	8.4%	930	-250	-21.2%
CORONA DEL MAR	4,116	4,917	801	19.5%	4,925	809	19.7%
LIDO VILLAGE	1,158	1,263	105	9.1%	1,412	254	21.9%
MARINERS MILE	3,889	4,644	755	19.4%	5,014	1,125	28.9%
MCFADDEN SQUARE	678	763	85	12.5%	1,169	491	72.4%
NEWPORT CENTER/FASHION ISLAND	9,413	10,094	681	7.2%	10,819	1,406	14.9%
OLD NEWPORT BOULEVARD	622	885	263	42.3%	1,272	650	104.5%
WEST NEWPORT HIGHWAY AND ADJOINING RESIDENTIAL	760	816	56	7.4%	890	130	17.1%
WEST NEWPORT MESA	2,386	4,210	1,824	76.4%	5,000	2,614	109.6%
<b>TOTAL</b>	<b>35,075</b>	<b>43,468</b>	<b>8,393</b>	<b>23.9%</b>	<b>46,357</b>	<b>11,282</b>	<b>32.2%</b>
REMAINDER OF CITY - 2002 EXISTING	35,222	44,536	9,314	26.4%	44,338	9,116	25.9%
REMAINDER OF CITY - 2005 EXISTING	39,165	44,536	5,371	13.7%	44,338	5,173	13.2%
CITY TOTAL - 2002 EXISTING	70,297	88,004	17,707	25.2%	90,695	20,398	29.0%
CITY TOTAL - 2005 EXISTING	74,240	88,004	13,764	18.5%	90,695	16,455	22.2%

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This General Plan updated traffic analysis demonstrates that the proposed General Plan results in less congestion than we have today. This is a result of better land use planning, combined with more effective roadway improvements.

In conjunction with earlier analysis of land use alternatives, research was conducted to determine whether trip rate adjustments are appropriate for certain kinds of land uses being considered in the Newport Beach General Plan update. For mixed use developments, it was found that there is a range in trip generation savings of 10-40%. The adjustment applied for the Newport Beach General Plan Transportation Study is 10%, at the conservative end of research findings. High-rise apartments have been shown to generate up to and beyond 40% fewer trips than typical apartments. To portray a conservative worst case scenario, a factor of 20% is used for high-rise apartments in this General Plan Transportation Study.

## ES.2 Daily Traffic Volumes

The latest version of the Newport Beach Traffic Model (NBTM) has been used to evaluate each of the General Plan buildout alternatives. The model has been updated in this process to incorporate the most current demographic data available for areas outside the City of Newport Beach, and the most current income statistics available within the primary study area. Daily traffic volumes for Existing conditions is shown on Exhibit ES-A.

Peak season daily traffic volumes have been collected for select locations (primarily in coastal areas) of the City of Newport Beach. Daily traffic volume counts were collected over a one week period in August of 2003 for each selected roadway segment, and are included in Appendix "J". For each roadway segment selected for summertime counts, the highest typical weekday (Tuesday through Thursday) volume has been compared to the shoulder season count volume at the same location. All segments increase for summer conditions by at least 5% and as much



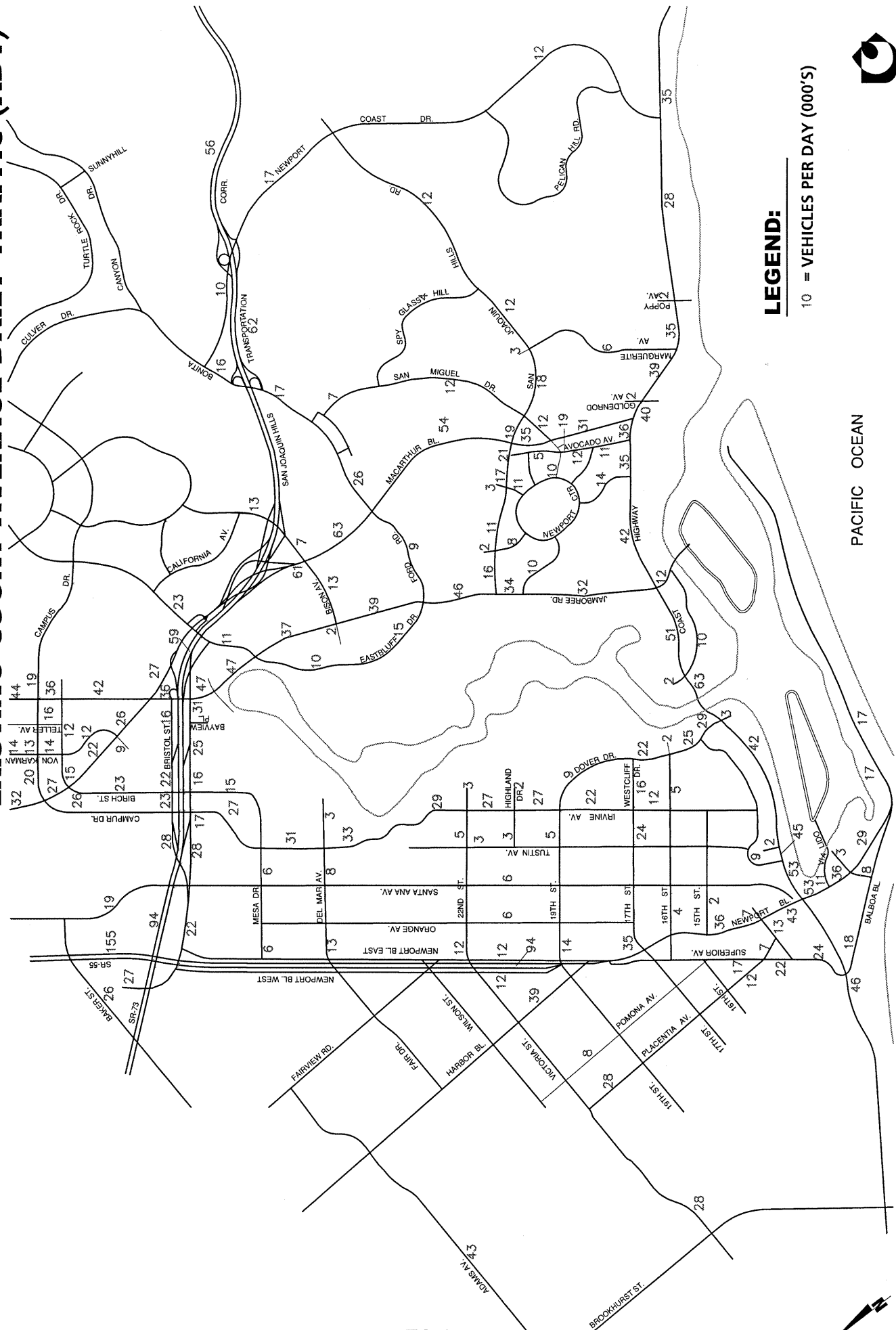
as 74%. The only location with a volume increase of more than thirty (30) percent is on Balboa Boulevard east of 20th Street on the Peninsula.

Review of the data clearly indicates that Newport Boulevard is the most popular and heavily impacted access route to the beach for summertime traffic. Jamboree Road and MacArthur Boulevard appear to be the least affected routes, with increases in traffic of between 5 and 10 percent. Newport Coast Drive experiences a higher percentage increase in summertime traffic, but the magnitude of the increase (approximately 3,400 vehicles per day) is very similar to the increase on MacArthur Boulevard north of Coast Highway. The traffic increases along Coast Highway itself are also less than the increases on routes leading to the beach, suggesting that people are oriented towards traveling to the beach/coast, rather than along it.

General Plan buildout Without Project and With Project daily traffic volumes are included in Exhibits ES-B and ES-C, respectively. Growth from Existing to Without Project and With Project conditions has been calculated. The majority of roadway segments increase by less than 10,000 vehicles per day (VPD). Roads expected to carry traffic increases greater than 10,000 vehicles per day are shown on Table ES-4 Without Project and on Table ES-5 With Project. In general, these roads are in the Airport Area or serve regional through traffic as well as local traffic. The only roadway experiencing growth in excess of 15,000 VPD is Newport Coast Drive for both Without and With Project conditions.

A comparison of the change in traffic from Without Project to With Project conditions has also been completed. In general, daily traffic volumes change by 1,000 vehicles per day (VPD) or less on most roadways from the Without to With Project conditions. Volumes on a few roadways (Birch Street, Coast Highway, Jamboree Road, and MacArthur Boulevard) change by as much as 3,000 VPD.

# EXHIBIT ES-A EXISTING COUNT AVERAGE DAILY TRAFFIC (ADT)



## LEGEND:

10 = VEHICLES PER DAY (000'S)



PACIFIC OCEAN



# CURRENTLY ADOPTED GENERAL PLAN BUILDOUT AVERAGE DAILY TRAFFIC (ADT)

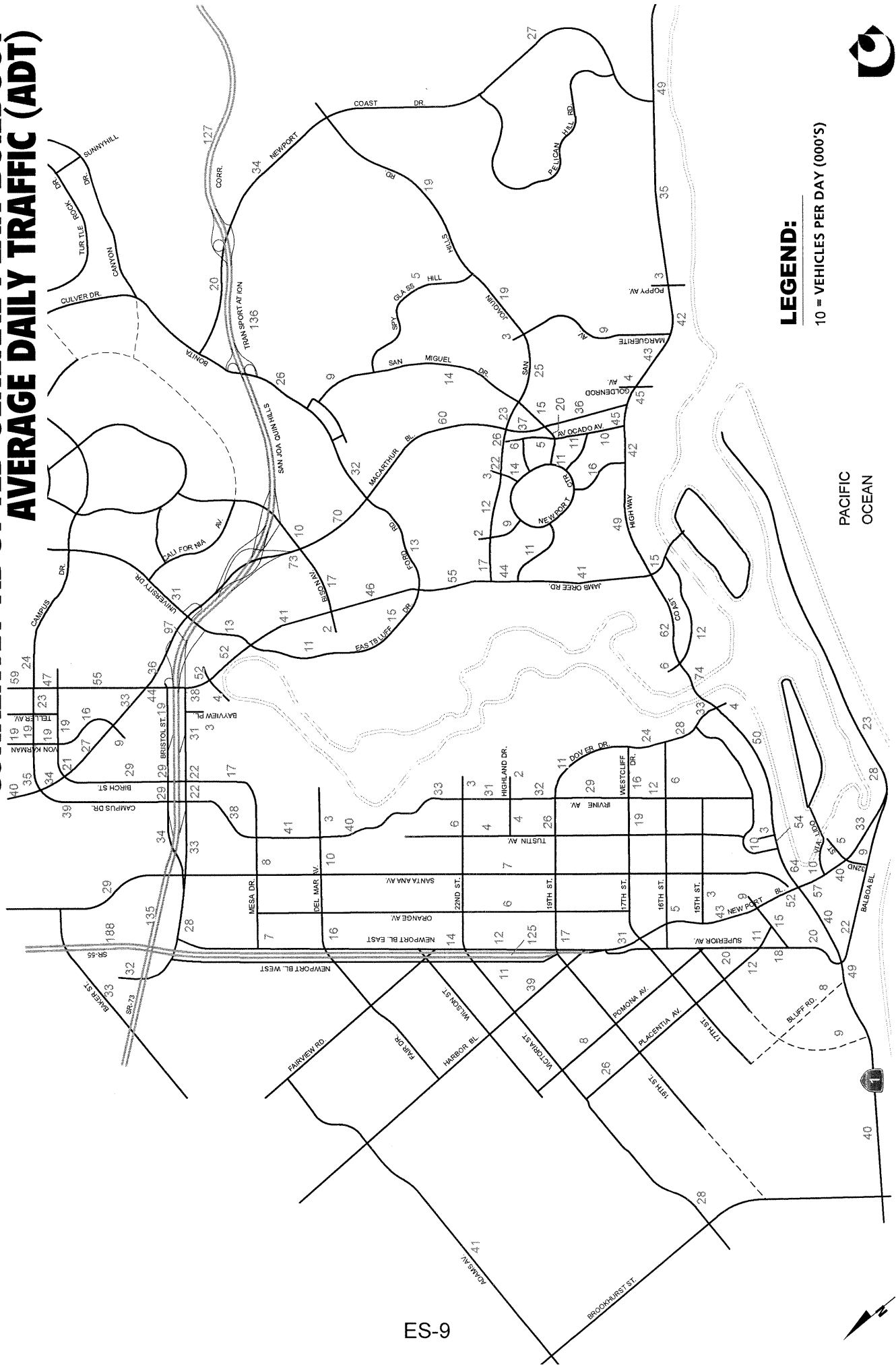


EXHIBIT ES-C  
**GENERAL PLAN BUILDOUT WITH PROJECT  
 AVERAGE DAILY TRAFFIC (ADT)**

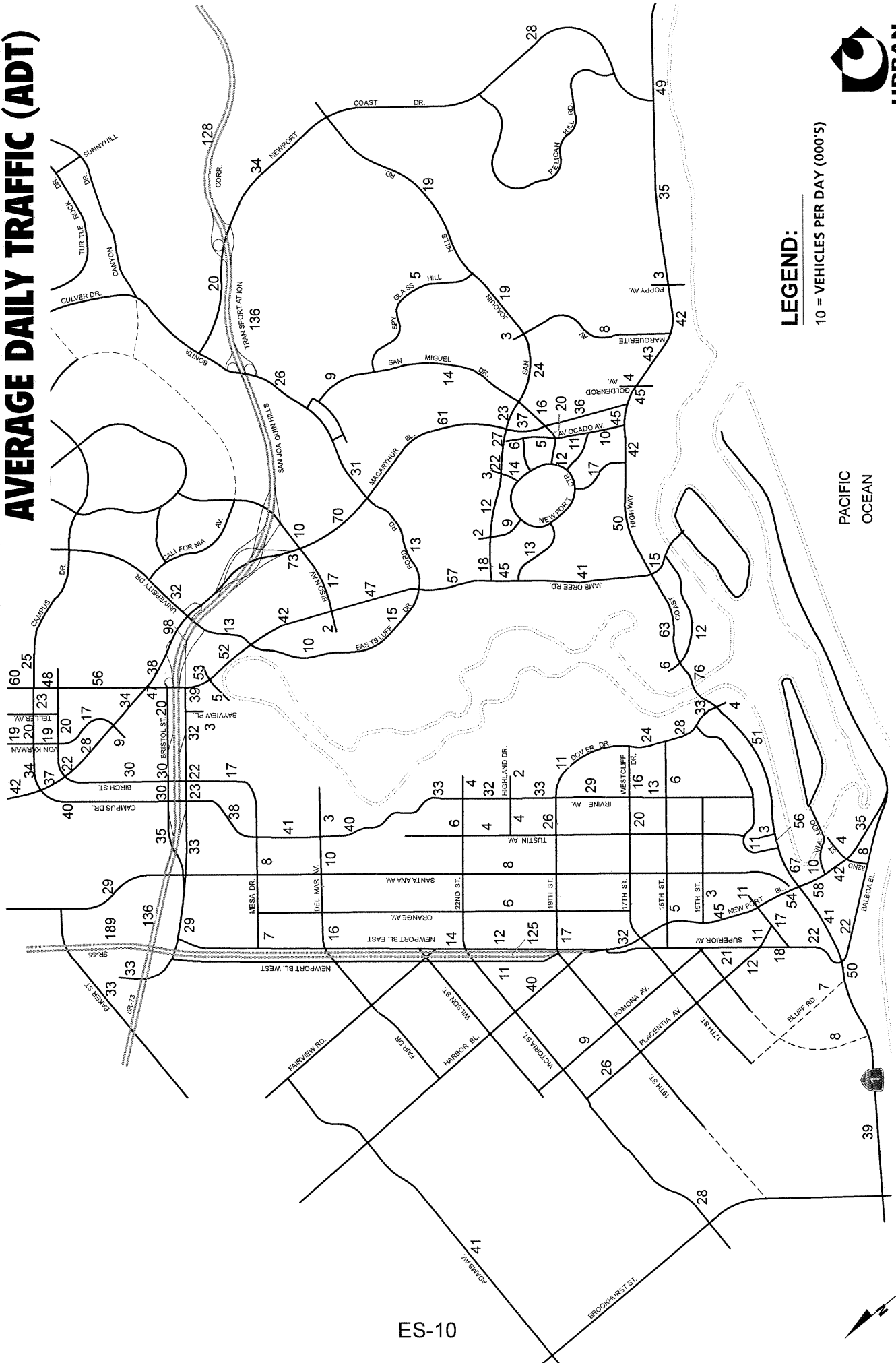


TABLE ES-4

CITY OF NEWPORT BEACH CURRENTLY ADOPTED GENERAL PLAN BUILDOUT  
 AVERAGE DAILY TRAFFIC GROWTH GREATER THAN 10,000 VPD FROM EXISTING

LOCATION	EXISTING COUNT (2001/2002)	WITHOUT PROJECT FORECAST	CHANGE	% CHANGE
Campus Dr. (Bristol St. North to Bristol St. South)	30,000	41,000	11,000	37%
Campus Dr. (north of Bristol St. North)	28,000	39,000	11,000	39%
Campus Dr. (Von Karman Ave. to MacArthur Blvd.)	20,000	35,000	15,000	75%
Campus Dr. (west of MacArthur Blvd.)	26,000	39,000	13,000	50%
Coast Hwy (east of Newport Coast Dr.)	35,000	49,000	14,000	40%
Coast Hwy. (Bayside Dr. to Jamboree Rd.)	51,000	62,000	11,000	22%
Coast Hwy. (Dover Dr. to Bayside Dr.)	63,000	74,000	11,000	17%
Coast Hwy. (Newport Blvd. to Riverside Ave.)	53,000	64,000	11,000	21%
Coast Hwy. (Riverside Ave. to Tustin Ave.)	45,000	56,000	11,000	24%
Coast Hwy. (Superior Ave. to Newport Blvd.)	28,000	40,000	12,000	43%
Irvine Ave. (Bristol St. South to Mesa Dr.)	27,000	38,000	11,000	41%
Jamboree Rd. (Birch St. to MacArthur Blvd.)	42,000	55,000	13,000	31%
Jamboree Rd. (Campus Dr. to Birch St.)	36,000	47,000	11,000	31%
MacArthur Blvd. (north of Bison Ave.)	61,000	73,000	12,000	20%
Newport Coast Dr. (north of Coast Hwy.)	12,000	27,000	15,000	125%
Newport Coast Dr. (south of San Joaquin Hills Rd.)	15,000	32,000	17,000	113%
Newport Coast Dr. (SR-73 Fwy. to San Joaquin Hills Rd.)	17,000	34,000	17,000	100%

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TABLE ES-5

CITY OF NEWPORT BEACH GENERAL PLAN BUILDOUT WITH PROJECT  
 AVERAGE DAILY TRAFFIC GROWTH GREATER THAN 10,000 VPD FROM EXISTING

LOCATION	EXISTING (2001/2002) COUNT	WITH PROJECT FORECAST	GROWTH	% GROWTH
Campus Dr. (Bristol St. North to Bristol St. South)	30,000	41,000	11,000	36.7%
Campus Dr. (north of Bristol St. North)	28,000	40,000	12,000	42.9%
Campus Dr. (Von Karman Ave. to MacArthur Blvd.)	20,000	34,000	14,000	70.0%
Campus Dr. (west of MacArthur Blvd.)	26,000	40,000	14,000	53.8%
Coast Hwy (east of Newport Coast Dr.)	35,000	49,000	14,000	40.0%
Coast Hwy. (Bayside Dr. to Jamboree Rd.)	51,000	63,000	12,000	23.5%
Coast Hwy. (Dover Dr. to Bayside Dr.)	63,000	76,000	13,000	20.6%
Coast Hwy. (Newport Blvd. to Riverside Ave.)	53,000	67,000	14,000	26.4%
Coast Hwy. (Riverside Ave. to Tustin Ave.)	45,000	58,000	13,000	28.9%
Coast Hwy. (Superior Ave. to Newport Blvd.)	28,000	41,000	13,000	46.4%
Coast Hwy. (Tustin Ave. to Dover Dr.)	42,000	53,000	11,000	26.2%
Irvine Ave. (Bristol St. South to Mesa Dr.)	27,000	38,000	11,000	40.7%
Irvine Ave. (Mesa Dr. to University Dr.)	31,000	42,000	11,000	35.5%
Jamboree Rd. (Birch St. to MacArthur Blvd.)	42,000	56,000	14,000	33.3%
Jamboree Rd. (Campus Dr. to Birch St.)	36,000	48,000	12,000	33.3%
Jamboree Rd. (Ford Rd. to San Joaquin Hills Rd.)	46,000	57,000	11,000	23.9%
Jamboree Rd. (MacArthur Blvd. to Bristol St. North)	36,000	47,000	11,000	30.6%
Jamboree Rd. (San Joaquin Hills Rd. to Santa Barbara Dr.)	34,000	45,000	11,000	32.4%
MacArthur Blvd. (north of Bison Ave.)	61,000	73,000	12,000	19.7%
MacArthur Blvd. (south of Jamboree Rd.)	27,000	38,000	11,000	40.7%
Newport Blvd. (Hospital Rd. to Coast Hwy.)	43,000	54,000	11,000	25.6%
Newport Coast Dr. (north of Coast Hwy.)	12,000	28,000	16,000	133.3%
Newport Coast Dr. (south of San Joaquin Hills Rd.)	15,000	32,000	17,000	113.3%
Newport Coast Dr. (SR-73 Fwy. to San Joaquin Hills Rd.)	17,000	34,000	17,000	100.0%

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Traffic source analysis, providing information on the destination of roadway users, was performed for three key entries to the City of Newport Beach:

- Northbound Coast Highway, south of Newport Coast Drive
- Southbound Coast Highway, south of the Santa Ana River
- Southbound MacArthur Boulevard, north of Bonita Canyon Drive

For each of the three entries, traffic internal to the City of City of Newport Beach accounts for more than 60% of the vehicles studied, with primary destinations for all three locations being Corona Del Mar, Newport Center, and Bayside / Balboa Island.

### ES.3 Intersection Performance

The true measure of traffic flow is peak hour intersection operations. The individual intersection level of service for each of the three scenarios has been summarized in Table ES-6. Comparisons of the three scenarios and the percentage of intersections with each service level are demonstrated in Table ES-7. The current standard for acceptable level of service in the City of Newport Beach is "D". As shown in Table ES-7, over 75% of intersections experience Level of Service "D" or better operations in every scenario. For With Project conditions, approximately 20% of intersections experience deficient operations (12 intersections in the AM peak hour and 14 intersections in the PM peak hour), while the Without Project conditions result in approximately 21% of intersections experiencing deficient operations (14 intersections in the AM peak hour and 13 intersections in the PM peak hour).

Table ES-8 provides a summary of intersections experiencing deficient operations in any of the three analysis scenarios without additional improvements. In every case where intersection LOS changes from Without to With Project, it is only by one level.

**TABLE ES-6 (Page 1 of 2)**  
**INTERSECTION LEVEL OF SERVICE SUMMARY**

INTERSECTION (NS/EW)	EXISTING		CURRENTY ADOPTED GENERAL PLAN		WITH PROJECT	
	AM	PM	AM	PM	AM	PM
1a. Bluff Rd. & Coast Hw. <sup>1</sup>	N/A	N/A	B	D	B	D
1b. 15th St. & Coast Hw. <sup>1</sup>	N/A	N/A	C	D	C	D
2. Superior Av. & Placentia Av.	B	B	B	A	B	A
3. Superior Av. & Coast Hw.	D	D	D	C	D	C
4. Newport Bl. & Hospital Rd.	A	B	C	E	D	E
5. Newport Bl. & Via Lido	A	A	A	A	A	A
6. Newport Bl. & 32nd St.	C	C	D	D	D	E
7. Riverside Av. & Coast Hw.	D	E	E	E	E	E
8. Tustin Av. & Coast Hw.	C	B	E	C	E	D
9. MacArthur Bl. & Campus Dr.	B	D	C	F	D	F
10. MacArthur Bl. & Birch St.	A	B	C	D	C	D
11. Von Karman Av. & Campus Dr.	A	C	B	E	C	E
12. MacArthur Bl. & Von Karman Av.	A	A	A	B	A	B
13. Jamboree Rd. & Campus Dr.	C	D	E	F	E	F
14. Jamboree Rd. & Birch St.	A	A	E	D	E	D
15. Campus Dr. & Bristol St. (N)	C	E	E	F	F	F
16. Birch St. & Bristol St. (N)	B	B	E	C	D	C
17. Campus Dr./Irvine Av. & Bristol St. (S)	C	A	E	C	D	C
18. Birch St. & Bristol St. (S)	A	A	A	A	A	A
19. Irvine Av. & Mesa Dr.	B	E	E	F	E	F
20. Irvine Av. & University Dr.	D	D	F	F	F	F
21. Irvine Av. & Santiago Dr.	B	C	B	C	B	C
22. Irvine Av. & Highland Dr.	A	A	A	B	A	B
23. Irvine Av. & Dover Dr.	C	B	C	B	C	B
24. Irvine Av. & Westcliff Dr.	A	C	B	C	B	D
25. Dover Dr. & Westcliff Dr.	A	A	A	A	A	A
26. Dover Dr. & 16th St.	A	A	A	A	A	A
27. Dover Dr. & Coast Hw.	B	C	C	E	D	E
28. Bayside Dr. & Coast Hw.	B	B	D	D	D	D
29. MacArthur Bl. & Jamboree Rd.	D	E	E	E	E	F
30. Jamboree Rd. & Bristol St. (N)	A	A	B	B	B	B
31. Bayview Pl. & Bristol St. (S)	A	A	A	B	A	B
32. Jamboree Rd. & Bristol St. (S)	C	C	E	D	E	D
33. Jamboree Rd. & Bayview Wy.	A	A	A	B	A	B
34. Jamboree Rd. & Eastbluff Dr./University Dr.	A	B	B	B	B	B
35. Jamboree Rd. & Bison Av.	A	A	A	B	A	B
36. Jamboree Rd. & Eastbluff Dr./Ford Rd.	B	B	C	C	C	C
37. Jamboree Rd. & San Joaquin Hills Rd.	A	A	A	C	B	C



**TABLE ES-6 (Page 2 of 2)**  
**INTERSECTION LEVEL OF SERVICE SUMMARY**

INTERSECTION (NS/EW)	EXISTING		CURRENTY ADOPTED GENERAL PLAN		WITH PROJECT	
	AM	PM	AM	PM	AM	PM
38. Jamboree Rd. & Santa Barbara Dr.	A	B	A	C	A	C
39. Jamboree Rd. & Coast Hw.	B	C	C	C	C	C
40. Santa Cruz Dr. & San Joaquin Hills Rd.	A	A	A	A	A	A
41. Santa Rosa Dr. & San Joaquin Hills Rd.	A	A	A	B	A	C
42. Newport Center Dr. & Coast Hw.	A	A	A	B	A	B
44. Avocado Av. & San Miguel Dr.	A	C	A	C	A	C
45. Avocado Av. & Coast Hw.	A	B	C	C	C	C
46. SR-73 NB Ramps & Bison Av.	A	A	A	B	A	B
47. SR-73 SB Ramps & Bison Av.	A	A	A	A	A	A
48. MacArthur Bl. & Bison Av.	B	A	C	C	C	C
49. MacArthur Bl. & Ford Rd./Bonita Canyon Dr.	C	D	C	E	C	E
50. MacArthur Bl. & San Joaquin Hills Rd.	B	E	C	F	C	F
51. MacArthur Bl. & San Miguel Dr.	A	B	B	C	B	C
52. MacArthur Bl. & Coast Hw.	A	C	C	C	C	C
53. SR-73 NB Ramps & Bonita Canyon Dr.	A	A	F	C	F	C
54. SR-73 SB Ramps & Bonita Canyon Dr.	A	A	A	B	A	B
55. Spyglass Hill Rd. & San Miguel Dr.	A	A	A	A	A	A
56. San Miguel Dr. & San Joaquin Hills Rd.	A	A	A	C	A	C
57. Goldenrod Av. & Coast Hw.	E	B	E	B	E	B
58. Marguerite Av. & San Joaquin Hills Rd.	A	A	A	A	A	A
59. Marguerite Av. & Coast Hw.	D	D	E	E	E	E
60. Spyglass Hill Rd. & San Joaquin Hills Rd.	A	A	A	A	A	A
61. Poppy Av. & Coast Hw.	B	B	B	C	B	C
62. Newport Coast Dr. & SR-73 NB Ramps	A	A	B	A	B	A
64. Newport Coast Dr. & San Joaquin Hills Rd.	A	A	B	A	B	A
65. Newport Coast Dr. & Coast Hw.	A	A	B	C	B	C

<sup>1</sup> General Plan scenarios show results based on recommended improvements.

TABLE ES-7

STUDY AREA LOS COMPARISON WITHOUT IMPROVEMENTS<sup>1</sup>

LOS	NUMBER OF LOCATIONS								
	AM			PM			TOTAL		
	EXISTING	CURRENTLY ADOPTED GENERAL PLAN	WITH PROJECT	EXISTING	CURRENTLY ADOPTED GENERAL PLAN	WITH PROJECT	EXISTING	CURRENTLY ADOPTED GENERAL PLAN	WITH PROJECT
A	36	22	21	28	12	12	64	34	33
B	12	12	12	14	13	12	26	25	24
C	8	13	11	9	19	18	17	32	29
D	5	3	8	6	7	8	11	10	16
Total Acceptable	61	50	52	57	51	50	118	101	102
E	1	12	9	5	7	7	6	19	16
F	0	2	3	0	6	7	0	8	10
Total Deficient	1	14	12	5	13	14	6	27	26
TOTAL	62	64	64	62	64	64	124	128	128

LOS	PERCENT OF LOCATIONS								
	AM			PM			TOTAL		
	EXISTING	CURRENTLY ADOPTED GENERAL PLAN	WITH PROJECT	EXISTING	CURRENTLY ADOPTED GENERAL PLAN	WITH PROJECT	EXISTING	CURRENTLY ADOPTED GENERAL PLAN	WITH PROJECT
A	58.06%	34.38%	32.81%	45.16%	18.75%	18.75%	51.61%	26.56%	25.78%
B	19.35%	18.75%	18.75%	22.58%	20.31%	22.58%	20.97%	19.53%	18.75%
C	12.90%	20.31%	17.19%	14.52%	29.69%	29.03%	13.71%	25.00%	22.66%
D	8.06%	4.69%	12.50%	9.68%	10.94%	12.50%	8.87%	7.81%	12.50%
Total Acceptable	98.39%	78.13%	81.25%	91.94%	79.69%	82.86%	95.16%	78.91%	79.69%
E	1.61%	18.75%	14.06%	8.06%	10.94%	10.94%	4.84%	14.84%	12.50%
F	0.00%	3.13%	4.69%	0.00%	9.38%	10.94%	0.00%	6.25%	7.81%
Total Deficient	1.61%	21.88%	18.75%	8.06%	20.31%	21.88%	4.84%	21.09%	20.31%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%	104.74%	100.00%	100.00%	100.00%

<sup>1</sup> New intersections show results based on recommended improvements.

TABLE ES-8

## DEFICIENT INTERSECTION SUMMARY

INTERSECTION (NS/EW)	EXISTING		CURRENTLY ADOPTED GENERAL PLAN		WITH PROJECT	
	AM	PM	AM	PM	AM	PM
4. Newport Bl. & Hospital Rd.	A	B	C	E	D	E
6. Newport Bl. & 32nd St.	C	C	D	D	D	E
7. Riverside Av. & Coast Hw.	D	E	E	E	E	E
8. Tustin Av. & Coast Hw.	C	B	E	C	E	D
9. MacArthur Bl. & Campus Dr.	B	D	C	F	D	F
11. Von Karman Av. & Campus Dr.	A	C	B	E	C	E
13. Jamboree Rd. & Campus Dr.	C	D	E	F	E	F
14. Jamboree Rd. & Birch St.	A	A	E	D	E	D
15. Campus Dr. & Bristol St. (N)	C	E	E	F	F	F
16. Birch St. & Bristol St. (N)	B	B	E	C	D	C
17. Campus Dr./Irvine Av. & Bristol St. (S)	C	A	E	C	D	C
19. Irvine Av. & Mesa Dr.	B	E	E	F	E	F
20. Irvine Av. & University Dr.	D	D	F	F	F	F
27. Dover Dr. & Coast Hw.	B	C	C	E	D	E
29. MacArthur Bl. & Jamboree Rd.	D	E	E	E	E	F
32. Jamboree Rd. & Bristol St. (S)	C	C	E	D	E	D
49. MacArthur Bl. & Ford Rd./Bonita Canyon Dr.	C	D	C	E	C	E
50. MacArthur Bl. & San Joaquin Hills Rd.	B	E	C	F	C	F
53. SR-73 NB Ramps & Bonita Cyn. Dr.	A	A	F	C	F	C
57. Goldenrod Av. & Coast Hw.	E	B	E	B	E	B
59. Marguerite Av. & Coast Hw.	D	D	E	E	E	E

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Twelve intersections that have acceptable existing operations experience LOS “D” or worse conditions (without improvements) in both General Plan buildout scenarios; two additional intersections experience this change only in the Without Project scenario; one additional intersection experiences this change only in the With Project scenario. These intersections are the following.

- Newport Boulevard at Hospital Road (Without Project and With Project)
- Newport Boulevard at 32<sup>nd</sup> Street (With Project)
- Tustin Avenue at Coast Highway (Without Project and With Project)
- MacArthur Boulevard at Campus Drive (Without Project and With Project)
- Von Karman Avenue at Campus Drive (Without Project and With Project)
- Jamboree Road at Campus Drive (Without Project and With Project)
- Jamboree Road at Birch Street (Without Project and With Project)
- Birch Street at Bristol Street North (Without Project)
- Campus Drive/Irvine Avenue at Bristol Street South (Without Project)
- Irvine Avenue at University Drive (Without Project and With Project)
- Dover Drive at Coast Highway (Without Project and With Project)
- Jamboree Road at Bristol Street South (Without Project and With Project)
- MacArthur Boulevard at Ford Road/Bonita Canyon Drive (Without Project and With Project)
- SR-73 NB Ramps at Bonita Canyon Drive (Without Project and With Project)
- Marguerite Avenue at Coast Highway (Without Project and With Project)

The intersections that experience deficient operations in the Without Project (currently adopted General Plan) condition, but do not experience the same deficiency in the With Project conditions are Birch Street at Bristol Street North (in the AM peak hour) and Campus Drive/Irvine Avenue at Bristol Street South (in the AM peak hour). These intersections are in the Airport Area and serve regional through traffic as well as local traffic.

Of the 21 total intersections that require improvements, 12 of the intersections have the same improvements in the Without Project and With Project scenarios. Six intersections require more improvements for the Without Project scenario when compared to the With Project scenario. Bluff Road at Coast Highway requires multiple additional through lanes to achieve LOS "D." Jamboree Road at Campus Drive would need a third WB left turn lane. For Birch Street at Bristol Street North to operate at LOS "D," the westbound approach needs to be reconstructed to provide 2 left turn lanes, 2.5 through lanes, and 1.5 right turn lanes. It would be necessary to reconstruct Campus Drive at Bristol Street South to provide 2 left turn lanes, 2.5 through lanes, and 1.5 right turn lanes. Dover Drive at Coast Highway would require a fourth westbound through lane. Jamboree Road at Bristol Street South would need to provide 2.5 left turn lanes, 1.5 through lanes, and 2 right turn lanes.

There are three intersections that require more improvements in the With Project scenario than the Without Project scenario. Newport Boulevard at 32<sup>nd</sup> Street requires that the eastbound movements be restriped to provide 2 left turn lanes and 1 shared through-right lane, and the westbound movements be restriped to provide 1 left turn lane, 1 through lane, and 1 free right turn lane. MacArthur Boulevard at Jamboree Road would need the addition of a fourth east bound through lane. MacArthur Boulevard at San Joaquin Hills Road requires a fourth northbound through lane.

Improvements have been suggested that provide operations at a level of service traditionally determined acceptable in Newport Beach (LOS "D") at all potentially deficient intersections (outlined within the body of the report). In most cases, these improvements involve spot improvements such as additional turn lanes, rather than extensive roadway widening, and are feasible without significant widenings that could impact community character. Therefore, it is recommended that LOS "D" remain the acceptable standard for the vast majority of intersections in Newport Beach. There are some areas, however, where special circumstances make it infeasible or undesirable to make the improvements necessary to

maintain LOS "D." For these "exception intersections," listed below, LOS "E" is recommended as the acceptable service standard. It should be noted that this is not a new policy direction for Newport Beach. The existing Circulation Element lists 18 intersections in the Airport Area that were projected to perform at a level of service worse than "D," and includes a policy that there was a conscious decision to accept these levels of service in the Airport Area and focus efforts to improve service on areas less affected by regional traffic.

- Dover Drive (NS) at Coast Highway (EW): LOS "E"
- Riverside Avenue (NS) at Coast Highway (EW): LOS "E"

Congestion at this intersection is related to regional through traffic and improvement beyond LOS "E" requires significant right-of-way acquisition and widening that could impact pedestrian and bicycle use of the intersection.

- Campus Drive (NS) at Bristol Street North (EW): LOS "E"

The barrier that John Wayne Airport presents to through traffic, combined with regional traffic in the Airport Area, causes this intersection to perform below LOS "D". LOS "D" cannot be achieved without extremely costly right-of-way acquisition and improvements.

- Goldenrod Avenue (NS) at Coast Highway (EW): LOS "E"
- Marguerite Avenue (NS) at Coast Highway (EW): LOS "E"

The widening of Coast Highway through Corona Del Mar would not achieve LOS D at the intersections of Coast Highway with Goldenrod Avenue and Marguerite Avenue unless one westbound through lane was added at Goldenrod Avenue and the same westbound lane and one eastbound through lane was added at Marguerite Avenue. These additional lanes would require roadway widening and/or parking/pedestrian facility removal of 12 feet per lane. These improvements are not recommended, as the character of Corona Del Mar as a pedestrian village would be compromised. Localized widening was

implemented on Coast Highway at Marguerite Avenue, and was removed because it did not work operationally.

Based on these standards, Table ES-9 shows recommended intersection improvements to provide acceptable operations at study area locations for Without Project and With Project conditions. Comparisons of the three scenarios and the percentage of intersections with each service level with recommended improvements are demonstrated in Table ES-10. For With Project conditions, approximately 95% of the locations with recommended improvements operate at LOS "D" or higher. The Without Project conditions with recommended improvements result in over 92% operating at LOS "D" or higher. Approximately 5% of the intersections for With Project conditions (3 intersections in the AM peak hour and 4 intersections in the PM peak hour) operate at LOS "E", while approximately 7% of the intersections for Without Project conditions (4 intersections in the AM peak hour and 5 intersections in the PM peak hour) operate at LOS "E". Exhibit ES-D summarizes the final intersection LOS with improvements for all scenarios.

A comparison of intersection improvements and levels of service to the currently adopted Circulation Element is included in Table ES-11. The currently adopted Circulation Element identified 18 intersections that would operate at unacceptable (with one or both peak periods at LOS "E" and 6 with at least one peak period at LOS "F") conditions. The proposed Circulation Element reduces the number of intersections experiencing LOS "E" to five and none at LOS "F".

#### ES.4 Special Issues

Several special issues have been evaluated in this Transportation Study.

Without the potential 19<sup>th</sup> Street bridge over the Santa Ana River, Bluff Road at Coast Highway and Superior Avenue at Coast Highway experience deficient operations requiring substantial additional improvements. The bridge would provide relief to Coast Highway, resulting in the need for at least one fewer

TABLE ES-9 (Page 1 of 2)

IMPROVEMENT NEEDS SUMMARY

INTERSECTION	ADDITIONAL INTERSECTION IMPROVEMENTS	
	CURRENTLY ADOPTED GENERAL PLAN	WITH PROJECT
Bluff Rd. (NS) at: • Coast Hw. (EW)	Provide two SB left turn lanes and two SB right turn lanes (2nd with overlap phase). Provide two EB left turn lanes. Provide one WB right turn lane. Multiple additional through lanes required to achieve LOS "D".	Provide two SB left turn lanes and two SB right turn lanes (2nd with overlap phase). Provide two EB left turn lanes. Provide one WB right turn lane.
15th St. (NS) at: • Coast Hw. (EW)	Provide two SB left turn lanes and two SB right turn lanes (2nd with overlap phase). Provide two EB left turn lanes. Provide one WB right turn lane.	Provide two SB left turn lanes and two SB right turn lanes (2nd with overlap phase). Provide two EB left turn lanes. Provide one WB right turn lane.
Newport Bl. (NS) at: • Hospital Rd. (EW) • 32nd St. (EW)	Provide 2nd NB left turn lane.	Provide 2nd NB left turn lane.
Riverside Av. (NS) at: • Coast Hw. (EW)	Provide 3rd EB through lane.	Restripe EB to provide 2 left turn lanes and 1 shared through-right lane. Restripe WB to provide 1 left turn lane, 1 through lane, and 1 free right turn lane. Provide 3rd EB through lane.
Tustin Av. (NB) at: • Coast Hw. (EW)	Provide 3rd EB through lane.	Provide 3rd EB through lane.
MacArthur Bl. (NS) at: • Campus Dr. (EW)	Provide 2nd NB left turn lane. Restripe SB to provide 3.5 through lanes and 1.5 right turn lanes.	Provide 2nd NB left turn lane. Restripe SB to provide 3.5 through lanes and 1.5 right turn lanes.
Von Karman Av. (NS) at: • Campus Dr. (EW)	Provide 2nd EB left turn lane.	Provide 2nd EB left turn lane.
Jamboree Rd. (NS) at: • Campus Dr. (EW) • Birch St. (EW)	Provide NB 1st right turn lane with overlap phase. Provide 4th SB through lane. Provide WB right turn overlap phase for current right turn lane. Additionally, to achieve LOS "D", provide 3rd WB through lane. Provide 4th SB through lane.	Provide NB 1st right turn lane with overlap phase. Provide 4th SB through lane. Provide WB right turn overlap phase for current right turn lane. Provide 4th SB through lane.
Campus Dr. (NS) at: • Bristol St. N (EW)	Provide 5th WB through lane.	Provide 5th WB through lane.



TABLE ES-9 (Page 2 of 2)

IMPROVEMENT NEEDS SUMMARY

INTERSECTION	ADDITIONAL INTERSECTION IMPROVEMENTS	
	CURRENTLY ADOPTED GENERAL PLAN	WITH PROJECT
Birch St. (NS) at: • Bristol St. N (EW)	Reconstruct WB approach to provide 1 left turn lane, 2.5 through lanes, and 1.5 right turn lanes.	
Campus Dr. (NS) at: • Bristol St. S (EW)	Reconstruct EB approach to provide 2 left turn lanes, 2.5 through lanes, and 1.5 right turn lanes.	
Irvine Av. (NS) at: • Mesa Dr. (EW) -Funded Improvements • University Dr. (EW)	Provide 3rd NB through lane. Provide 3rd SB through lane. Provide 1st EB right turn lane. Provide 2nd WB left turn lane. Construct funded improvements, but EB right turn lane not necessary.  Provide 3rd NB through lane. Provide 3rd SB through lane. Restripe EB to include 1.5 left turn lanes, 0.5 through lanes, and 1 right turn lane.	Provide 3rd NB through lane. Provide 3rd SB through lane. Construct funded improvements, but EB right turn lane not necessary.  Provide 3rd NB through lane. Provide 3rd SB through lane. Restripe EB to include 1.5 left turn lanes, 0.5 through lanes, and 1 right turn lane.
Dover Dr. (NS) at: • Coast Hw. (EW)	Provide 4th WB through lane.	
MacArthur Bl. (NS) at: • Jamboree Rd. (EW)	Provide 3rd WB left turn lane.	Provide 4th EB through lane. Provide 3rd WB left turn lane.
Jamboree Rd. (NS) at: • Bristol St. S (EW)	Provide 6th NB through lane. Provide 4th SB through lane. To achieve LOS "D", provide additional EB left turn lane (making EB movement 2.5 left turn lanes, 1.5 through lanes, and 2 right turn lanes).	Provide 6th NB through lane. Provide 4th SB through lane.
MacArthur Bl. (NS) at: • Ford Rd./Bonita Canyon Dr. (EW) • San Joaquin Hills Rd. (EW)	Provide 3rd SB left turn lane. Provide 3rd SB left turn lane. Provide 3rd EB left turn lane.	Provide 3rd SB left turn lane. Provide 4th NB through lane. Provide 3rd SB left turn lane. Provide 3rd EB left turn lane.
SR-73 NB Ramps (NS) at: • Bonita Canyon Dr. (EW)	Provide 2nd WB left turn lane.	Provide 2nd WB left turn lane.

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TABLE ES-10

STUDY AREA LOS COMPARISON WITH IMPROVEMENTS<sup>1</sup>

LOS	NUMBER OF LOCATIONS								
	AM			PM			TOTAL		
	EXISTING <sup>2</sup>	CURRENTLY ADOPTED GENERAL PLAN	WITH PROJECT	EXISTING	CURRENTLY ADOPTED GENERAL PLAN	WITH PROJECT	EXISTING	CURRENTLY ADOPTED GENERAL PLAN	WITH PROJECT
A	36	23	22	28	12	12	64	35	34
B	12	14	16	14	14	14	26	28	30
C	8	14	11	9	18	18	17	32	29
D	5	9	12	6	15	16	11	24	28
Total Acceptable	61	60	61	57	59	60	118	119	121
E	1	4	3	5	5	4	6	9	7
F	0	0	0	0	0	0	0	0	0
Total Deficient	1	4	3	5	5	4	6	9	7
TOTAL	62	64	64	62	64	64	124	128	128

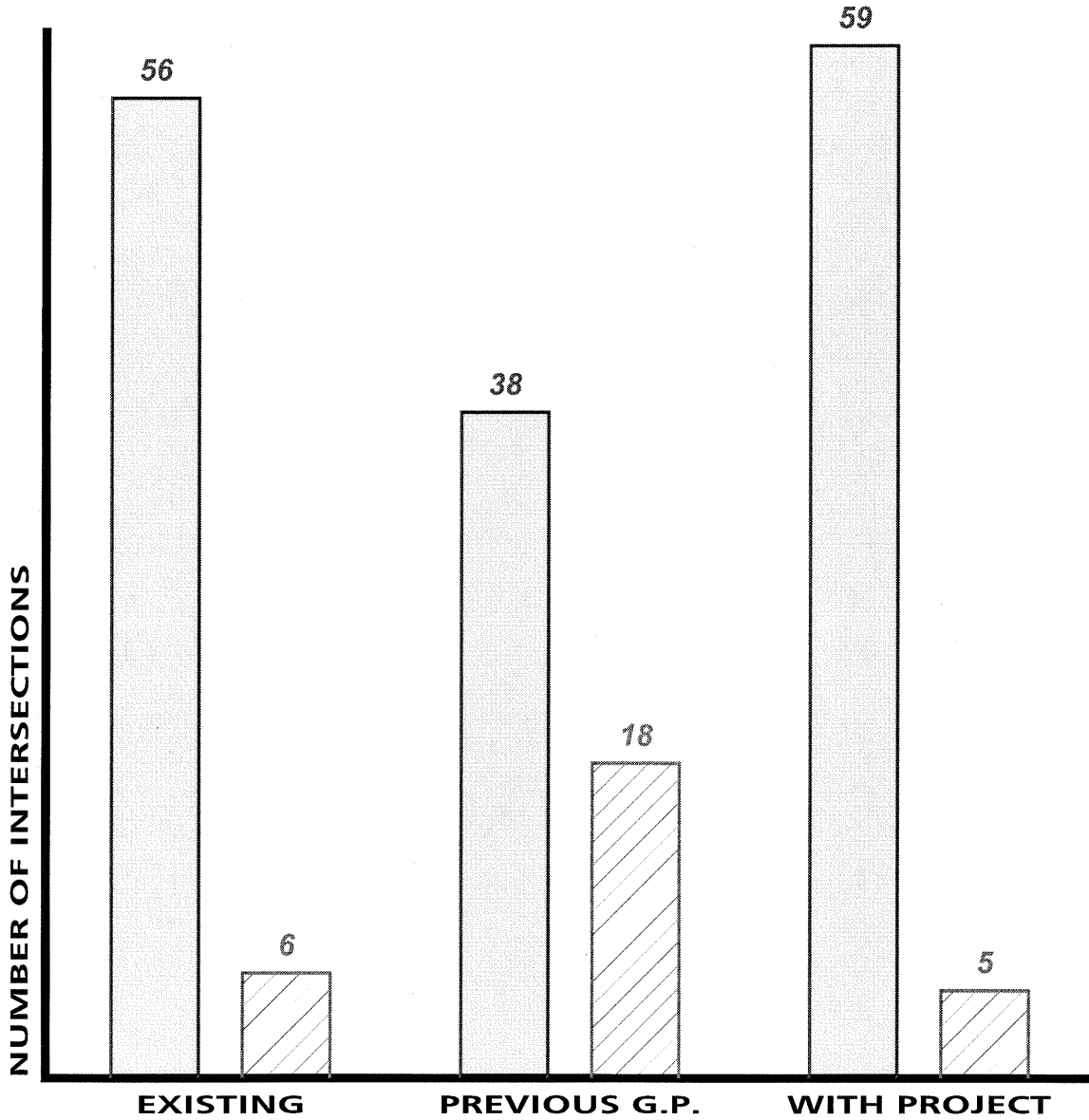
LOS	PERCENT OF LOCATIONS								
	AM			PM			TOTAL		
	EXISTING	CURRENTLY ADOPTED GENERAL PLAN	WITH PROJECT	EXISTING	CURRENTLY ADOPTED GENERAL PLAN	WITH PROJECT	EXISTING	CURRENTLY ADOPTED GENERAL PLAN	WITH PROJECT
A	58.06%	35.94%	34.38%	45.16%	18.75%	18.75%	51.61%	27.34%	26.56%
B	19.35%	21.88%	25.00%	22.58%	21.88%	21.88%	20.97%	21.88%	23.44%
C	12.90%	21.88%	17.19%	14.52%	28.13%	28.13%	13.71%	25.00%	22.66%
D	8.06%	14.06%	18.75%	9.68%	23.44%	25.00%	8.87%	18.75%	21.88%
Total Acceptable	98.39%	93.75%	95.31%	91.94%	92.19%	93.75%	95.16%	92.97%	94.53%
E	1.61%	6.25%	4.69%	8.06%	7.81%	6.25%	4.84%	7.03%	5.47%
F	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total Deficient	1.61%	6.25%	4.69%	8.06%	7.81%	6.25%	4.84%	7.03%	5.47%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

<sup>1</sup> New intersections show results based on recommended improvements.

<sup>2</sup> Improvements analysis not performed for existing conditions.

EXHIBIT ES-D

# FINAL LOS SUMMARY (WITH RECOMMENDED IMPROVEMENTS)



**LEGEND:**

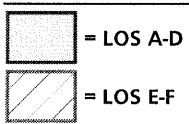


TABLE ES-11 (Page 1 of 6)

INTERSECTION IMPROVEMENT SUMMARY AND COMPARISON TABLE

INTERSECTION	WITH PROJECT INTERSECTION IMPROVEMENTS	FEASIBILITY/ ROW REQUIRED	RESULTING WITH PROJECT LOS		PREVIOUS CIRCULATION ELEMENT IMPROVEMENTS	PREVIOUS LOS	
			AM	PM		AM	PM
Bluff Rd. (NS) at: • Coast Hw. (EW)	Provide two SB left-turn lanes and two SB right-turn lanes (2nd with overlap phase). Provide two EB left-turn lanes. Provide one WB right-turn lane.		B	D	Bluff Road to be constructed with a four-lane cross-section.	B	D
15th St. (NS) at: • Coast Hw. (EW)	Provide two SB left-turn lanes and two SB right-turn lanes (2nd with overlap phase). Provide two EB left-turn lanes. Provide one WB right-turn lane.		C	D	15th Street to be constructed with a four-lane cross-section.	A	A
Superior Av. (NS) at: • Placentia Av. (EW) • Coast Hw. (EW)	(none) (none)		B D	A C	(none) (none)	A D	B D
Newport Bl. (NS) at: • Hospital Rd. (EW) • Via Lido (EW) • 32nd St. (EW)	Provide 2nd NB left-turn lane.  (none) Restripe EB to provide 2 left turn lanes and 1 shared through-right lane. Restripe WB to provide 1 left turn lane, 1 through lane, and 1 free right turn lane.	Consistent with historic plan.	D A A	D A B	Add one EB left-turn lane.  (none) Add a separate SB right-turn lane.	D B A	E C B
Riverside Av. (NS) at: • Coast Hw. (EW)	Provide 3rd EB through lane. Eliminate WB right-turn lane.	Consistent with historic plan. Would remove parking and WB right-turn lane on north side of street.	B	E	Add an optional SB left-turn lane, and a separate SB right-turn lane, and one EB left-turn lane.	C	C
Tustin Av. (NS) at: • Coast Hw. (EW)	(none)		B	D	(none)	C	D

TABLE ES-11 (Page 2 of 6)

INTERSECTION IMPROVEMENT SUMMARY AND COMPARISON TABLE

INTERSECTION	WITH PROJECT INTERSECTION IMPROVEMENTS	FEASIBILITY/ ROW REQUIRED	RESULTING WITH PROJECT LOS		PREVIOUS CIRCULATION ELEMENT IMPROVEMENTS	PREVIOUS LOS	
			AM	PM		AM	PM
MacArthur Bl. (NS) at: • Campus Dr. (EW)  • Birch St. (EW)	Provide 2nd NB left-turn lane. Restripe SB approach to provide 3.5 through lanes and 1.5 right-turn lanes.  (none)	Would require narrow lanes or minor landscape area reductions.	C	D	Add a SB left-turn lane, a WB left-turn lane, a NB right-turn lane, and a separate EB right-turn lane.	B	F
Von Karman Av. (NS) at: • Campus Dr. (EW)	Provide 2nd EB left-turn lane. Eliminate EB right-turn lane. Eliminate NB free right-turn lane.	Can be accomplished within existing curb to curb section by eliminating NB and EB right-turn lanes.	B	D	(none)	C	E
MacArthur Bl. (NS) at: • Von Karman Av. (EW)	(none)		A	B	Add an EB through lane.	B	E
Jamboree Rd. (NS) at: • Campus Dr. (EW)  • Birch St. (EW)	Provide NB 1st right-turn lane with overlap phase. Provide 4th SB through lane. Provide WB right turn overlap phase for current right-turn lane. Eliminate EB free right-turn lane.  Provide 4th SB through lane.		D	D	(none)	F	F
Campus Dr. (NS) at: • Bristol St. N (EW)	Provide 5th WB through lane.	Based on field reconnaissance, it appears this could be accomplished on inside (south side), involving improvements to SR-73 NB On-ramp.	E	E	Add one WB left-turn lane. <sup>1</sup>	D	F

TABLE ES-11 (Page 3 of 6)

INTERSECTION IMPROVEMENT SUMMARY AND COMPARISON TABLE

INTERSECTION	WITH PROJECT INTERSECTION IMPROVEMENTS	FEASIBILITY/ ROW REQUIRED	RESULTING WITH PROJECT LOS		PREVIOUS CIRCULATION ELEMENT IMPROVEMENTS	PREVIOUS LOS	
			AM	PM		AM	PM
Birch St. (NS) at: • Bristol St. N (EW)	(none)		D	C	Add one SB through lane and one WB left-turn lane. This may require widening the freeway bridge.	B	E
Campus Dr./Irvine Av. (NS) at: • Bristol St. S (EW)	(none)		D	C	(none)	F	D
Birch St. (NS) at: • Bristol St. S (EW)	(none)		A	A	Add one NB through lane and one EB through lane. This may require the widening the freeway bridge.	D	B
Irvine Av. (NS) at: • Mesa Dr. (EW) <i>-Funded Improvements</i>	Provide 3rd NB through lane. Provide 3rd SB through lane. Provide 1st EB right-turn lane. Provide 2nd WB left-turn lane. Construct funded improvements, but EB right turn lane not necessary. Eliminate WB right-turn lane.	Assumes reallocated PM WB left-turn/through volume.	C	D	Add a separate SB right-turn lane, a NB right-turn lane, a WB left-turn lane and an EB through lane.	E	E
• University Dr. (EW)	Provide 3rd NB through lane. Provide 3rd SB through lane. Restripe EB approach to include 1.5 left-turn lanes, 0.5 through lanes, and 1 right-turn lane.	ROW and potential environmental issues.	D	D	Add an EB through lane.	F	E
• Santiago Dr. (EW)	(none)		B	C	(none)	B	A
• Highland Dr. (EW)	(none)		A	B	(none)	A	A
• Dover Dr. (EW)	(none)		C	B	(none)	B	B
• Westcliff Dr. (EW)	(none)		B	D	(none)	A	B

TABLE ES-11 (Page 4 of 6)

INTERSECTION IMPROVEMENT SUMMARY AND COMPARISON TABLE

INTERSECTION	WITH PROJECT INTERSECTION IMPROVEMENTS	FEASIBILITY/ ROW REQUIRED	RESULTING WITH PROJECT LOS		PREVIOUS CIRCULATION ELEMENT IMPROVEMENTS	PREVIOUS LOS	
			AM	PM		AM	PM
Dover Dr. (NS) at: • Westcliff Dr. (EW) • 16th St. (EW) • Coast Hw. (EW)	(none)  (none)		A A D	A A E	(none)  Add an EB through lane and a WB through lane (done w/8 lanes).	A A D	A A C
Bayside Dr. (NS) at: • Coast Hw. (EW)	(none)		D	D	(none)	D	D
MacArthur Bl. (NS) at: • Jamboree Rd. (EW)	Provide 4th EB through lane. Provide 3rd WB left-turn lane.	Feasible at-grade improvements.	D	D	(none)	F	F
Jamboree Rd. (NS) at: • Bristol St. N (EW)	(none)		B	B	Add a NB ramp on to SR-73.	A	C
Bayview Pl. (NS) at: • Bristol St. S (EW)	(none)		A	B	(none)	A	C
Jamboree Rd. (NS) at: • Bristol St. S (EW)  • Bayview Wy. (EW)  • Eastbluff Dr./University Dr. (EW)  • Bison Av. (EW)	Provide 6th NB through lane. Provide 4th SB through lane.  (none)  (none)  (none)	Improvements currently under study.	D  A B A	D  B B B	Add an EB through lane and a NB ramp on to SR-73.  Add a SB left-turn lane and a WB left-turn lane.  (none)  Add a WB left-turn lane and a NB through lane (done w/8 lanes).	C  C E C	D  C D E

TABLE ES-11 (Page 5 of 6)

INTERSECTION IMPROVEMENT SUMMARY AND COMPARISON TABLE

INTERSECTION	WITH PROJECT INTERSECTION IMPROVEMENTS	FEASIBILITY/ ROW REQUIRED	RESULTING WITH PROJECT LOS		PREVIOUS CIRCULATION ELEMENT IMPROVEMENTS	PREVIOUS LOS	
			AM	PM		AM	PM
Jamboree Rd. (NS) at: • Eastbluff Dr./Ford Rd. (EW) • San Joaquin Hills Rd. (EW) • Santa Barbara Dr. (EW) • Coast Hw. (EW)	(none) (none) (none) (none)		C B A C	C C C C	(none) (none) (none) (none)	E C B D	D C C D
Santa Cruz Dr. (NS) at: • San Joaquin Hills Rd. (EW)	(none)		A	A	(none)	A	C
Santa Rosa Dr. (NS) at: • San Joaquin Hills Rd. (EW)	(none)		A	C	(none)	A	A
Newport Center Dr. (NS) at: • Coast Hw. (EW)	(none)		A	B	(none)	E	A
Avocado Av. (NS) at: • Coast Hw. (EW)	(none)		C	C	(none)	A	E
MacArthur Bl. (NS) at: • Bison Av. (EW) • Ford Rd./Bonita Canyon Dr. (EW) • San Joaquin Hills Rd. (EW)	(none) Provide 3rd SB left turn lane. Provide 4th NB through lane. Provide 3rd SB left-turn lane. Provide 3rd EB left-turn lane. Eliminate NB right-turn lane.	All three improvements required to achieve LOS "D". May require narrow lanes and lead/lag left-turn operations.	C C B	C D D	Add a SB left-turn lane, a WB left-turn lane and a NB left-turn lane.  (none)  (No improvement necessary; done w/6 lanes.)	C D B	D D D



TABLE ES-11 (Page 6 of 6)

INTERSECTION IMPROVEMENT SUMMARY AND COMPARISON TABLE

INTERSECTION	WITH PROJECT INTERSECTION IMPROVEMENTS	FEASIBILITY/ ROW REQUIRED	RESULTING WITH PROJECT LOS		PREVIOUS CIRCULATION ELEMENT IMPROVEMENTS	PREVIOUS LOS	
			AM	PM		AM	PM
MacArthur Bl. (NS) at: • San Miguel Dr. (EW) • Coast Hw. (EW)	(none) (none)		B	C	Add a WB left-turn lane.	A	E
San Miguel Dr. (NS) at: • San Joaquin Hills Rd. (EW)	(none)		A	C	Add a WB left-turn lane.	A	D
Goldenrod Av. (NS) at: • Coast Hw. (EW)	(none)		E	B	(none)	D	D
Marguerite Av. (NS) at: • San Joaquin Hills Rd. (EW) • Coast Hw. (EW)	(none) (none) (none)		A	A	(none)	A	B
Poppy Av. (NS) at: • Coast Hw. (EW)	(none)		E	E	(none)	D	B
	(none)		B	C	(none)	C	D

<sup>1</sup> The intersection of Campus Drive and Bristol Street North has high traffic volumes due to its direct access to SR-73 and the fact that Campus Drive and Birch Street serve as the arterials between the Irvine Business Complex and the high intensity office developments in the northern portion of the City of Newport Beach and SR-73. Because of the particular geometries and traffic volumes and distribution at this intersection, it will be difficult for conventional intersections to carry the forecast traffic. Additional lanes could be provided, however the weave movements between southbound right turn from Campus to SR-73 could make this operationally difficult to achieve. Therefore, it is recommended that this be defined as a special project area with alternative solutions being sought that could range from major intersection upgrading to possible grade-separation.

The potential extension of the SR-55 freeway is not recommended, as it would result in additional through traffic congestion on Coast Highway through Mariners Mile.

The City Council has identified open space as the preferred use of Banning Ranch, but the analysis contained in this Transportation Study has assumed worst case conditions, including alternate residential and commercial development on the Banning Ranch property. If the open space preservation occurs, roadway segments through the property (Bluff Road and 15<sup>th</sup> Street) will not be constructed, the relief to Superior Avenue at Coast Highway will not be provided by the new Bluff Road connection, and Superior Avenue at Coast Highway will experience Level of Service "E" conditions. With development on Banning Ranch, Bluff Road at Coast Highway would experience unacceptable levels of service unless the 15<sup>th</sup> Street extension is constructed. Without this improvement, an additional westbound through lane would be required on Coast Highway to provide LOS "D" conditions at the intersection of Bluff Road at Coast Highway. Based on this analysis it is recommended that two new roadways provide access to Coast Highway through the Banning Ranch property, should the alternate land use be constructed.

The widening of Coast Highway through Mariners Mile is recommended, as it would alleviate congestion through this key stretch of roadway, and the City has already begun reserving right-of-way for this improvement. To facilitate this widening, it is recommended that the City pursue obtaining control of Coast Highway from the California Department of Transportation (Caltrans), so that the widening may be constructed to City of Newport Beach standards.

Grade separation for the intersection of MacArthur Boulevard at Jamboree Road is one improvement that was considered to maintain LOS "D" at this location. During the Visioning Process, citizens indicated a desire to not incorporate additional grade separated intersections in the roadway system. Acceptable

operations can be achieved with at-grade improvements (a 4th eastbound through lane and a 3rd westbound left turn lane), and those improvements are recommended. The City of Newport Beach (in conjunction with the City of Irvine) is in the process of studying improvement alternatives, including potential grade separation.

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## **1.0 INTRODUCTION AND METHODOLOGY**

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This report has been prepared in support of the update of the City of Newport Beach General Plan and Circulation Element. This report documents the traffic analysis performed to determine the impacts and provide recommendations in developing the City of Newport Beach General Plan Circulation Element.

This chapter of the report introduces the reader to the existing and General Plan buildout analysis portion of the City of Newport Beach General Plan Circulation Element update project and presents the goals and objectives of the work effort. The General Plan forecasts have been prepared using the Newport Beach Traffic Model, version 3.1 (NBTM 3.1). For detailed discussion of the model, see Newport Beach Traffic Model (NBTM) 3.1 Technical Documentation Report (Urban Crossroads, Inc., December, 2003).

The NBTM 3.1 travel demand forecasting tool has been developed for the City of Newport Beach to identify traffic and circulation issues in and around the City. The NBTM 3.1 tool has been developed in accordance with the requirements and recommendations of the Orange County Subarea Modeling Guidelines Manual (August, 1998) and has been found by the Orange County Transportation Authority (OCTA) to be consistent with these guidelines. The NBTM 3.1 is intended to be used for roadway planning and traffic impact analyses, such as:

- General Plan/Land Use analysis required by the City of Newport Beach.
- Amendments to the Orange County Master Plan of Arterial Highways (MPAH).
- Orange County Congestion Management Program (CMP) analysis.

The NBTM 3.1 is a vehicle trip based modeling tool, and it is intended for evaluating general roadway system supply and demand problems and issues. The NBTM 3.1 has been specifically calibrated to represent "shoulder season" (spring/fall) conditions in the City of Newport Beach, consistent with longstanding practice for traffic analysis in the City of Newport Beach. This is also consistent with current practices at many other local agencies in the region.

The NBTM has been updated as part of this work effort to incorporate the most current demographic information available, including socioeconomic data outside the primary area, and new income data within the primary area. Examples of substantial changes outside the City of Newport Beach include John Wayne Airport expansion plans, University of California, Irvine (UCI) expansion, as well as reuse of the Marine Corps Air Stations at Tustin and El Toro.

## 1.1 Goals and Objectives

The goals of the General Plan Update Traffic Study are to present the existing traffic network, volumes, and evaluation; develop and analyze future General Plan buildout, without and with project, daily and peak hour volume forecasts; compile data for additional transportation systems; present special issues.

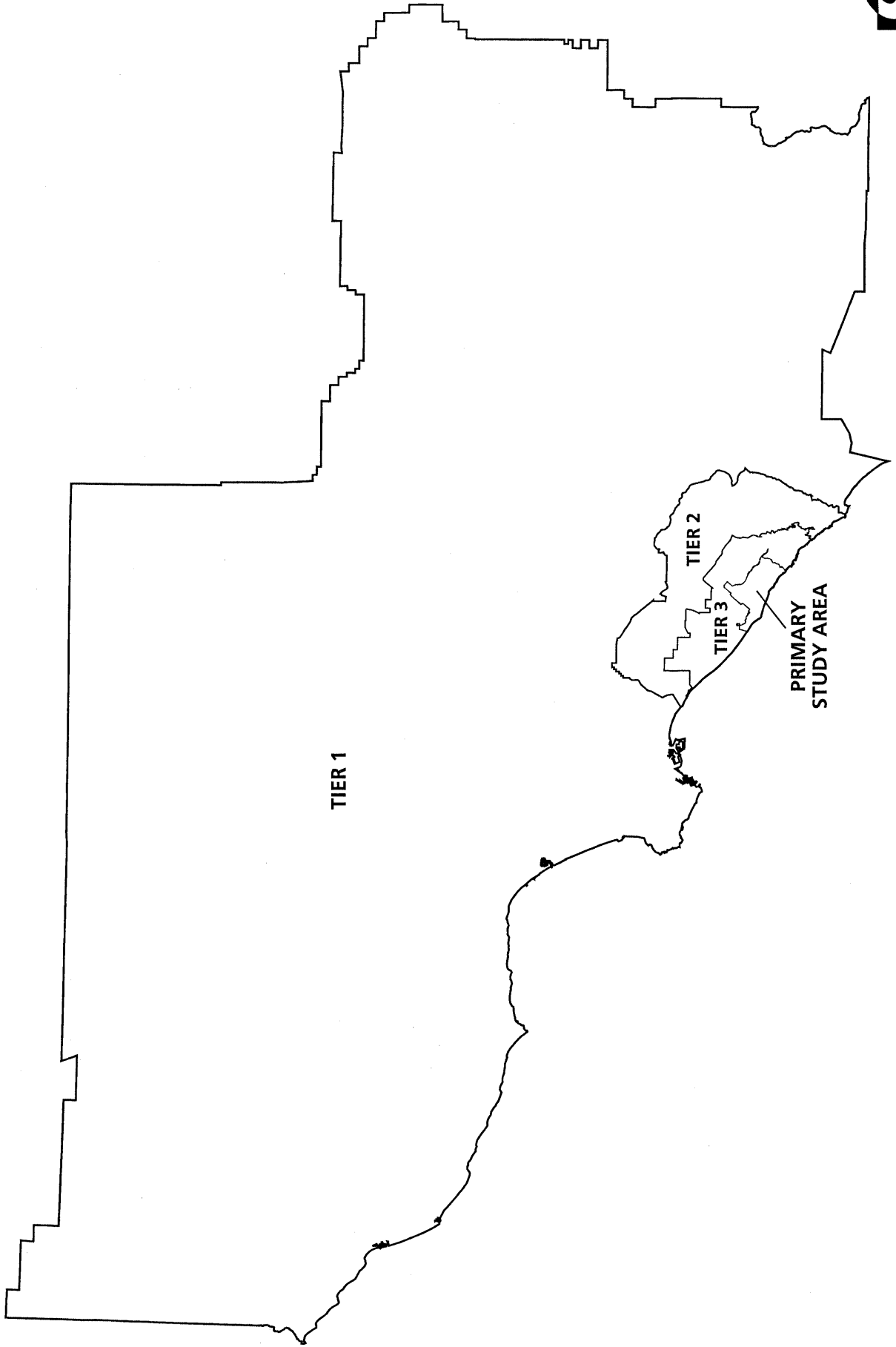
## 1.2 Methodology Overview

This section provides a broad overview of the analysis methodology. Subsequent sections provide additional detail regarding the forecasting methodology. The overall coverage area of the NBTM 3.1 is depicted on Exhibit 1-A. The NBTM 3.1 coverage area includes the five county urbanized area which is included in the parent Orange County Transportation Analysis Model, Version 3.1 (OCTAM 3.1) tool.

The basic model structure recommended in the subarea modeling guidelines is a "focused" modeling approach. The concept of a focused model is to provide the greatest level of detail within the primary analysis or study area, with the least detail included in those parts of the model which are geographically distant from the primary study area. This concept is further refined in the guidelines as a three tier system.

Tier 1 is the least detailed component of the subarea model. The intent of the Tier 1 level of definition is to provide the minimum amount of detail necessary to accommodate regional traffic as it enters the Tier 2 coverage area.

EXHIBIT 1-A  
**NBTM OVERALL COVERAGE AREA**



The Tier 1 level of detail is not intended to support detailed analysis within the Tier 1 area.

The Tier 2 level of detail corresponds directly to the parent OCTAM 3.1 model, while Tier 3 incorporates more detail than the parent model. Exhibit 1-A also presents the limits of each tier or level of detail. While the Tier 3 area incorporates additional detail surrounding the City of Newport Beach, the City is the primary study area for this work effort.

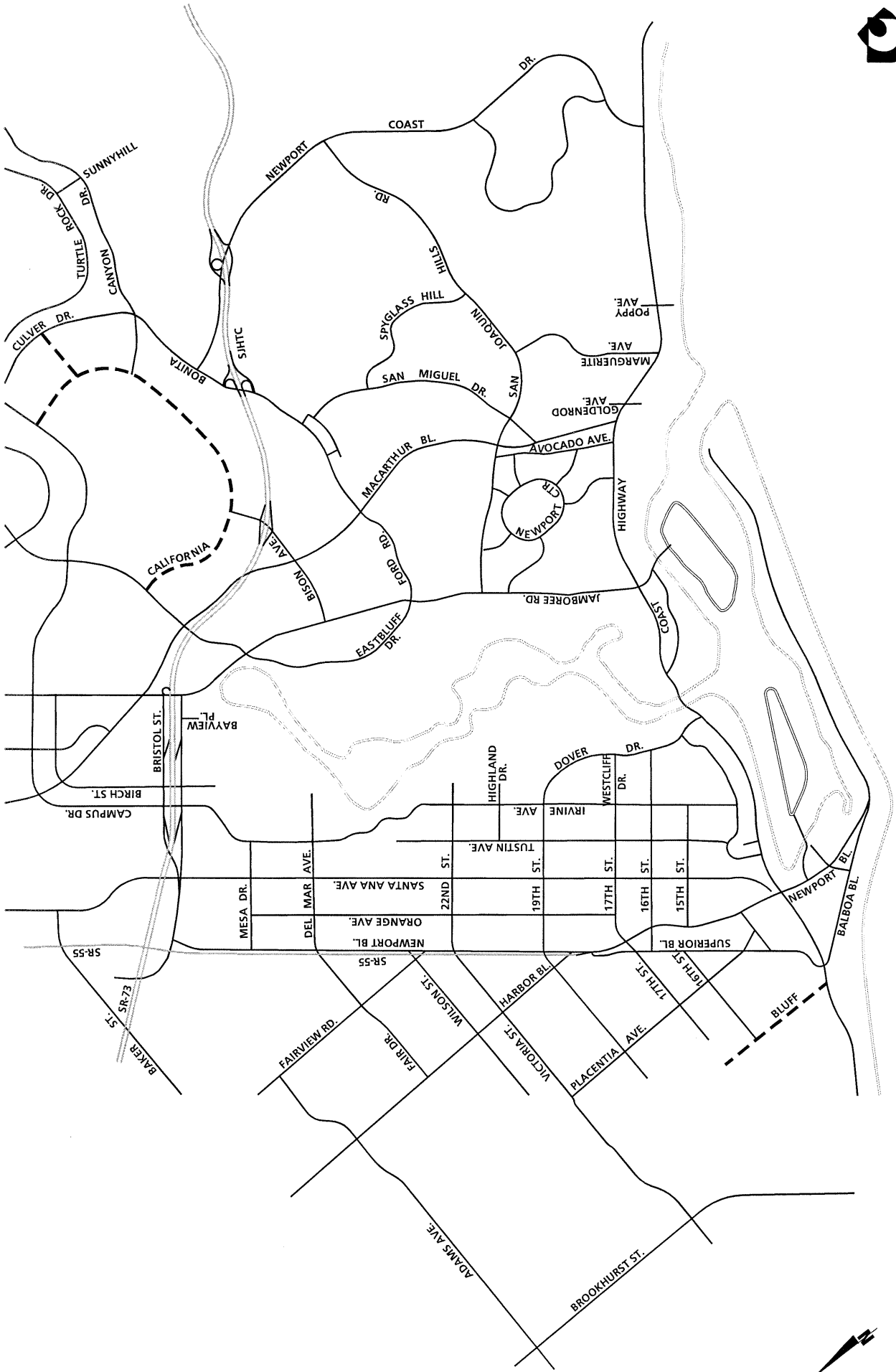
The primary study area of the NBTM is shown on Exhibit 1-B. The primary study area of the NBTM is generally bounded by the Brookhurst Street/Santa Ana River on the west, Adams Avenue/Baker Street/Campus Drive/SR-73 on the north, Crystal Cove State Park on the east, and the Pacific Ocean on the south. As described previously, Tier 2 area level of detail and vehicle traffic forecasting capability is equal to that of the parent OCTAM 3.1 travel demand forecasting tool. The Tier 2 area is generally bounded by the northwest Orange County line, I-5 Freeway, Fairhaven Avenue, Santiago Canyon Road, El Toro Road, Santa Margarita Parkway, Trabuco Creek, and the Pacific Ocean.

The NBTM is derived from the OCTAM 3.1. Exhibit 1-C provides an overview of the NBTM modeling process. The general modeling steps or processes are:

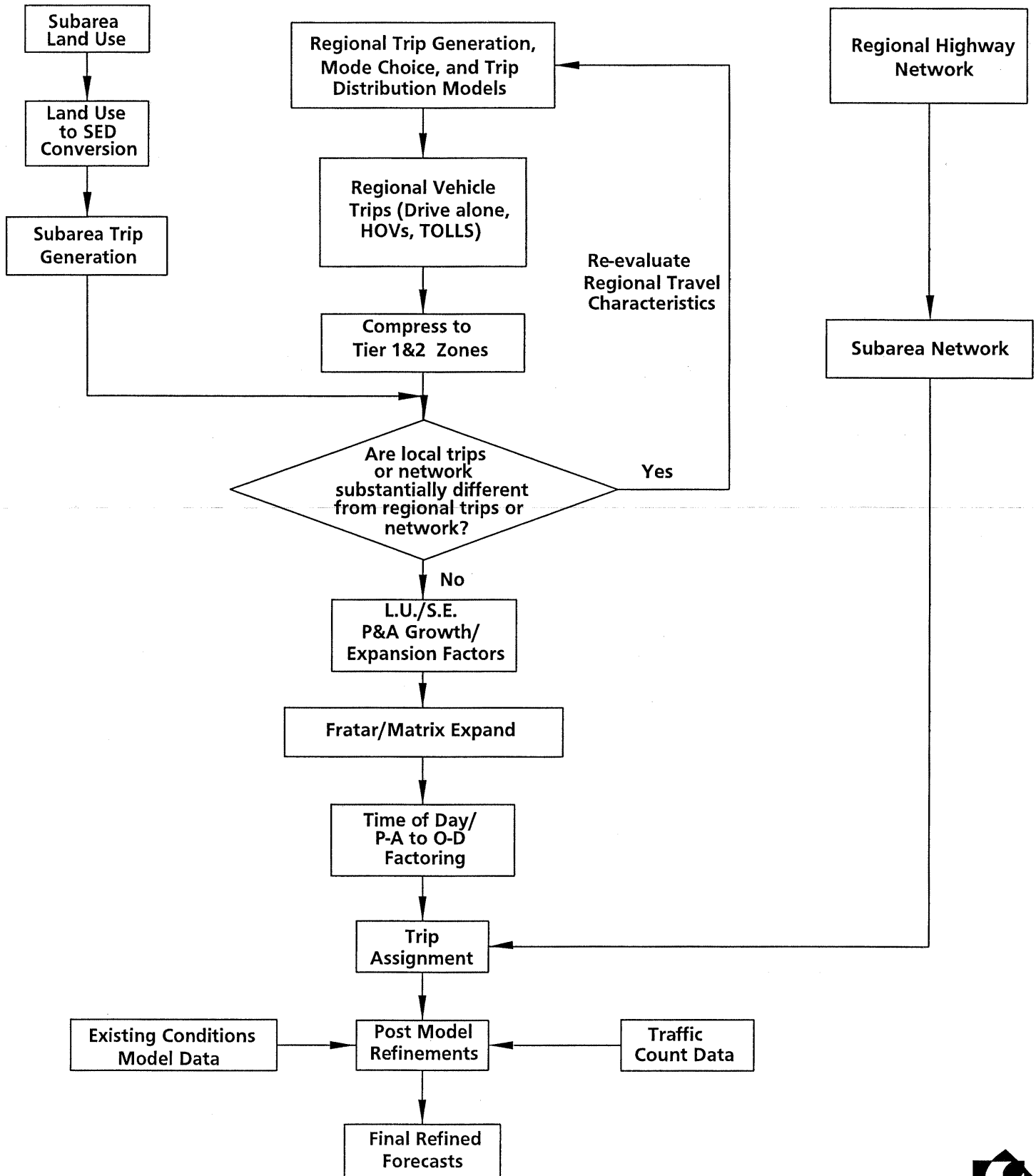
- Land use to socioeconomic data (SED) conversion
- Trip generation and mode choice
- Trip distribution
- Time of day factoring
- Traffic assignment
- Post-assignment data refinement processing.



EXHIBIT 1-B  
**NEWPORT BEACH TRAFFIC MODEL (NBTM) PRIMARY STUDY AREA**



# NEWPORT BEACH TRAFFIC MODEL (NBTM) OVERALL MODELING METHODOLOGY



The NBTM relies on regional model estimates of trip generation, trip distribution, and mode choice. The model structure accommodates changes in land use/socioeconomic and network characteristics in the following manner:

**Trip Generation -** Trip generation estimates are based on socioeconomic data driven trip generation rates. The primary study area socioeconomic data is derived from the City of Newport Beach land use. The calculated trip generation is then used to adjust the regional trip generation results to match the more detailed local NBTM trip generation estimate.

**Trip Distribution -** Trip distribution estimates are based on trip distribution patterns estimated by the regional travel demand model and incorporated into the subarea model. The number of trips attributed to the primary study area in the regional model is adjusted to match the project trip generation using an analytical approach commonly referred to as the Fratar model. This process automatically adjusts the trip distribution patterns as necessary.

**Mode Choice -** Mode choice (driving, riding as a passenger, or taking a bus) is estimated by using regional model mode share results, which are then incorporated directly into the subarea model.

**Traffic Assignment -** Traffic is assigned to the roadway system on the basis of travel time and cost. Tolls (assumed for both existing and future conditions) are explicitly included in the traffic assignment process using the procedures obtained from the regional travel demand model.

Traffic is assigned separately for the AM, mid-day, PM, and nighttime periods of the day, to allow for more accurate representation of the effects of congestion on the choice of travel routes by drivers.

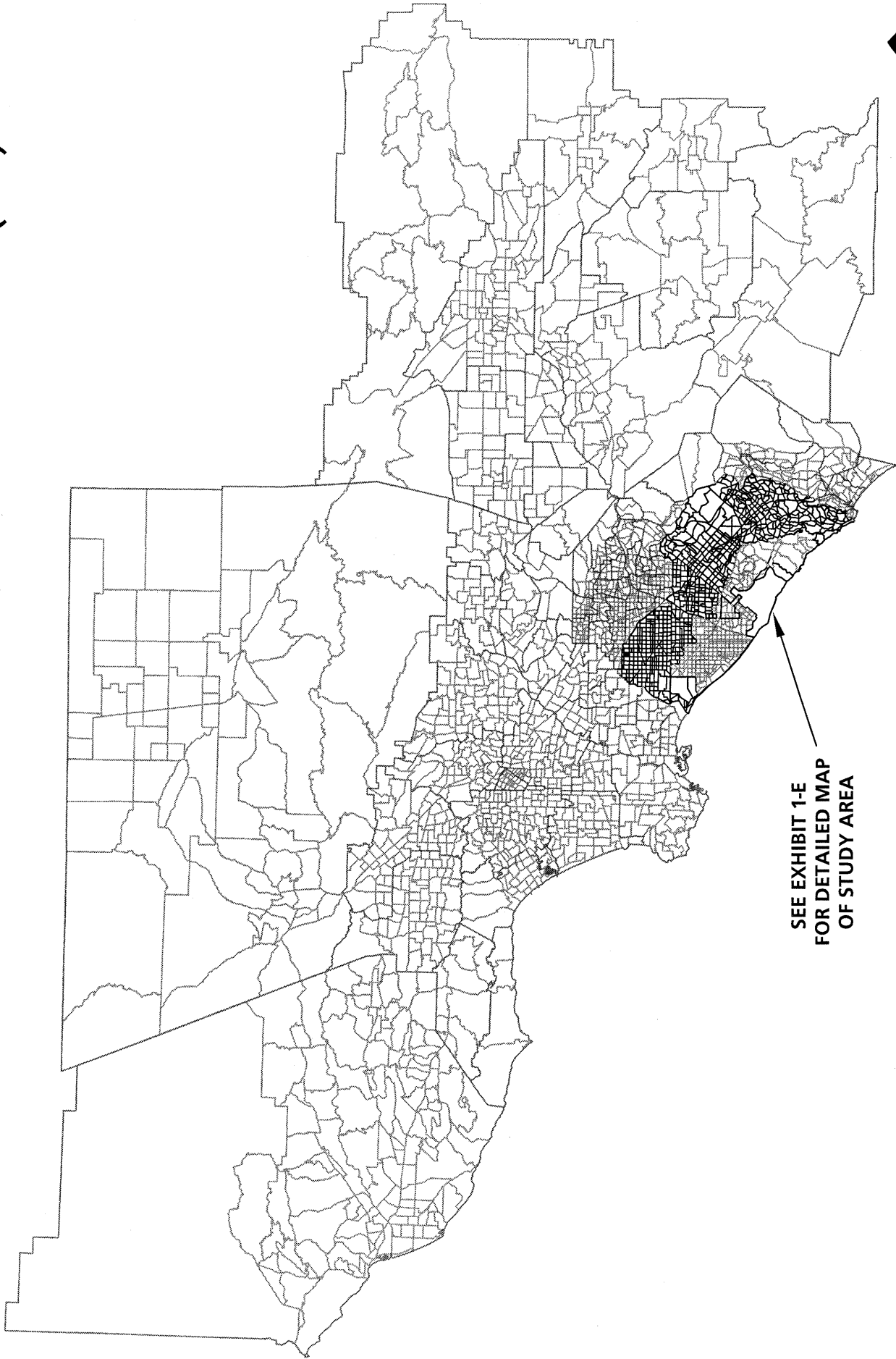
**Post Model Refinements** -The goal of the future traffic volume forecast refinement or post model refinement processing is to utilize all available data to prepare the best possible estimate of future traffic conditions. The NBTM procedure incorporates 2002 traffic count data, 2002 model validation data (traffic estimates), and future (raw) model forecasts (estimates) as inputs.

#### 1.2.1 Traffic Analysis Zone (TAZ) Structure

The overall NBTM TAZ Structure is shown on Exhibit 1-D. The primary study area (City of Newport Beach) TAZ structure is shown on Exhibit 1-E and incorporates 194 TAZs for purposes of aggregating individual land uses to a level of detail suitable for local area modeling. By contrast, the OCTAM 3.1 TAZ system includes 69 TAZs for the same area. The additional TAZ structure detail is intended to support accurate forecasting of traffic on all arterial roadways (as well as study area freeways) within the study area.

The NBTM 3.1 TAZs generally aggregate to the OCTAM 3.1 TAZs within the primary modeling area. This is a requirement of the consistency guidelines. The only exception/deviation was the Newport Coast area, where the OCTAM TAZs do not correspond to approved circulation and development patterns. OCTA staff indicated that this would be acceptable at a cooperative meeting held on May 22, 2002 at Urban Crossroads, Inc..

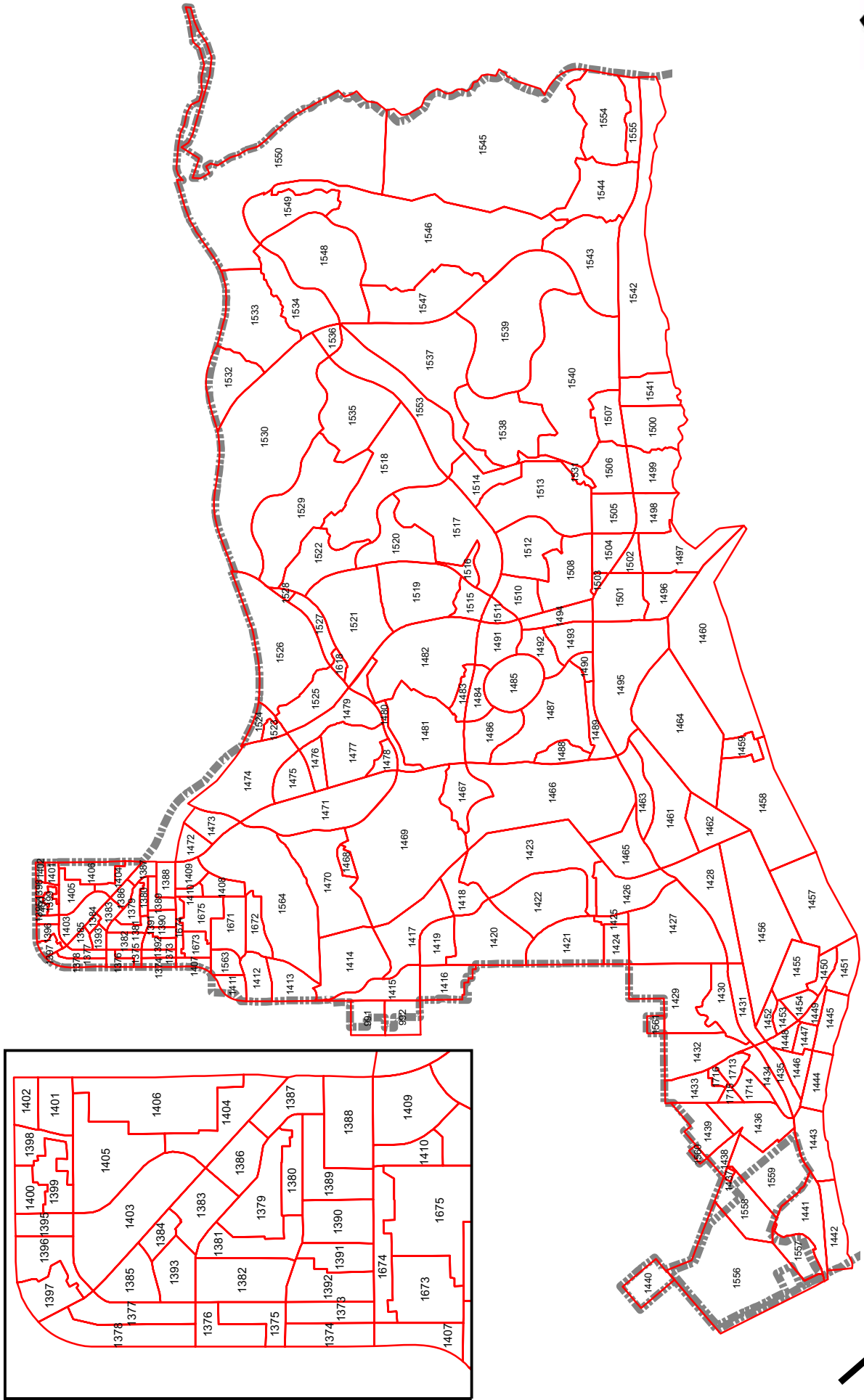
EXHIBIT 1-D  
**TRAFFIC ANALYSIS ZONE (TAZ) SYSTEM**



SEE EXHIBIT 1-E  
FOR DETAILED MAP  
OF STUDY AREA



# EXHIBIT 1-E NBTM PRIMARY AREA TRAFFIC ANALYSIS ZONE (TAZ) STRUCTURE



offices. Within the NBTM 3.1 secondary (Tier 2) analysis area, the NBTM TAZs correspond to the OCTAM 3.1 TAZs on a one-to-one basis. Traffic Analysis Districts group areas with similar characteristics for use in traffic source analysis, Fratar Modeling (a trip generation/distribution adjustment process), and occupancy adjustments. Traffic Analysis Districts are shown on Exhibit 1-F.

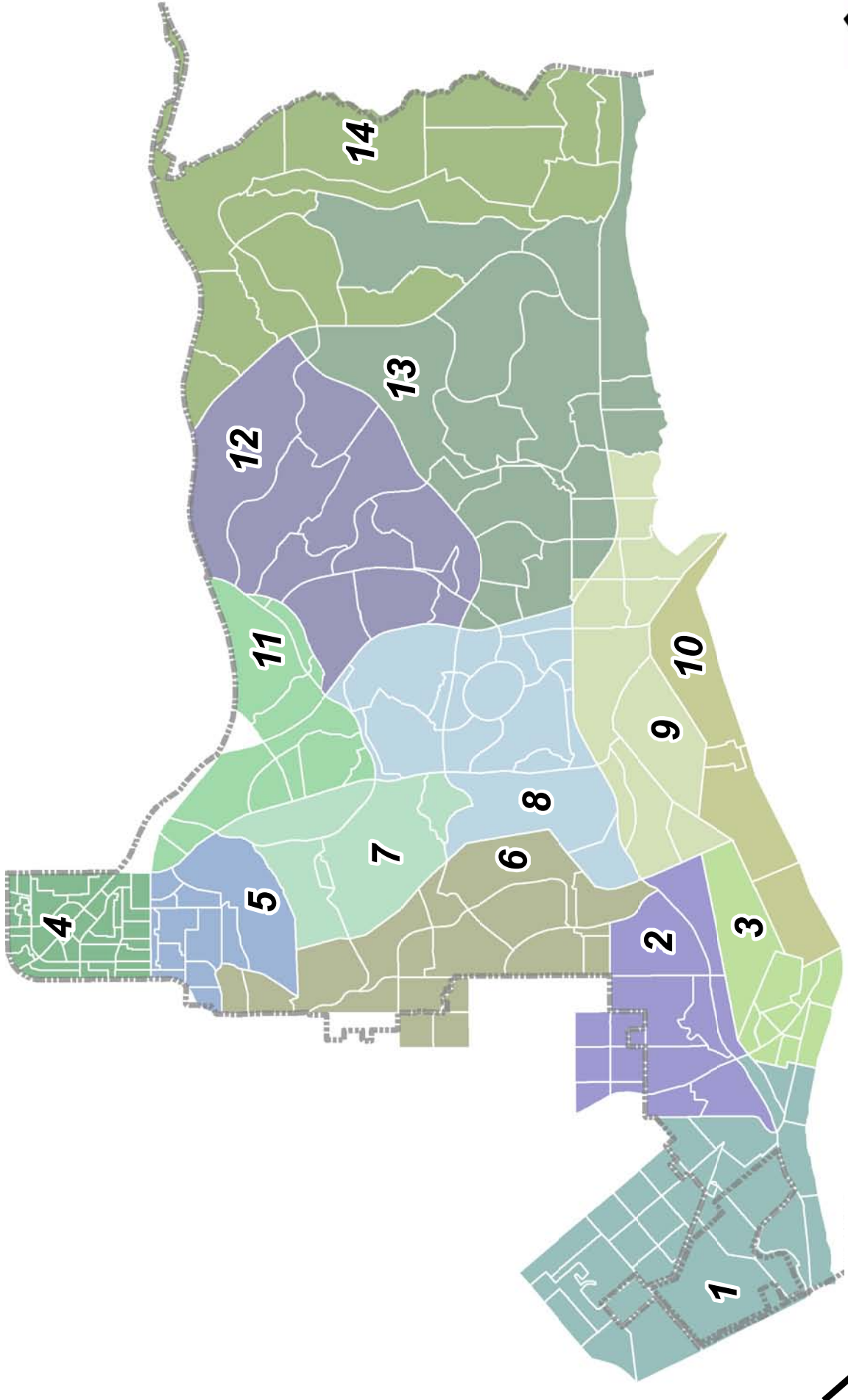
### 1.2.2 Land Use to Socioeconomic Data Conversion Process

The conversion of land use to SED is the first step in the NBTM modeling process. Exhibit 1-G illustrates the overall land use to SED conversion and trip generation process. The City of Newport Beach maintains land use data that is used for many purposes, including providing input data to the NBTM traffic forecasting process.

Regional modeling consistency requirements necessitate use of consistent input data that provides trip generation estimates that are also consistent with the regional modeling tool. OCTA uses the following variables as the input data for OCTAM 3.1:

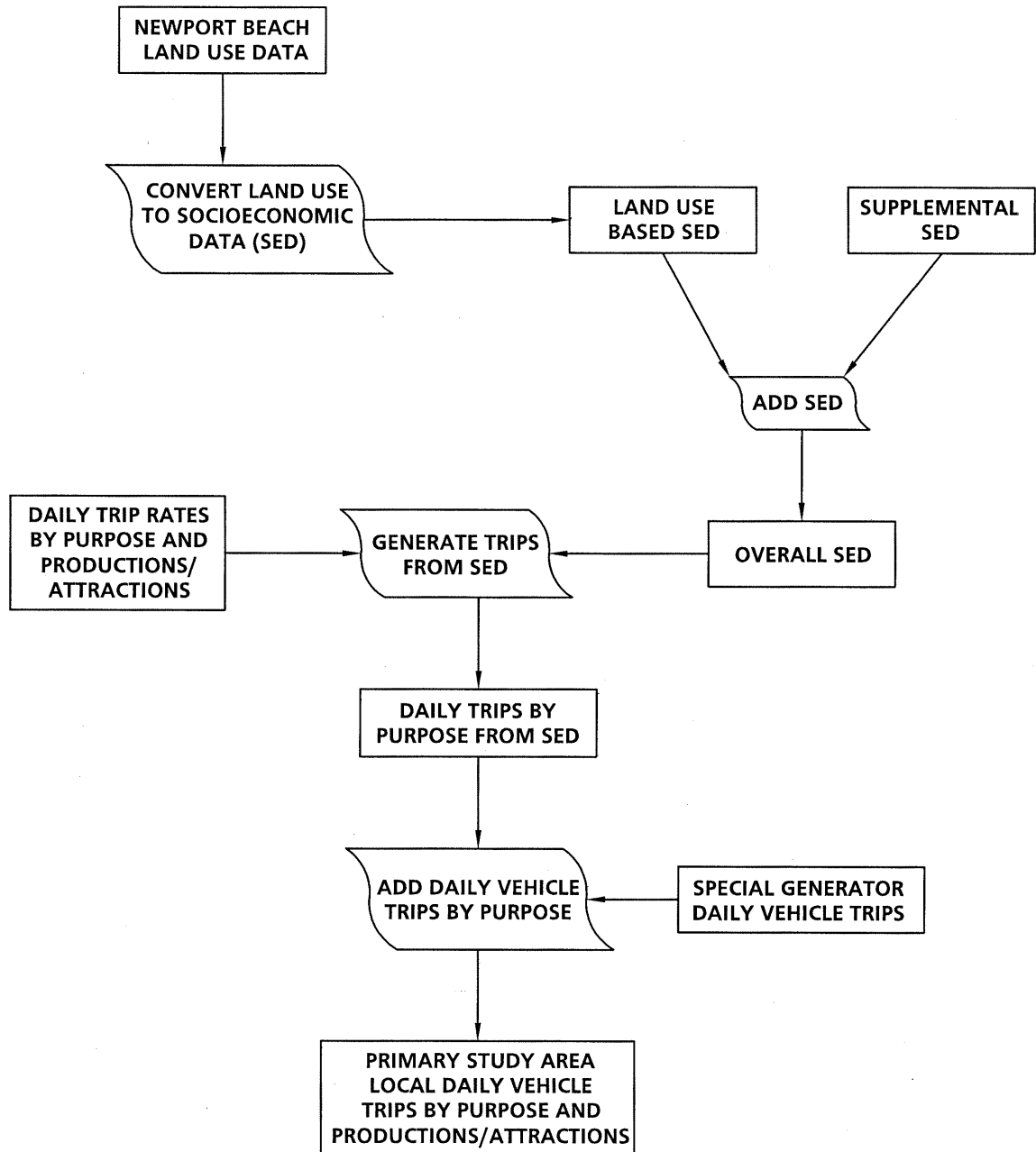
- (Total) Population
- Household Population
- Employed Residents
- (Non-Institutionalized) Group Quarters Population
- Occupied Single-Family Households
- Occupied Multiple-Family Households (including all households other than single family households)
- (Total Occupied) Dwelling Units
- Retail Employment
- Service Employment

EXHIBIT 1-F  
TRAFFIC ANALYSIS DISTRICTS

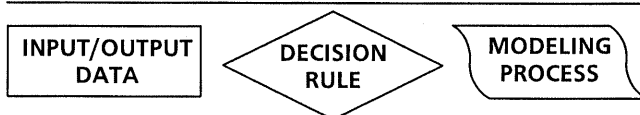




# NEWPORT BEACH TRAFFIC MODEL (NBTM) TRIP GENERATION PROCESS



**LEGEND:**



- Other Employment (Non-Service and Non-Retail)
- Total Employment
- Median Household Income
- Elementary/High School Enrollment
- (Non-Resident or Commuter Student) University Enrollment

Many of these variables are self-descriptive. A brief explanation is provided for those variables which are not self-descriptive.

Non-Institutionalized Group Quarters Population: Non-institutionalized group quarters population refers to military personnel living in barracks and students living in dormitories. It also includes similar populations, such as seminaries, convents, orphan homes, agricultural workers living in dormitories/barracks, homes for unwed mothers, and institutional staff (at hospitals, prisons, etc.) who live on the premises where they work.

Retail Employment: The definition is consistent with the definition presented in the documentation for the OCTAM 3.1 (OCTAM 3.1 Summary Documentation and Validation Report, June 2001). Per this definition, all employment falling into Standard Industrial Classification (SIC) codes 52 - 59 is considered retail employment. These codes include retail shops, eating and drinking establishments (SIC 58), etc.

Service Employment: For the purposes of this modeling effort and consistent with OCTAM 3.1, all employment falling into Standard Industrial Classification (SIC) codes 70-89 is considered service employment. Examples of service employment include hotels and other lodging, personal services (dry cleaners, beauty salons, etc.), auto repair shops, medical/dental offices, educational services (schools, libraries, etc.), and social services.

Conversion factors for each of the land use codes maintained in the city land use dataset have been developed by Urban Crossroads, Inc. staff. Table 1-1 shows the SED conversion factors that were the result of this calibration process. Initial factors were derived from previous modeling efforts, then refined to provide socioeconomic data that more closely matches citywide summary data provided by City of Newport Beach staff, and regionally accepted data.

Occupancy factors and SED conversion factors have been differentiated for the "Balboa" area, corresponding to District 3, 9, and 10 on Exhibit 1-F. For instance, lower retail occupancy is experienced during the "shoulder" seasons represented by the NBTM.

### 1.2.3 Trip Generation

Subarea models are now required to match (nearly exactly) regional trip generation estimates derived from socioeconomic data (SED) at the regional model traffic analysis zone (TAZ) level for base year and future year consistency scenarios. It has long been recognized that there are differences between land use and SED based trip generation approaches. These differences have been addressed and reduced in recent years. The approach taken for NBTM 3.1 is to convert land use to SED and generate traffic that is fairly consistent with the regional trip generation estimates.

Trip generation rates by socioeconomic data variable have been calibrated to provide validated city-wide traffic volumes. Initial rates were found in previous recent studies. Rates were then adjusted to reflect the unique characteristics of the City of Newport Beach. Production and attraction based trip generation rates are shown on Table 1-2. Please note that multi-family residential units do generate Home-Work attractions

TABLE 1-1 (1 OF 2)  
 LAND USE TO SOCIOECONOMIC DATA CONVERSION FACTORS

NBTM LAND USE CODE	NBTM LAND USE DESCRIPTION	UNITS	ACTIVITY LEVEL / OCCUPANCY RATE	SINGLE FAMILY DWELLING UNITS	MULTI-FAMILY DWELLING UNITS	GROUP QUARTERS POPULATION	POPULATION	RESIDENT WORKERS	RETAIL EMPLOYMENT	SERVICE EMPLOYMENT	OTHER EMPLOYMENT	TOTAL EMPLOYMENT	ELEMEN-TARY/HIGH SCHOOL STUDENTS	UNIVERSITY STUDENTS
1	Res-Low (SFD)-Balboa	DU	0.90	1	0	0	2.20	1.00	0.02	0.15	0.03	0.20	0	0
1	Res-Low (SFD)	DU	0.95	1	0	0	2.50	1.60	0.02	0.15	0.03	0.20	0	0
2	Res-Medium (SFA)-Balboa	DU	0.90	0	1	0	2.10	0.90	0.00	0.02	0.01	0.03	0	0
2	Res-Medium (SFA)	DU	0.95	0	1	0	2.40	1.50	0.00	0.02	0.01	0.03	0	0
3	Apartment-Balboa	DU	0.90	0	1	0	1.70	0.80	0.00	0.02	0.01	0.03	0	0
3	Apartment	DU	0.95	0	1	0	1.70	1.30	0.00	0.02	0.01	0.03	0	0
4	Elderly Residential	DU	1.00	0	1	0	1.40	0.25	0.00	0.00	0.00	0.00	0	0
5	Mobile Home-Balboa	DU	0.90	0	1	0	1.70	0.60	0.00	0.00	0.00	0.00	0	0
5	Mobile Home	DU	0.95	0	1	0	2.20	1.00	0.00	0.00	0.00	0.00	0	0
6	Motel	ROOM	0.90	0	0	0	0.00	0.00	0.10	1.00	0.20	1.30	0	0
7	Hotel	ROOM	0.90	0	0	0	0.00	0.00	0.10	1.20	0.50	1.80	0	0
9	Regional Commercial	TSF	0.80	0	0	0	0.00	0.00	1.30	0.34	0.44	2.08	0	0
10	General Commercial	TSF	0.90	0	0	0	0.00	0.00	2.00	0.20	0.20	2.40	0	0
11	Comm./Recreation	ACRE	1.00	0	0	0	0.00	0.00	1.00	4.00	0.00	5.00	0	0
13	Restaurant	TSF	0.90	0	0	0	0.00	0.00	2.70	0.00	0.50	3.20	0	0
15	Fast Food Restaurant	TSF	0.90	0	0	0	0.00	0.00	3.30	0.00	0.70	4.00	0	0
16	Auto Dealer/Sales	TSF	1.00	0	0	0	0.00	0.00	1.50	0.30	1.00	2.80	0	0
17	Yacht Club	TSF	1.00	0	0	0	0.00	0.00	0.60	2.50	0.00	3.10	0	0
18	Health Club	TSF	1.00	0	0	0	0.00	0.00	0.60	2.50	0.00	3.10	0	0
19	Tennis Club	CRT	1.00	0	0	0	0.00	0.00	1.00	0.00	1.70	2.70	0	0
20	Marina	SLIP	1.00	0	0	0	0.00	0.00	0.10	0.00	0.12	0.22	0	0
21	Theater	SEAT	1.00	0	0	0	0.00	0.00	0.01	0.02	0.02	0.05	0	0
22	Newport Dunes	ACRE	1.00	0	0	0	0.00	0.00	0.90	0.20	0.25	1.35	0	0
23	General Office	TSF	0.90	0	0	0	0.00	0.00	0.13	0.50	2.73	3.36	0	0
24	Medical Office	TSF	0.90	0	0	0	0.00	0.00	0.30	2.50	1.00	3.80	0	0
25	R & D	TSF	0.90	0	0	0	0.00	0.00	0.00	0.90	1.50	2.40	0	0
26	Industrial	TSF	0.90	0	0	0	0.00	0.00	0.00	0.00	2.20	2.20	0	0

**TABLE 1-1 (2 OF 2)**  
**LAND USE TO SOCIOECONOMIC DATA CONVERSION FACTORS**

NBTM LAND USE CODE	NBTM LAND USE DESCRIPTION	UNITS	ACTIVITY LEVEL / OCCUPANCY RATE	SINGLE FAMILY DWELLING UNITS	MULTI-FAMILY DWELLING UNITS	GROUP QUARTERS POPULATION	POPULATION	RESIDENT WORKERS	RETAIL EMPLOYMENT	SERVICE EMPLOYMENT	OTHER EMPLOYMENT	TOTAL EMPLOYMENT	ELEMEN-TARY/HIGH SCHOOL STUDENTS	UNIVERSITY STUDENTS
27	Mini-Storage/Warehouse	TSF	0.90	0	0	0	0.00	0.00	0.00	0.10	1.70	1.80	0	0
28	Pre-School/Day Care	TSF	1.00	0	0	0	0.00	0.00	0.00	7.00	0.00	7.00	0	0
29	Elementary/Private School	STU	1.00	0	0	0	0.00	0.00	0.00	0.00	0.15	0.15	1	0
30	Junior/High School	STU	1.00	0	0	0	0.00	0.00	0.00	0.00	0.15	0.15	1	0
31	Cultural/Learning Center	TSF	1.00	0	0	0	0.00	0.00	0.00	3.00	1.00	4.00	0	0
32	Library	TSF	1.00	0	0	0	0.00	0.00	0.00	3.00	1.00	4.00	0	0
33	Post Office	TSF	1.00	0	0	0	0.00	0.00	0.10	4.05	1.00	5.15	0	0
34	Hospital	BEDS	1.00	0	0	0	0.00	0.00	0.00	1.40	2.80	4.20	0	0
35	Nursing/Conv. Home	BEDS	1.00	0	0	1	1.00	0.00	0.00	0.30	0.10	0.40	0	0
36	Church	TSF	1.00	0	0	0	0.00	0.00	0.00	0.80	1.00	1.80	0	0
37	Youth Ctr/Service	TSF	1.00	0	0	0	0.00	0.00	0.00	7.00	0.00	7.00	0	0
38	Park	ACRE	1.00	0	0	0	0.00	0.00	0.00	0.60	0.00	0.60	0	0
39	Regional Park	ACRE	1.00	0	0	0	0.00	0.00	0.00	0.60	0.00	0.60	0	0
40	Golf Course	ACRE	1.00	0	0	0	0.00	0.00	0.10	0.60	0.00	0.70	0	0
41	Resort Golf Course	ACRE	1.00	0	0	0	0.00	0.00	0.10	0.60	0.00	0.70	0	0

TABLE 1-2

NBTM SOCIOECONOMIC DATA (SED) BASED TRIP RATES

		VARIABLES										
UNITS	Single Family Residential	Multi Family Residential	POP	Employed Residents	Income \$MIL	Retail Employment	Service Employment	Other Employment	EI./HS Enrollment	University/ Coll. Enroll.	DU	
											DU	Stu
PRODUCTION TRIP RATES												
H-W	0	0	0	1.15	0	0	0	0	0	0	0	0
O-W	0	0	0	0	0	1.6	0.7	0.54	0	0	0	0
H-O	1	0.6	0.2	0	11	0	0	0	0	0	0	0
H-Shop	0.8	0.4	0.1	0	10	0	0	0	0	0	0	0
O-O	0.4	0.4	0	0	2	4.5	0.6	0.24	0	0.2	0	0
H-U	0	0	0.04	0	0	0	0	0	0	0	0	0
H-Sch	0	0	0.14	0	0	0	0	0	0	0	0	0
ATTRACTION TRIP RATES												
H-W	0.1	0.1	0	0	0	1.15	1.15	1.15	0	0	0	0
O-W	0.2	0.2	0	0	0	1.6	0.6	0.54	0	0.2	0	0
H-O	0.4	0.3	0	0	1	2	0.5	0.1	0	0	0	0
H-Shop	0	0	0	0	0	5.2	0	0	0	0	0	0
O-O	0.4	0.4	0	0	2	4.5	0.6	0.2	0	0.2	0	0
H-U	0	0	0	0	0	0	0	0	0	0	0	0.91
H-Sch	0	0	0	0	0	0	0	0	0	0	0.88	0
<b>DAILY</b>	<b>3.3</b>	<b>2.4</b>	<b>0.48</b>	<b>1.15</b>	<b>26</b>	<b>20.55</b>	<b>4.15</b>	<b>2.77</b>	<b>0.88</b>	<b>1.51</b>		

to account for relatively transient employment related to these uses. Subsequent steps convert production-attraction based trip ends into linked trips, then, via the time of day factoring process, into origin-destination trip tables.

The number of trips generated by a typical dwelling unit (single-family detached, single-family attached, or apartment) is also a function of the dwelling unit population, the number of resident employed workers, employees (e.g. self-employed), and income. Table 1-3 presents example calculations for single-family detached dwelling units, single-family attached dwelling units, and apartments and illustrates the similarity to the land use based trip generation rates used in the previous version of NBTAM.

#### 1.2.4 Trip Distribution

Exhibit 1-H illustrates the NBTM trip distribution process. Separate procedures are employed for consistent scenarios and for scenarios where the local model deviates from the subregional model inputs and assumptions.

#### 1.2.5 Mode Choice

Most mode choice (e.g., drive-along, carpool, transit, etc.) issues are regional in nature, superseding cities' boundaries. For this reason, the NBTM approach is to acknowledge the role of mode choice through data obtained from the regional mode choice model. This data may be used directly for minor adjustments to account for future system refinements. It is necessary to return to the regional model for evaluation of major transit system changes. Adjustments to the NBTM are then reflected in terms of zonal vehicle trip generation adjustments. Regional mode choice survey data directly relevant to Newport Beach is presented to facilitate such minor adjustments.

**TABLE 1-3**

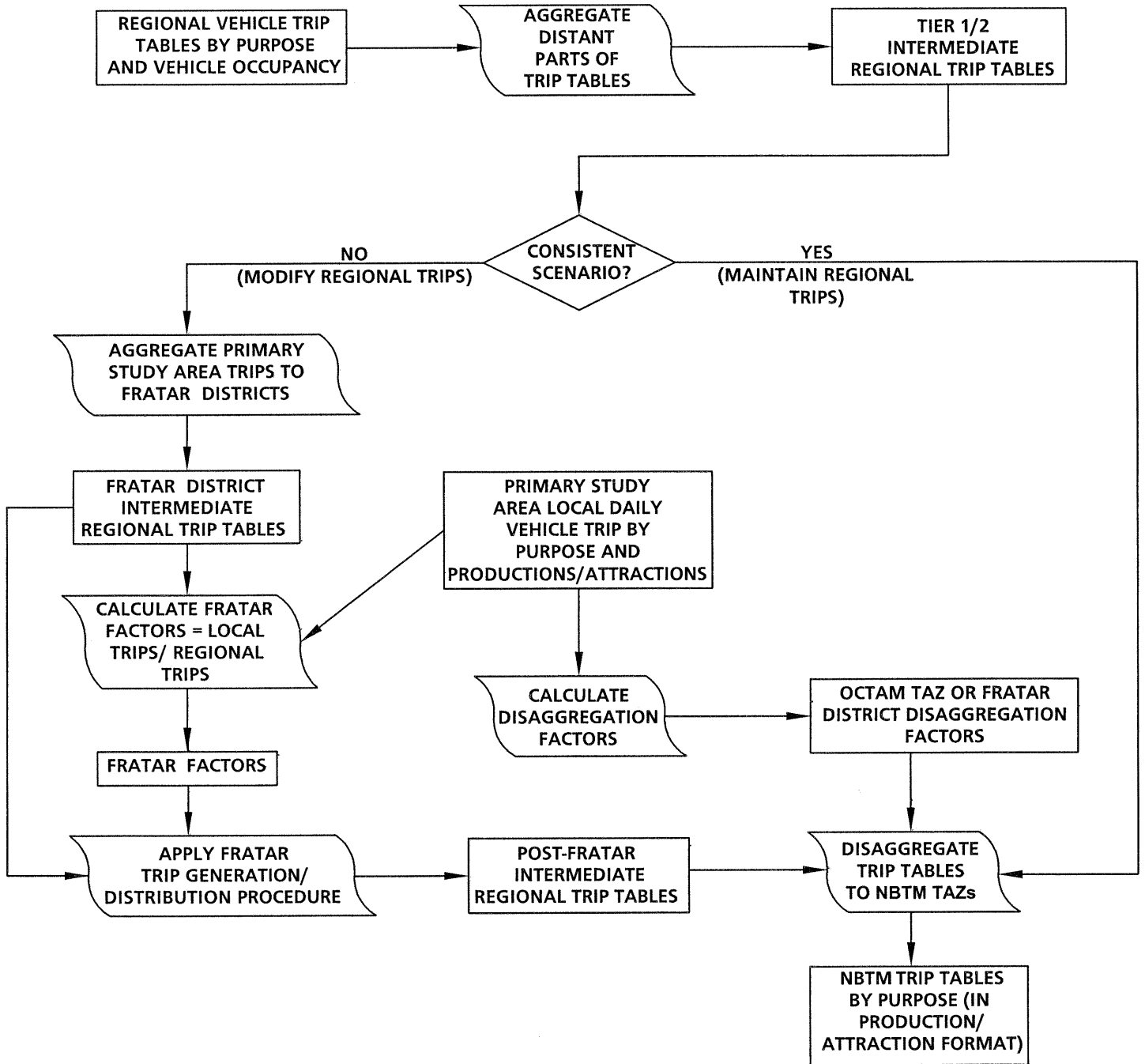
**TYPICAL NBTM 3.1 RESIDENTIAL TRIP GENERATION EXAMPLES**

TYPICAL SINGLE-FAMILY DETACHED DWELLING UNIT DAILY TRIPS				
VARIABLE	Units	Quantity	Daily Trip Rate	Daily Trips
Dwelling Units	DUs	1	3.3	3.3
Population	POP	2.5	0.48	1.2
Employed Residents	E-R	1.6	1.15	1.84
Retail Employment	RE	0.02	20.55	0.411
Service Employment	SE	0.15	4.15	0.623
Other Employment	OE	0.03	2.77	0.083
Income (Median Annual)	\$MIL	0.12	26	3.12
<b>TOTAL</b>				<b>10.58</b>
ITE SFDU (CODE = 210)				9.57

TYPICAL APARTMENT UNIT DAILY TRIPS				
VARIABLE	Units	Quantity	Daily Trip Rate	Daily Trips
Dwelling Units	DUs	1	2.4	2.4
Population	POP	1.7	0.48	0.816
Employed Residents	E-R	1.3	1.15	1.495
Service Employment	SE	0.02	4.15	0.083
Other Employment	OE	0.01	2.77	0.028
Income (Median Annual)	\$MIL	0.08	26	2.08
<b>TOTAL</b>				<b>6.902</b>
ITE MFDU (CODE = 220, Apartment)				6.63
ITE MFDU (CODE = 230, Residential Condominium/Townhouse)				5.86



# NEWPORT BEACH TRAFFIC MODEL (NBTM) TRIP DISTRIBUTION PROCESS



**LEGEND:**



### 1.2.6 Time of Day Factoring

The NBTM 3.1 time of day factors are summarized on Table 1-4. These factors have been derived from the regional model time of day factoring procedures and modified to reflect local knowledge.

### 1.2.7 Roadway Network Representation

The NBTM 3.1 network processing procedure replicates the OCTAM 3.1 coding conventions within the study area. The highway network is represented by roadway links. Roadways with the same basic cross-section (number of through lanes and median treatment) exhibit substantial differences in free flow speed and capacity. Factors that can influence roadway speeds and capacities include the number of mid-block access points, signalized intersections per mile, posted speed limit, mid-block traffic control devices such as stop signs, etc.

### 1.2.8 Traffic Assignment

The OCTAM 3.1 subregional model incorporates four time periods. The NBTM traffic assignment procedure therefore also utilizes four time periods per regional model procedure, with conversion to AM and PM peak hour volumes directly from the AM and PM peak periods, respectively. Conversion factors using local traffic count data have been evaluated in the course of this work effort. The conversion factors specific to Newport Beach have been calculated in the model process and are presented with the count data.

The general model parameters (e.g., coding procedures, time of day origin/destination factors, and traffic assignment procedures) were initially derived directly from the OCTAM model. Most of these parameters remain unchanged. Time of day factors have been modified based on local data to produce better traffic volume forecasts.

TABLE 1-4

NBTM TIME OF DAY FACTORS

TIME PERIOD	DIRECTION	HOME- WORK	HOME- OTHER	HOME- SCHOOL	WORK- OTHER	OTHER- OTHER
AM PEAK (7:00 AM - 10:00 AM)	P-A	0.5093	0.2848	0.5567	0.0442	0.1046
	A-P	0.0301	0.0686	0.0376	0.3245	0.1098
PM PEAK (2:45 PM - 6:45 PM)	P-A	0.0792	0.2320	0.1581	0.5290	0.3766
	A-P	0.3814	0.4146	0.2476	0.1023	0.4090
PEAK TOTAL		1.0000	1.0000	1.0000	1.0000	1.0000
MID DAY (10:00 AM - 2:45 PM)	P-A	0.2493	0.3030	0.2651	0.4404	0.3862
	A-P	0.2043	0.2376	0.4073	0.4354	0.4231
NIGHT TIME (6:45 PM - 7:00 AM)	P-A	0.2835	0.1310	0.0235	0.0679	0.0910
	A-P	0.2629	0.3284	0.3041	0.0563	0.0997
OFF-PEAK TOTAL		1.0000	1.0000	1.0000	1.0000	1.0000

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### 1.2.9 Data and Analysis Methodology

The City of Newport Beach has a circulation system consisting of arterial roadways and local streets. State Route (SR-) 55, SR-73 and Highway 1 (Coast Highway) provide regional access to the City. Established transit service also connects the City to nearby communities. A bicycle and pedestrian system is also in place.

For vehicular transportation, a hierarchal roadway network is established with designated roadway types and design standards. The roadway type is linked to anticipated traffic levels. As growth within the City occurs, capacity analysis should be performed and improvements made to the roadway system. Because local circulation is linked with the regional system, the Circulation Element also focuses on participation in regional programs to alleviate traffic congestion and construct capacity improvements.

Plans prepared by Caltrans, the County and other regional agencies guide development/improvement of the regional transportation system. Strategies to handle anticipated traffic levels from future regional development are currently being developed as discussed hereafter.

Existing conditions data has been collected by field verification. Analysts have identified existing roadway network characteristics, and vehicles have been counted at locations throughout the study area. Existing conditions land use data has been provided by City of Newport Beach staff. The existing land use data is combined with the existing roadway system in the Newport Beach Traffic Model (NBTM) development validation scenario. Adjustments have been made to the existing input data to incorporate the most current demographic data available.

Future land use and roadway data has been provided by City of Newport Beach staff and the City's planning consultant, EIP Associates. Raw forecasts from the General Plan Buildout scenario of the NBTM have been refined using existing count data and validation model results.

Daily roadway segment analysis (including freeways) requires calculating the daily traffic volume divided by the roadway segment capacity. The City of Newport Beach daily roadway capacities used in this analysis are presented in Table 1-5. For analysis purposes, the upper end of the approximate daily capacity range has been used.

The daily capacity of a roadway correlates to a number of widely varying factors, including traffic peaking characteristics, traffic turning volumes, and the volume of traffic on crossing streets. The daily capacities are therefore most appropriately used for long range General Plan analysis, or as a screening tool to determine the need for more detailed peak hour analysis.

Intersection Capacity Utilization (ICU) analysis has been performed at sixty-three (63) study area intersections (see Exhibit 1-1). ICU values are used to determine levels of service at study area intersection locations. To calculate the ICU value for an intersection, the volume of traffic using the intersection is compared with the capacity of the intersection. The ICU is usually expressed as a decimal percent (e.g., 0.86). The decimal percent represents that portion of the hour required to provide sufficient capacity to accommodate all intersection traffic if all approaches operate at capacity.

TABLE 1-5

ROADWAY SEGMENT CAPACITIES

CLASSIFICATION	RIGHT-OF-WAY	CURB TO CURB WIDTH	# OF LANES	MEDIAN WIDTH	APPROXIMATE CAPACITY		
					MINIMUM	TYPICAL	MAXIMUM
8 Lane Divided	158	Variable	8	14-18	60,000	68,000	75,000
Major Augmented	Variable	Variable	6-8	Variable	52,000	58,000	70,000
Major	128-134	106-114	6	14-18	45,000	51,000	65,000
Primary Augmented	Variable	Variable	4-6	Variable	35,000	40,000	50,000
Primary	104-108	84	4	16-20	30,000	34,000	45,000
Secondary	84	64	4	0	20,000	23,000	30,000
Commuter	60-70	40-50	2	0	7,000	10,000	20,000

<sup>1</sup> The daily capacity of a roadway correlates to a number of widely varying factors, including traffic peaking characteristics, traffic turning volumes, and the volume of traffic on crossing streets. The actual daily capacity of a roadway can thus vary widely. The daily capacities are therefore most appropriately used for long range General Plan analysis, or as a screening tool to determine the need for more detailed peak hour analysis.

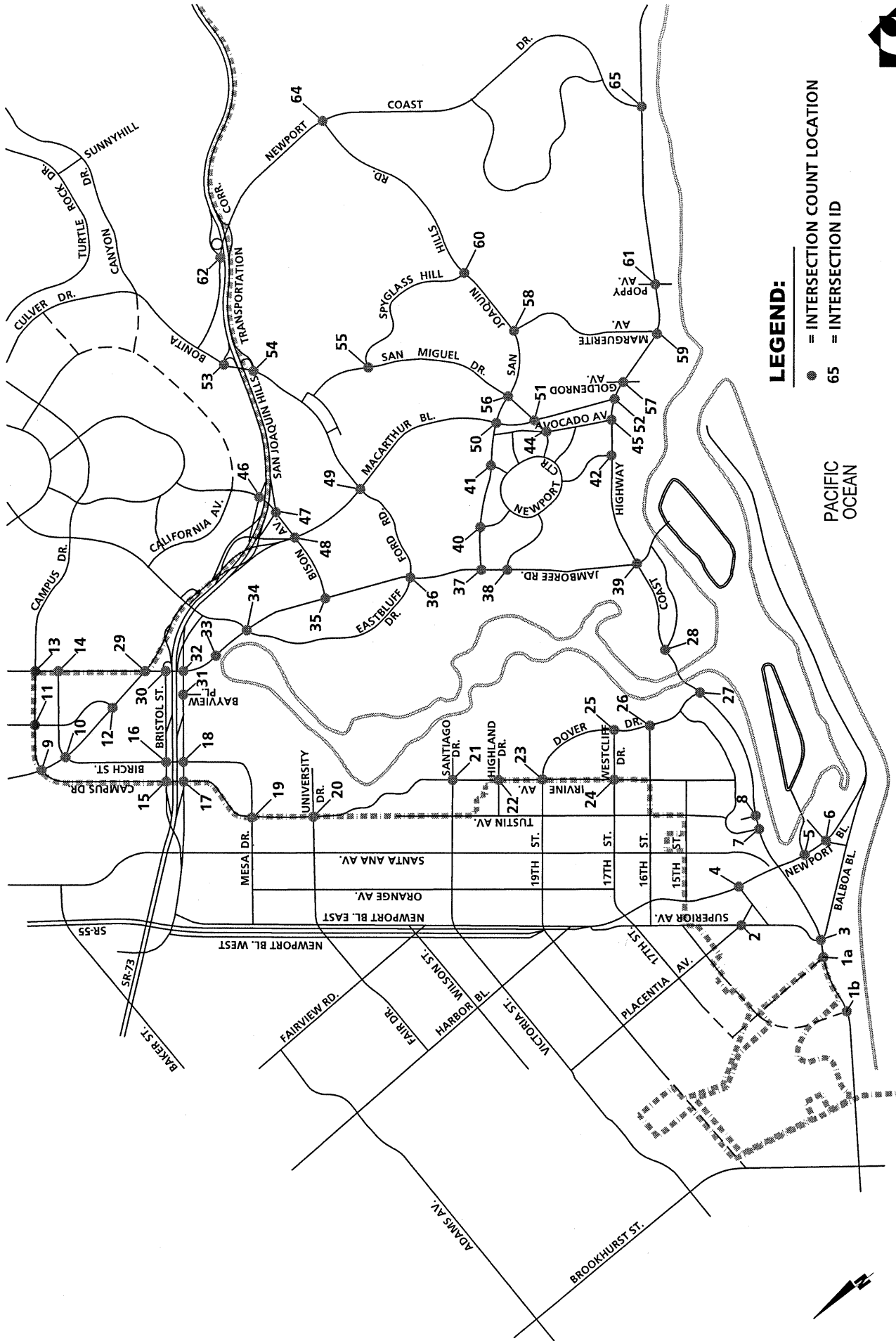
Couplets:

Secondary couplet - 2 lanes for each leg

Primary couplet - 3 lanes for each leg

Major couplet - 4 lanes for each leg

# EXHIBIT 1-I INTERSECTION ANALYSIS LOCATIONS



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## **2.0 EXISTING CONDITIONS**

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Existing conditions data and analysis is important to provide a benchmark for comparison of future conditions forecasts. Existing data has been provided by City of Newport Beach staff and collected by Urban Crossroads, Inc.

### **2.1 2001/2002 Land Use Data**

Land use data within the primary study area is a key input to the modeling process. The initial land use data was provided to Urban Crossroads, Inc. staff by the City of Newport Beach. Table 2-1 summarizes the overall 2002 land uses for the City of Newport Beach. Appendix "A" of this report includes a series of reports documenting the explicit land use data included in NBTM 3.1 for 2002 conditions. The first set of reports in Appendix "A" summarizes the City of Newport Beach land use (provided by City of Newport Beach staff) by NBTM traffic analysis zone (TAZ). The same data are presented again at increasing levels of aggregation, including aggregation to OCTAM TAZs and for the overall City.

### **2.2 2002 Socioeconomic Data**

Socioeconomic data (SED) that has been converted from land use is summarized in Table 2-2. A comparison of SED for the City (as provided by the model) to data received from City staff is shown in Table 2-3. The difference in dwelling unit totals (-5.3%) is attributable directly to a basic difference in the definition of dwelling units. The data provided by the City of Newport Beach includes all dwelling units, while the NBTM (and regional socioeconomic projections) only utilize occupied dwelling units. The population variable matches very closely, as there is no difference in the variable definition. Appendix "B" contains a discussion of employment in Newport Beach prepared by ADE.

Table 2-4 compares the NBTM SED to OCP-2000 existing data by Traffic Analysis District. Table 2-4 includes all of Newport Beach (including recently annexed areas), as well as small parts of adjacent cities (particularly the City of

TABLE 2-1

CITY OF NEWPORT BEACH EXISTING LAND USE SUMMARY

NBTM CODE <sup>1</sup>	DESCRIPTION	UNITS <sup>2</sup>	QUANTITY <sup>3</sup>
1	Low Density Residential	DU	18,702
2	Medium Density Residential	DU	10,974
3	Apartment	DU	9,703
4	Elderly Residential	DU	200
5	Mobile Home	DU	600
	<b>TOTAL DWELLING UNITS</b>	<b>DU</b>	<b>40,179</b>
6	Motel	ROOM	134
7	Hotel	ROOM	3,231
9	Regional Commercial	TSF	1,331.000
10	General Commercial	TSF	3,823.398
11	Commercial/Recreation	ACRE	5.100
13	Restaurant	TSF	99.450
15	Fast Food Restaurant	TSF	15.640
16	Auto Dealer/Sales	TSF	201.300
17	Yacht Club	TSF	51.830
18	Health Club	TSF	16.770
19	Tennis Club	CRT	60
20	Marina	SLIP	1,055
21	Theater	SEAT	5,489
22	Newport Dunes	ACRE	64.00
23	General Office	TSF	11,657.109
24	Medical/Government Office	TSF	959.718
25	Research & Development	TSF	81.730
26	Industrial	TSF	1,291.079
27	Mini-Storage/Warehouse	TSF	196.420
28	Pre-school/Day Care	TSF	48.050
29	Elementary/Private School	STU	4,999
30	Junior/High School	STU	5,215
31	Cultural/Learning Center	TSF	35.000
32	Library	TSF	78.800
33	Post Office	TSF	53.700
34	Hospital	BED	1,031
35	Nursing/Conv. Home	BEDS	661
36	Church	TSF	377.780
37	Youth Ctr./Service	TSF	149.540
38	Park	ACRE	128.360
39	Regional Park	ACRE	
40	Golf Course	ACRE	305.330

<sup>1</sup> Uses 8, 12, and 14 are part of the old NBTAM model structure and are not currently utilized in the City land use datasets.

<sup>2</sup> Units Abbreviations:  
 DU = Dwelling Units  
 TSF = Thousand Square Feet  
 CRT = Court  
 STU = Students

<sup>3</sup> Includes Newport Coast and recent annexation areas.

TABLE 2-2

CITY OF NEWPORT BEACH LAND USE BASED  
EXISTING SOCIOECONOMIC DATA SUMMARY

VARIABLE	QUANTITY <sup>1</sup>
Occupied Single Family Dwelling Units	17,467
Occupied Multi-Family Dwelling Units	20,136
<b>TOTAL OCCUPIED DWELLING UNITS</b>	<b>37,603</b>
Group Quarters Population	661
Population	83,007
Employed Residents	49,632
Retail Employees	11,525
Service Employees	19,681
Other Employees	41,468
<b>TOTAL EMPLOYEES</b>	<b>72,674</b>
Elem/High School Students	10,214

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<sup>1</sup> Includes Newport Coast and recent annexation areas.

TABLE 2-3

COMPARISON OF EXISTING CITY<sup>1</sup> AND EXISTING MODEL SOCIOECONOMIC DATA

CATEGORY	PROVIDED BY CITY OF NEWPORT BEACH / ADE	DERIVED IN MODEL <sup>2</sup>	DIFFERENCE	PERCENT DIFFERENCE
TOTAL DWELLING UNITS	36,644	34,716	-1,928	-5.3
TOTAL POPULATION	75,662	76,249	587	0.8
TOTAL EMPLOYMENT	65,337	69,090	3,753	5.7

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<sup>1</sup> Excluding Newport Coast

<sup>2</sup> Assumes Occupancy Factors described in Table 1-1

TABLE 2-4 (1 of 2)  
 SOCIOECONOMIC DATA COMPARISON OF INITIAL NEWPORT BEACH (2002) AND  
 OCP-2004 (2000) DATA

TRAFFIC ANALYSIS DISTRICT	TYPE	OCCUPIED SINGLE FAMILY DWELLING UNITS	OCCUPIED MULTI-FAMILY DWELLING UNITS	TOTAL OCCUPIED DWELLING UNITS	GROUP QUARTERS POP.	POP.	EMPLOYED RESIDENTS	RETAIL EMP.	SERVICE EMP.	OTHER EMP.	TOTAL EMP.	ELEM/HIGH SCHOOL STUDENTS
1-Banning Ranch/W. Newport <sup>1</sup>	OCP	2126	4294	6420	266	15489	9004	823	1482	6366	8671	1036
1-Banning Ranch/W. Newport <sup>1</sup>	NB	1904	4850	6754	244	16120	9553	790	1306	6114	8210	1594
<b>1-Banning Ranch/W. Newport<sup>1</sup></b>	<b>Diff</b>	<b>-222</b>	<b>556</b>	<b>334</b>	<b>-22</b>	<b>631</b>	<b>549</b>	<b>-33</b>	<b>-176</b>	<b>-252</b>	<b>-461</b>	<b>558</b>
2-Mariner's Mile/Newport Heights <sup>1</sup>	OCP	2200	2122	4322	387	9739	5020	2774	4907	2284	9965	4207
2-Mariner's Mile/Newport Heights <sup>1</sup>	NB	2173	2062	4235	448	10188	6051	2390	3820	5585	11795	2620
<b>2-Mariner's Mile/Newport Heights<sup>1</sup></b>	<b>Diff</b>	<b>-27</b>	<b>-60</b>	<b>-87</b>	<b>61</b>	<b>449</b>	<b>1031</b>	<b>-384</b>	<b>-1087</b>	<b>3301</b>	<b>1830</b>	<b>-1587</b>
3-Newport Bay	OCP	893	1450	2343	0	4786	2789	1685	790	1604	4079	0
3-Newport Bay	NB	1128	1319	2447	0	5149	2244	1327	776	1254	3357	0
<b>3-Newport Bay</b>	<b>Diff</b>	<b>235</b>	<b>-131</b>	<b>104</b>	<b>0</b>	<b>363</b>	<b>-545</b>	<b>-358</b>	<b>-14</b>	<b>-350</b>	<b>-722</b>	<b>0</b>
4-Airport Area	OCP	6	0	6	0	16	16	1883	11901	10033	23817	160
4-Airport Area	NB	0	0	0	0	0	0	1991	3813	14984	20788	0
<b>4-Airport Area</b>	<b>Diff</b>	<b>-6</b>	<b>0</b>	<b>-6</b>	<b>0</b>	<b>-16</b>	<b>-16</b>	<b>108</b>	<b>-8088</b>	<b>4951</b>	<b>-3029</b>	<b>-160</b>
5-Bayview	OCP	459	147	606	0	1370	757	129	765	1836	2730	21
5-Bayview	NB	428	89	517	0	1279	817	542	1050	3803	5395	0
<b>5-Bayview</b>	<b>Diff</b>	<b>-31</b>	<b>-58</b>	<b>-89</b>	<b>0</b>	<b>-91</b>	<b>60</b>	<b>413</b>	<b>285</b>	<b>1967</b>	<b>2665</b>	<b>-21</b>
6-Dover/Westcliff <sup>1</sup>	OCP	2360	1786	4146	39	9458	5031	554	1243	1206	3003	2538
6-Dover/Westcliff <sup>1</sup>	NB	2436	2021	4457	26	9707	6405	348	915	1333	2596	1963
<b>6-Dover/Westcliff<sup>1</sup></b>	<b>Diff</b>	<b>76</b>	<b>235</b>	<b>311</b>	<b>-13</b>	<b>249</b>	<b>1374</b>	<b>-206</b>	<b>-328</b>	<b>127</b>	<b>-407</b>	<b>-575</b>
7-Eastbluff <sup>1</sup>	OCP	532	2595	3127	6	6083	3208	128	452	650	1230	2477
7-Eastbluff <sup>1</sup>	NB	437	2593	3030	0	6377	4320	159	455	505	1119	2415
<b>7-Eastbluff<sup>1</sup></b>	<b>Diff</b>	<b>-95</b>	<b>-2</b>	<b>-97</b>	<b>-6</b>	<b>294</b>	<b>1112</b>	<b>31</b>	<b>3</b>	<b>-145</b>	<b>-111</b>	<b>-62</b>
8-Newport Center	OCP	519	1094	1613	0	3198	1572	3825	6874	6921	17620	0
8-Newport Center	NB	251	1545	1796	0	4014	2504	2750	4763	9742	17255	0
<b>8-Newport Center</b>	<b>Diff</b>	<b>-268</b>	<b>451</b>	<b>183</b>	<b>0</b>	<b>816</b>	<b>932</b>	<b>-1075</b>	<b>-2111</b>	<b>2821</b>	<b>-365</b>	<b>0</b>

TABLE 2-4 (2 of 2)  
 SOCIOECONOMIC DATA COMPARISON OF INITIAL NEWPORT BEACH (2002) AND  
 OCP-2004 (2000) DATA

TRAFFIC ANALYSIS DISTRICT	TYPE	OCCUPIED SINGLE FAMILY DWELLING UNITS	OCCUPIED MULTI-FAMILY DWELLING UNITS	TOTAL OCCUPIED DWELLING UNITS	GROUP QUARTERS POP.	POP.	EMPLOYED RESIDENTS	RETAIL EMP.	SERVICE EMP.	OTHER EMP.	TOTAL EMP.	ELEM/HIGH SCHOOL STUDENTS
9-Bayside/Balboa Island	OCP	2560	2517	5077	5	9520	5222	992	982	2032	4006	0
9-Bayside/Balboa Island	NB	2956	2409	5365	0	11309	5061	1154	868	1024	3046	12
<b>9-Bayside/Balboa Island</b>	<b>Diff</b>	<b>396</b>	<b>-108</b>	<b>288</b>	<b>-5</b>	<b>1789</b>	<b>-161</b>	<b>162</b>	<b>-114</b>	<b>-1008</b>	<b>-960</b>	<b>12</b>
10-Balboa Peninsula	OCP	1028	1364	2392	2	4762	2947	693	490	448	1631	541
10-Balboa Peninsula	NB	1322	1384	2706	0	5669	2521	439	638	265	1342	389
<b>10-Balboa Peninsula</b>	<b>Diff</b>	<b>294</b>	<b>20</b>	<b>314</b>	<b>-2</b>	<b>907</b>	<b>-426</b>	<b>-254</b>	<b>148</b>	<b>-183</b>	<b>-289</b>	<b>-152</b>
11-Bonita Canyon	OCP	573	1594	2167	0	4374	2612	449	284	578	1311	0
11-Bonita Canyon	NB	753	1953	2706	0	5555	3845	351	567	746	1664	34
<b>11-Bonita Canyon</b>	<b>Diff</b>	<b>180</b>	<b>359</b>	<b>539</b>	<b>0</b>	<b>1181</b>	<b>1233</b>	<b>-98</b>	<b>283</b>	<b>168</b>	<b>353</b>	<b>34</b>
12-Harbor View Hills/Newport Ridge	OCP	2378	942	3320	0	8908	4032	402	229	748	1379	1449
12-Harbor View Hills/Newport Ridge	NB	2213	1628	3841	0	8633	5655	314	672	536	1522	1674
<b>12-Harbor View Hills/Newport Ridge</b>	<b>Diff</b>	<b>-165</b>	<b>686</b>	<b>521</b>	<b>0</b>	<b>-275</b>	<b>1623</b>	<b>-88</b>	<b>443</b>	<b>-212</b>	<b>143</b>	<b>225</b>
13-Newport Coast W./Corona Del Mar	OCP	2158	2061	4219	286	9036	4847	342	434	756	1532	501
13-Newport Coast W./Corona Del Mar	NB	2857	852	3709	2	8845	5611	513	1214	554	2281	762
<b>13-Newport Coast W./Corona Del Mar</b>	<b>Diff</b>	<b>699</b>	<b>-1209</b>	<b>-510</b>	<b>-284</b>	<b>-191</b>	<b>764</b>	<b>171</b>	<b>780</b>	<b>-202</b>	<b>749</b>	<b>261</b>
14-Newport Coast E.	OCP	524	186	710	0	1633	880	0	96	131	227	304
14-Newport Coast E.	NB	753	264	1017	0	2525	1598	15	115	182	312	1050
<b>14-Newport Coast E.</b>	<b>Diff</b>	<b>229</b>	<b>78</b>	<b>307</b>	<b>0</b>	<b>892</b>	<b>718</b>	<b>15</b>	<b>19</b>	<b>51</b>	<b>85</b>	<b>746</b>
<b>OCP TOTAL</b>		<b>18316</b>	<b>22152</b>	<b>40468</b>	<b>991</b>	<b>88372</b>	<b>47937</b>	<b>14679</b>	<b>30929</b>	<b>35593</b>	<b>81201</b>	<b>13234</b>
<b>NB/TM TOTAL</b>		<b>19611</b>	<b>22969</b>	<b>42580</b>	<b>720</b>	<b>95370</b>	<b>56185</b>	<b>13083</b>	<b>20972</b>	<b>46627</b>	<b>80682</b>	<b>12513</b>
<b>DIFFERENCE (NB/TM-OCP)</b>		<b>1295</b>	<b>817</b>	<b>2112</b>	<b>-271</b>	<b>6998</b>	<b>8248</b>	<b>-1596</b>	<b>-9957</b>	<b>11034</b>	<b>-519</b>	<b>-721</b>
<b>% DIFFERENCE</b>		<b>7%</b>	<b>4%</b>	<b>5%</b>	<b>-27%</b>	<b>8%</b>	<b>17%</b>	<b>-11%</b>	<b>-32%</b>	<b>31%</b>	<b>-6%</b>	<b>-5%</b>

<sup>1</sup> Contains supplemental SED from outside the City of Newport Beach (e.g. OCTAM zone overlaps City boundary)

Costa Mesa) that are part of the same OCTAM TAZ as a portion of the City of Newport Beach. The totals on Table 2-4 do not match the totals on Table 2-3 for these reasons. Appendix "C" presents the SED resulting from the conversion of land use to SED using the factors previously presented on Table 1-1. The SED from land use is again presented by NBTM TAZ, OCTAM TAZ, and overall City of Newport Beach. The same set of reports is included for supplemental SED (not derived from land use), and for the overall SED (the sum of the SED from land use and the supplemental SED).

Socioeconomic data for the remainder of the Tier 3 area has been disaggregated from OCP-2004 data for year 2000. No growth was assumed from Year 2000 to 2002 because of the recession in California. The data itself is contained in Appendix "C" of this report. The City should coordinate with regional demographers to minimize these differences in future data sets.

### 2.3 Trip Generation

Table 2-5 summarizes the overall trip generation for 2002 conditions for the City of Newport Beach. Appendix "D" contains a report of trip generation by NBTM TAZ for the City of Newport Beach, broken down by NBTM TAZ and OCTAM TAZ. Most of these trips have been calculated from the final 2002 SED presented previously. The three land use codes listed below had been special generators in the previous NBTAM model:

- Tennis Club
- Marina
- Newport Dunes

For each of these land use categories, supplemental trips have been added to increase the daily trip generation to match the previous rate (see Appendix "D"). The overall trip generation for the City of Newport Beach is an estimated 761,225 daily vehicle trips.

TABLE 2-5

CITY OF NEWPORT BEACH EXISTING TRIP GENERATION

TRIP PURPOSE	PRODUCTIONS	ATTRACTIONS	PRODUCTIONS - ATTRACTIONS	PRODUCTIONS / ATTRACTIONS
Home Based Work <sup>1</sup>	61,128	88,446	-27,318	0.69
Home Based School	11,756	8,990	2,766	1.31
Home Based Other <sup>2</sup>	165,256	115,052	50,204	1.44
Work Based Other	55,488	60,741	-5,253	0.91
Other - Other	98,005	96,363	1,642	1.02
<b>TOTAL</b>	<b>391,633</b>	<b>369,592</b>	<b>22,041</b>	<b>1.06</b>
<b>OVERALL TOTAL</b>	<b>761,225</b>			

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<sup>1</sup> Home-Work includes Home-Work and Home-University trips, consistent with OCTAM mode choice output.

<sup>2</sup> Home-Other includes Home-Shop and Home-Other trips, consistent with OCTAM mode choice output.



## 2.4 Home-Work Trip Mode Choice Data

The home-work trip mode choice data provided by SCAG to Urban Crossroads, Inc. initially included mode choice data (travel method used) for home-work (either end in Newport Beach) trips. This mode choice data has been summarized in the form of a spreadsheet listing the names of cities/geographic areas, along with quantities of trips.

Appendix "E" includes the initial data summaries in the form of two separate tables. The first table in Appendix "E" lists the mode choice data for survey respondents living in Newport Beach, while the second table includes the home-work mode choice data for survey respondents whose workplace is in Newport Beach. The mode choice categories analyzed include:

- Drive Alone
- 2 Person Carpool
- 3 or more Person Carpool
- Public Transportation
- Motorcycle
- Non-Motorized
- Other Means

The data has been further grouped into logical geographic areas. Cities/geographic areas have been grouped by overall County outside Orange County. Within Orange County, cities have been identified as adjacent to Newport Beach, or generally located north of (North County) or south of (South County) the City of Newport Beach. Adjacent cities include Costa Mesa, Huntington Beach, Irvine, and Laguna Beach. The division between North County and South County cities used for this analysis is the SR-55 Freeway.

Tables 2-6 and 2-7 show the results of this analysis for Newport Beach origin trips (residents) and Newport Beach destination trips (persons that work in Newport Beach), respectively. Exhibits 2-A and 2-B depict these results graphically. The majority of trips are drive alone. The second-most used mode for trips with only one end in Newport Beach is 2-person carpool, while the second-most popular mode for Home-Work trips with both ends in the City is non-motorized. Generally, it appears that the accessibility of the City of Newport Beach via transit is most utilized by North Orange County residents who work in the City of Newport Beach. The second highest percentage of workers that utilize transit to travel to the City of Newport Beach is associated with the adjacent cities. Public transportation accounts for less than 2% of all home-work travel to and from the City of Newport Beach for all other geographic areas within the SCAG region. The percentage is actually higher for locations outside the SCAG region, most likely associated with the use of John Wayne airport to travel to and from the City of Newport Beach for more distant destinations.

#### 2.4.1 Trip Distribution Survey Data

Data provided by SCAG related to the origins and destinations of trips made to and from the City of Newport Beach. The trip distribution data was collected in the form of trip diaries in 1991. The trip distribution data was organized into six (6) trip purposes for trips ending or beginning in Newport Beach and summarized by geographic area at the other end of the trip.

Table 2-8 summarizes the geographic data by adjacent cities, north Orange County, south Orange County, and each other county in Southern California represented in the dataset for trips originating in Newport Beach. Exhibit 2-C shows the same data graphically. Appendix "F" contains the background data supporting Table 2-8 and Exhibit 2-C. As might be expected, the highest totals are for trips with both ends within the City of Newport Beach, followed by trips with one end in an adjacent city.

TABLE 2-6

MODE CHOICE PERCENTS FOR WORK TRIPS OF NEWPORT BEACH RESIDENTS

WORKPLACE	TRIPS	DRIVE ALONE	2 PERSON CARPOOL	3+ PERSON CARPOOL	PUBLIC TRANSPORTATION	MOTOR-CYCLE	NON-MOTORIZED	OTHER
Newport Beach	11,686	84%	5%	1%	1%	0%	9%	1%
Adjacent Cities <sup>1</sup>	11,420	90%	6%	0%	1%	0%	2%	0%
North Orange County	7,522	92%	6%	0%	1%	0%	0%	0%
South Orange County	2,103	93%	6%	0%	1%	0%	0%	0%
Los Angeles County	3,460	92%	6%	1%	1%	0%	0%	0%
Riverside County	282	92%	8%	0%	0%	0%	0%	0%
San Bernardino County	229	97%	3%	0%	0%	0%	0%	0%
Ventura County	10	0%	100%	0%	0%	0%	0%	0%
Outside SCAG Region	245	70%	14%	0%	2%	0%	0%	13%
TOTAL	36,957	88%	6%	1%	1%	0%	3%	0%

<sup>1</sup> Adjacent Cities = Huntington Beach, Costa Mesa, Irvine, and Laguna Beach.

TABLE 2-7

MODE CHOICE PERCENTS FOR HOME-WORK TRIPS OF NEWPORT BEACH WORKERS

RESIDENCE	TRIPS	DRIVE ALONE	2 PERSON CARPOOL	3+ PERSON CARPOOL	PUBLIC TRANSPORTATION	MOTOR-CYCLE	NON-MOTORIZED	OTHER
Newport Beach	11,686	84%	5%	1%	1%	0%	9%	1%
Adjacent Cities <sup>1</sup>	19,923	86%	8%	1%	3%	0%	1%	0%
North Orange County	13,729	77%	12%	4%	5%	0%	0%	1%
South Orange County	9,835	88%	8%	2%	1%	0%	0%	0%
Los Angeles County	3,667	86%	7%	5%	0%	0%	0%	0%
Riverside County	1,277	69%	20%	10%	0%	1%	0%	0%
San Bernardino County	620	72%	22%	4%	1%	1%	0%	0%
Ventura County	40	100%	0%	0%	0%	0%	0%	0%
Outside SCAG Region	1,426	89%	7%	1%	2%	0%	0%	1%
<b>TOTAL</b>	<b>62,203</b>	<b>82%</b>	<b>8%</b>	<b>2%</b>	<b>2%</b>	<b>0%</b>	<b>2%</b>	<b>0%</b>

<sup>1</sup> Adjacent Cities = Huntington Beach, Costa Mesa, Irvine, and Laguna Beach.

# MODE CHOICE FOR WORK TRIPS OF NEWPORT BEACH RESIDENTS

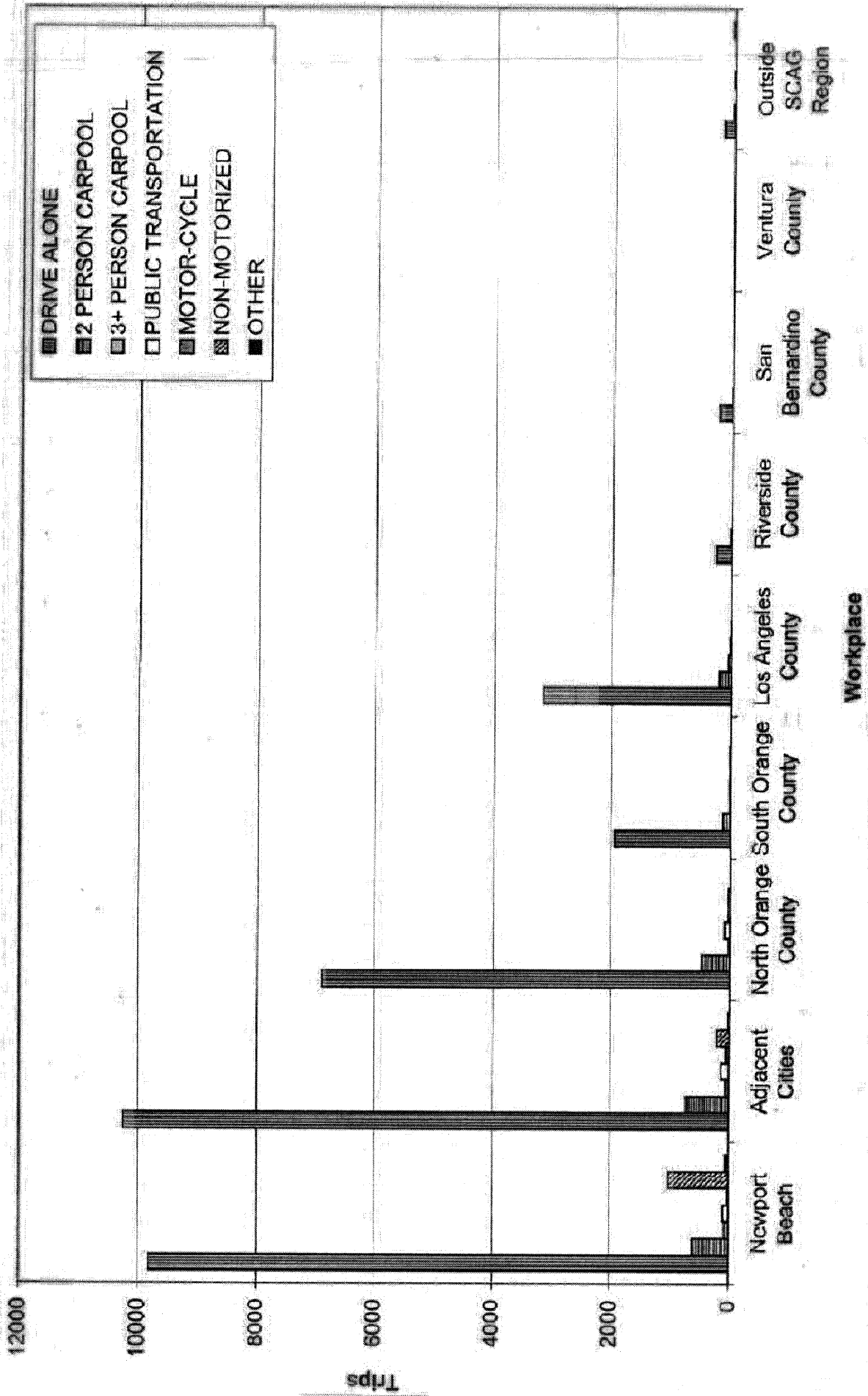


EXHIBIT 2-B  
**MODE CHOICE FOR HOME-WORK TRIPS OF NEWPORT BEACH WORKERS**

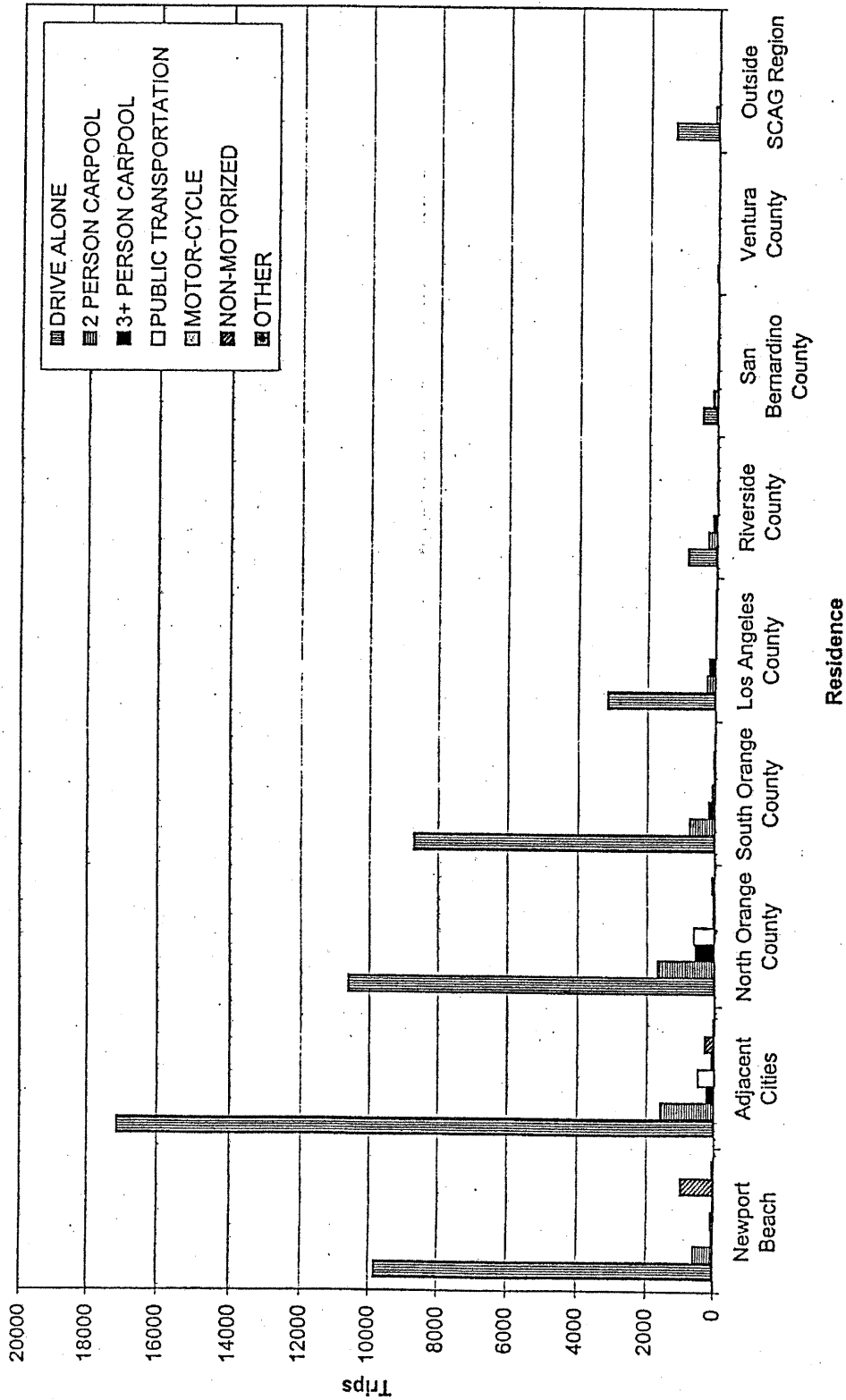


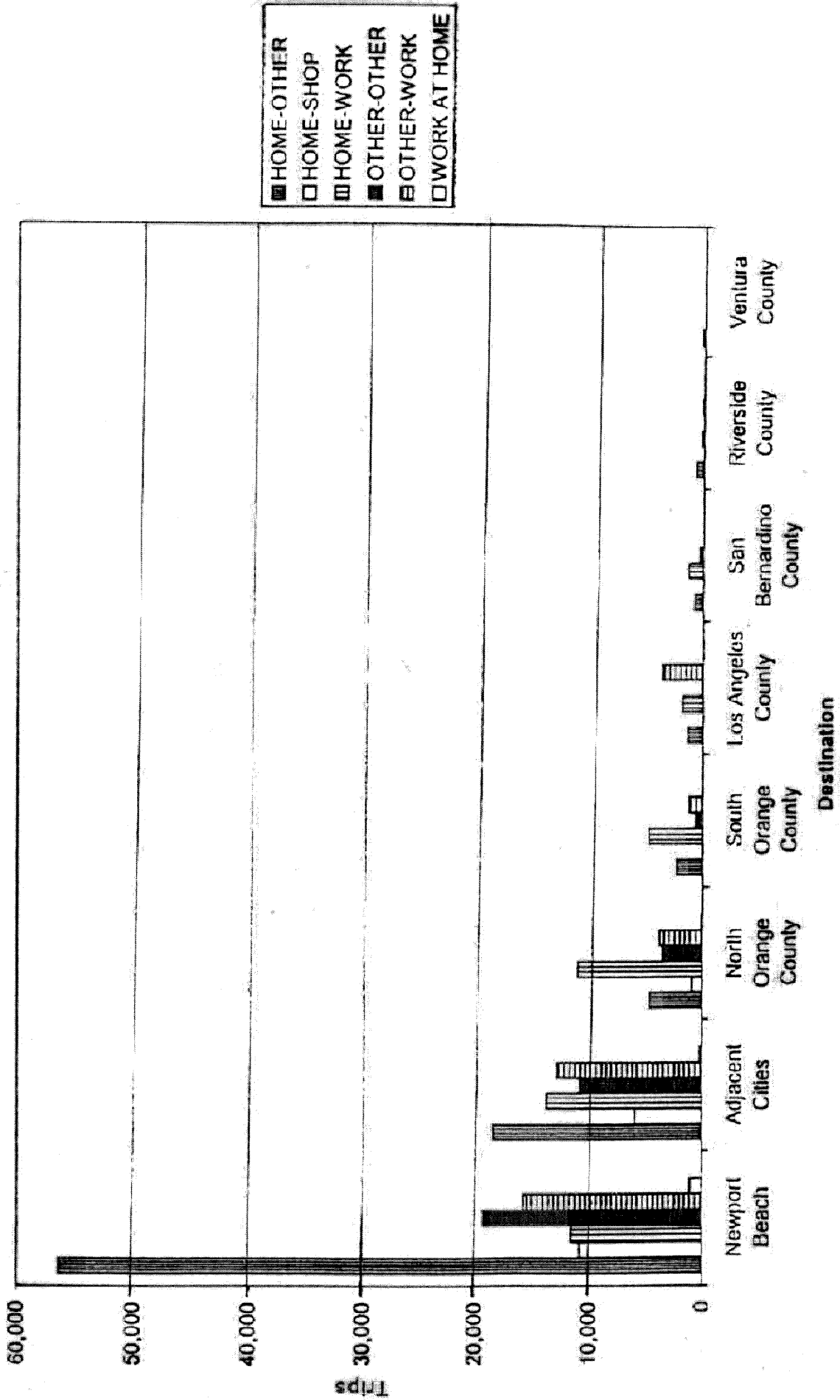
TABLE 2-8

PURPOSES OF TRIPS ORIGINATING IN NEWPORT BEACH  
(REGIONAL SURVEY DATA)

DESTINATION	HOME-OTHER	HOME-SHOP	HOME-WORK	OTHER-OTHER	OTHER-WORK	WORK AT HOME	TOTAL	% OF TRIPS
Newport Beach	56,407	10,799	11,529	19,328	15,677	1,034	114,774	52.17%
Adjacent Cities <sup>1</sup>	18,380	5,903	13,629	10,788	12,799	223	61,722	28.05%
North Orange County	4,663	900	10,938	3,529	3,795	163	23,988	10.90%
South Orange County	2,350	0	4,690	737	1,165	0	8,942	4.06%
Los Angeles County	1,337	0	1,773	159	3,593	0	6,862	3.12%
San Bernardino County	847	0	1,233	416	0	0	2,496	1.13%
Riverside County	705	0	208	0	104	0	1,017	0.46%
Ventura County	208	0	0	0	0	0	208	0.09%
<b>TOTAL</b>	<b>84,897</b>	<b>17,602</b>	<b>44,000</b>	<b>34,957</b>	<b>37,133</b>	<b>1,420</b>	<b>220,009</b>	<b>100%</b>
PERCENTAGE	38%	8%	20%	16%	17%	1%		

<sup>1</sup> Adjacent Cities = Huntington Beach, Costa Mesa, Irvine, and Laguna Beach.

# PURPOSE FOR TRIPS ORIGINATING IN NEWPORT BEACH BY DESTINATION





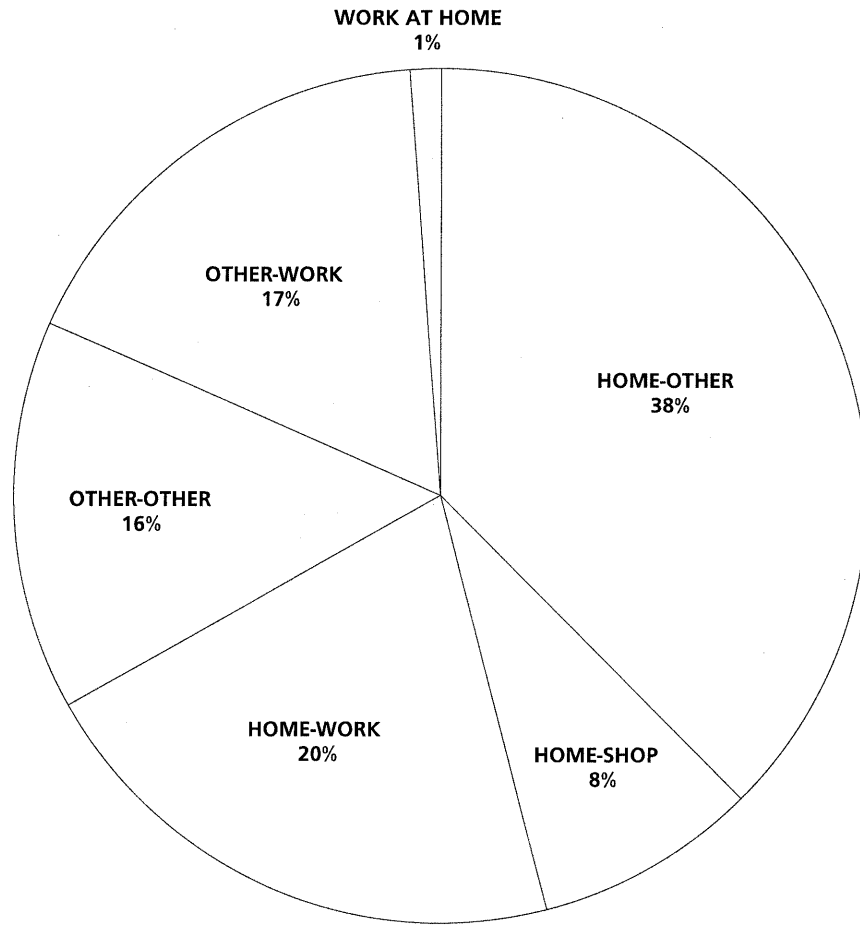
As shown in Table 2-8, 52% of the trips surveyed are contained within Newport Beach and 80% of the trips originating in Newport Beach are contained entirely in Newport Beach and the adjacent cities. Exhibit 2-D depicts the overall trip purposes summary for trips beginning in Newport Beach. Most trips are Home-Other (38%), with a high number of Home-Work (20%). The categories with fewest trips are Work at Home and Home-Shop. Exhibit 2-E shows the City or County at the other end of the trip for trips originating in Newport Beach. Areas closest to Newport Beach have the most interactions with the City.

Table 2-9 summarizes the geographic data by County (outside Orange County) or portion of Orange County for trips destined for Newport Beach. Exhibit 2-F shows the same data graphically. Appendix "G" contains the supporting background data for Table 2-9 and Exhibit 2-F. The highest totals are for trips with both ends in the City of Newport Beach (52%), followed by trips from an adjacent city (28%). Exhibit 2-G depicts the overall purposes for trips ending in Newport Beach. Most trips are Home-Other (38%), followed by Home-Work (22%). The fewest trips are Work at Home and Home-Shop. Exhibit 2-H shows the origin City or County for trips destined for Newport Beach. Areas closest to Newport Beach have the most interactions with the City.

## 2.5 General Model Trip Distribution Results

Model trips with at least one end in the City of Newport Beach have been further analyzed and compared to the regional origin-destination survey data related to the City of Newport Beach. Table 2-10 summarizes this analysis. Model trips which both start and end in the City comprise approximately forty-two (42) percent of the total City of Newport Beach trips (about 290,000 trip ends). The regional survey data indicated 52% capture of trips within the City of Newport Beach. All trips which are

# PURPOSE OF TRIPS ORIGINATING IN NEWPORT BEACH



# DESTINATIONS OF TRIPS ORIGINATING IN NEWPORT BEACH

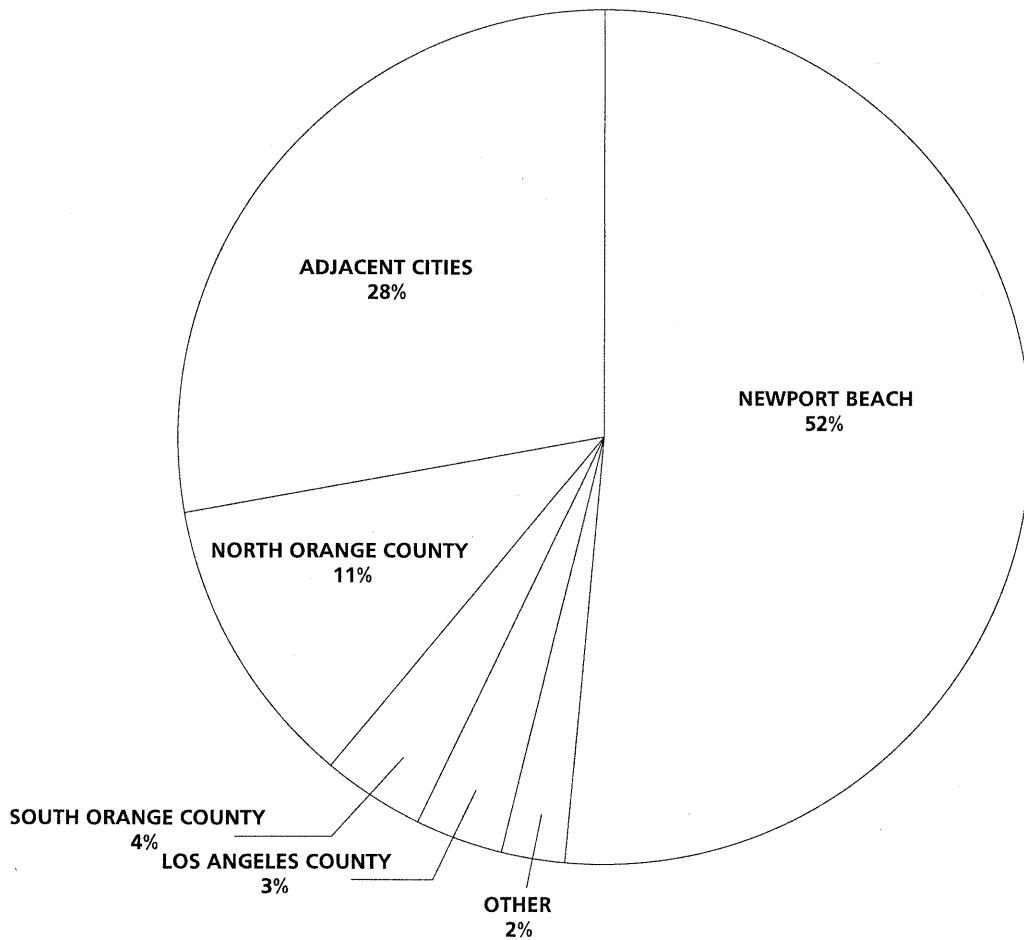


TABLE 2-9

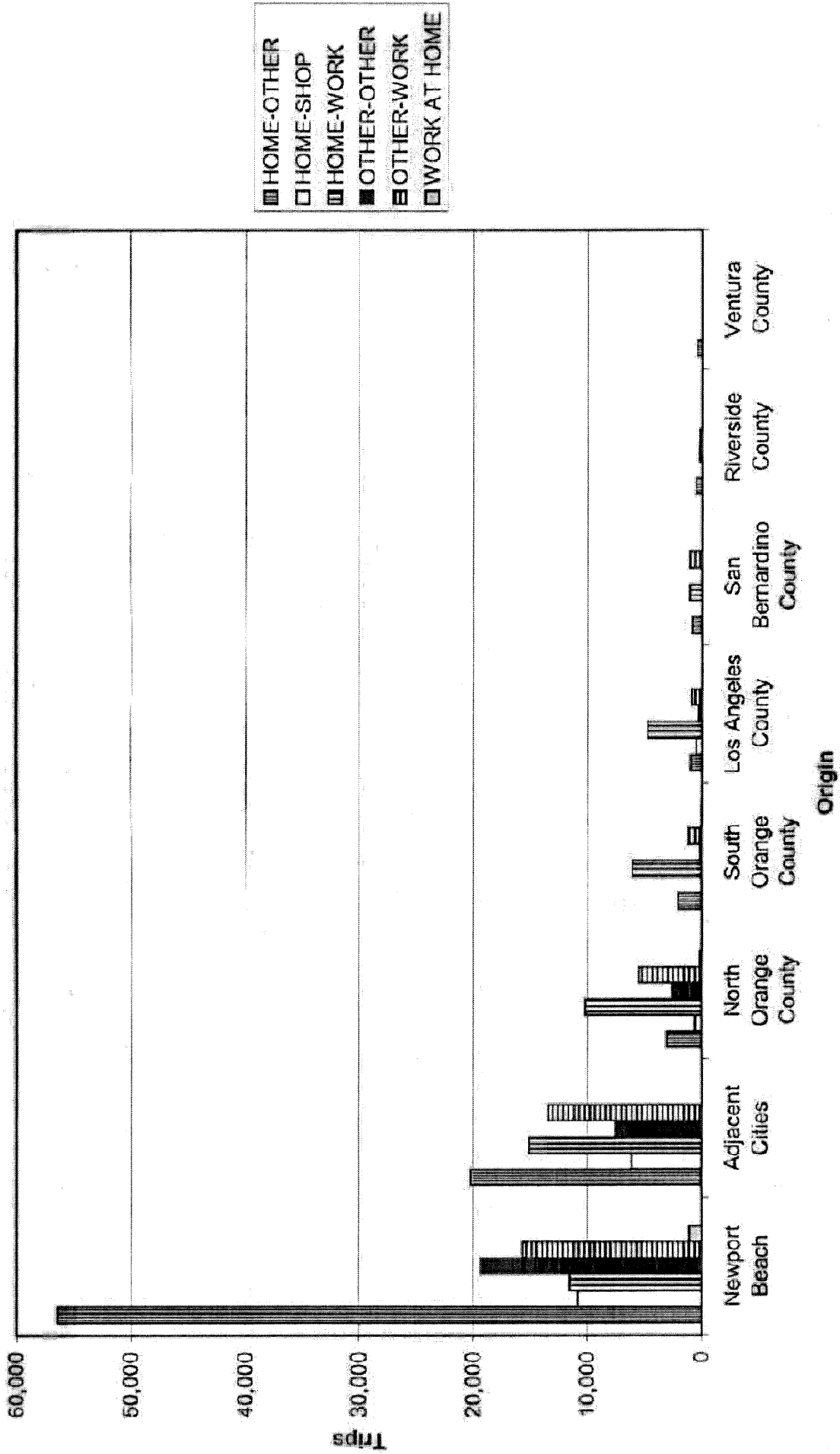
PURPOSES OF TRIPS DESTINED FOR NEWPORT BEACH  
(REGIONAL SURVEY DATA)

ORIGIN	HOME-OTHER	HOME-SHOP	HOME-WORK	OTHER-OTHER	OTHER-WORK	WORK AT HOME	TOTAL	% OF TRIPS
Newport Beach	56,407	10,799	11,529	19,328	15,677	1,034	114,774	52.09%
Adjacent Cities <sup>1</sup>	20,269	6,129	15,080	7,569	13,455	0	62,501	28.37%
North Orange County	3,038	610	10,168	2,612	5,515	163	22,106	10.03%
South Orange County	2,035	0	6,050	126	1,206	0	9,417	4.27%
Los Angeles County	934	513	4,733	285	908	0	7,373	3.35%
San Bernardino County	847	0	1,010	0	992	0	2,849	1.29%
Riverside County	542	0	208	163	0	0	913	0.41%
Ventura County	407	0	0	0	0	0	407	0.18%
<b>TOTAL</b>	<b>84,479</b>	<b>18,051</b>	<b>48,778</b>	<b>30,082</b>	<b>37,753</b>	<b>1,197</b>	<b>220,341</b>	<b>100.00%</b>
<b>PERCENTAGE</b>	<b>38%</b>	<b>8%</b>	<b>22%</b>	<b>14%</b>	<b>17%</b>	<b>1%</b>		

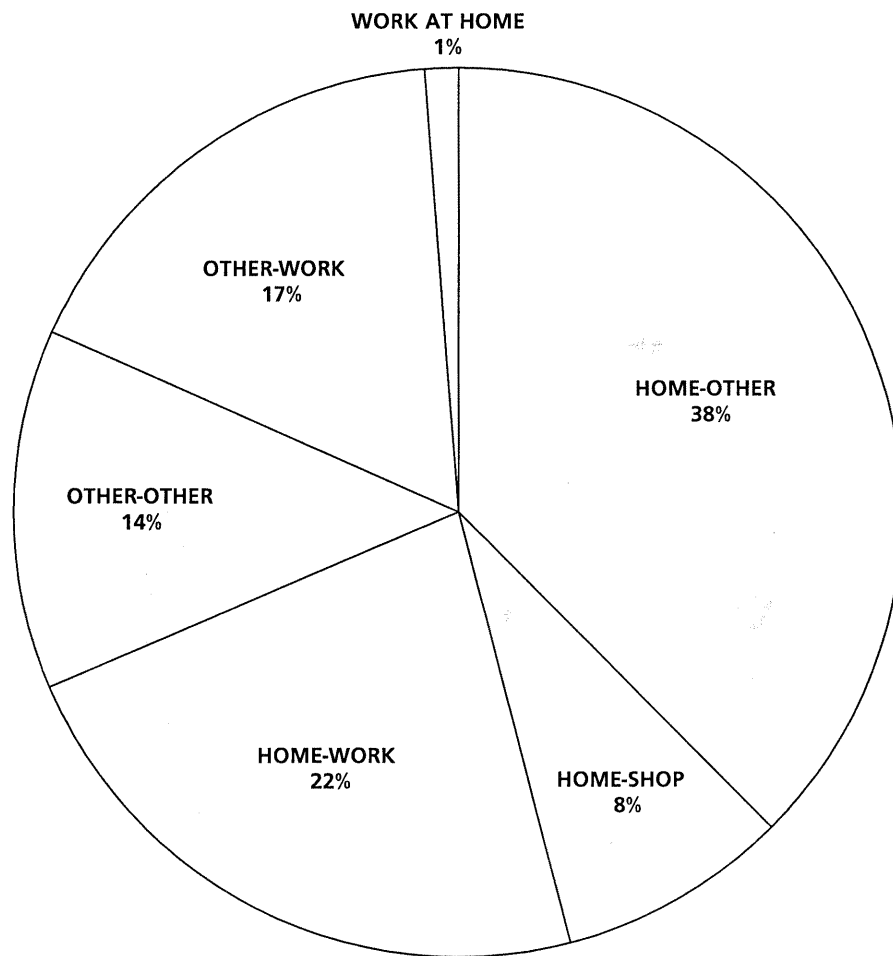
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<sup>1</sup> Adjacent Cities = Huntington Beach, Costa Mesa, Irvine, and Laguna Beach.

# PURPOSE OF TRIPS DESTINED FOR NEWPORT BEACH BY ORIGIN



# PURPOSES OF TRIPS DESTINED FOR NEWPORT BEACH



# ORIGINS OF TRIPS DESTINED FOR NEWPORT BEACH

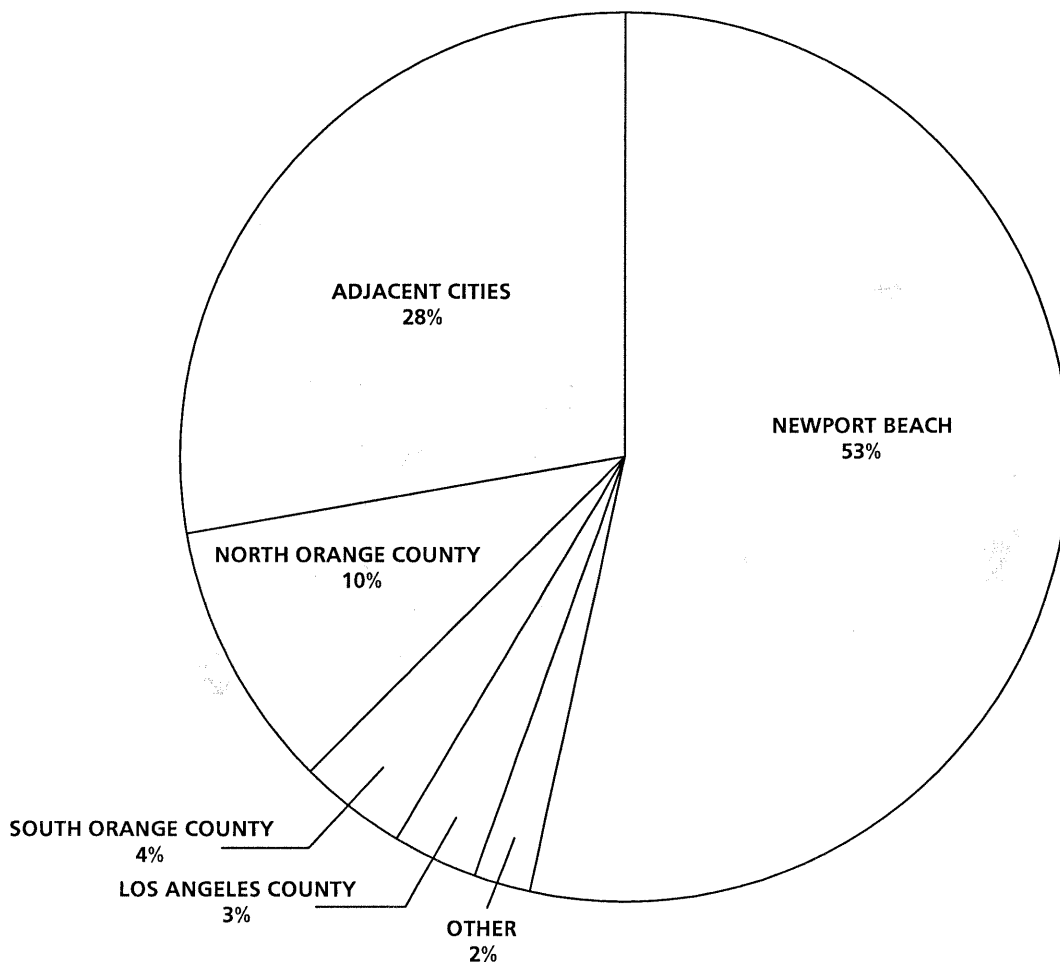


TABLE 2-10

TRIP DISTRIBUTION COMPARISON

	NBTM PERCENTAGE	SURVEY DATA PERCENTAGE
WITHIN NEWPORT BEACH	41.65%	52.17%
WITHIN ADJACENT CITIES <sup>1</sup>	24.82%	28.05%
SUBTOTAL NEWPORT BEACH AND ADJACENT CITIES	66.47%	80.22
REMAINDER OF REGION	33.53%	19.78%

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<sup>1</sup> Adjacent cities are Huntington Beach, Costa Mesa, Irvine, and Laguna Beach.

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contained in the City of Newport Beach and the adjacent four cities (Huntington Beach, Costa Mesa, Irvine, and Laguna Beach) make up approximately sixty-six (66) percent of the total trips with at least one end in Newport Beach. The regional survey data again indicates a higher percentage (80%) within this local area. These lower values suggest that the regional socioeconomic data (SED) based models generate fewer trips, then distribute the trips over longer distances.

## 2.6 Roadway Network

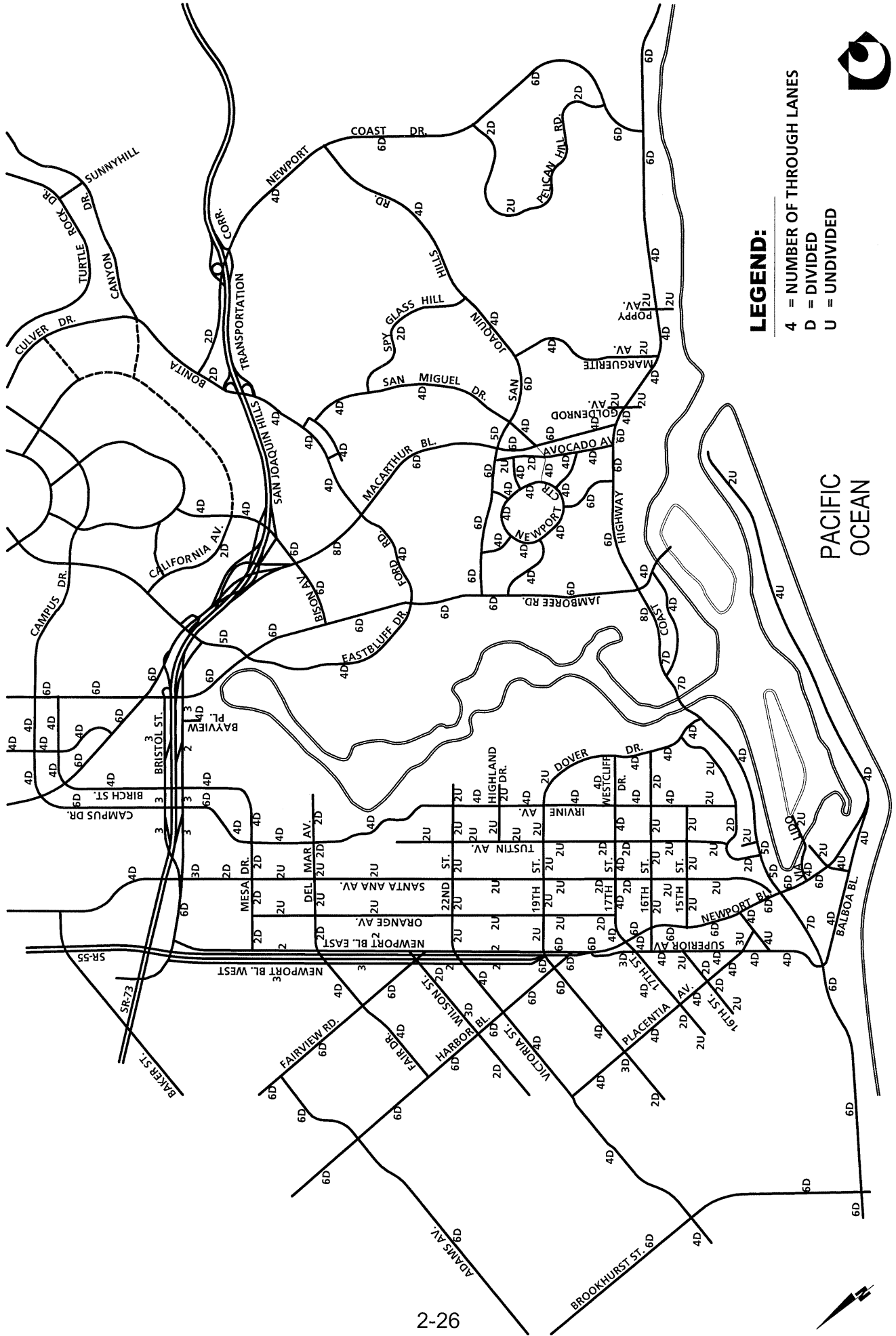
Field review of existing roadways was performed. Exhibit 2-I shows existing through lanes on Newport Beach roadways. The existing model network matches these configurations.

## 2.7 Shoulder Season Daily Traffic Volume Data

Daily traffic volume data for locations counted as part of this study effort were collected in Spring/Fall of 2001/2002, and are included as Appendix "H" of this report. Freeway data comes from the Caltrans Publication, Traffic Volumes on State Highways.

Exhibit 2-J presents the daily traffic volumes, which have been used to validate the NBTM. Daily traffic count data has been collected and/or compiled for 64 locations in the City of Newport Beach. Additional daily volume data reported by the California Department of Transportation has been incorporated into the NBTM update work effort. The SR-55 Freeway north of the SR-73 Freeway carries the highest daily traffic volume (approximately 155,000 vehicles per day) in the NBTM primary modeling area. The arterial roadways carrying the highest traffic volume in the NBTM primary modeling area are Coast Highway and MacArthur Boulevard. A daily traffic count of approximately 63,000 vehicles per day was estimated on Coast Highway between Dover Drive and Bayside Drive

# EXHIBIT 2-I NEWPORT BEACH EXISTING (2002) THROUGH LANES





and on MacArthur Boulevard between Bison Avenue and Ford Road. Other roadways carrying traffic volumes in excess of 50,000 vehicles per day (VPD) include:

- Newport Boulevard (maximum volume of 53,000 VPD south of Coast Highway).
- Coast Highway (53,000 VPD east of Newport Boulevard and 51,000 between Bayside Drive and Jamboree Road).

All of the counted daily traffic volume data was input into a roadway segment traffic volume analysis database in 15 minute intervals. A sample size of 55 24-hour traffic counts was evaluated in this study effort. The study areawide volumes were analyzed to determine the peak characteristics for the study area (see Appendix "I"). The results of this analysis are summarized on Table 2-11. The peak hour was determined within typical peak periods (6-9AM and 3-7 PM). For the entire primary study area, the AM peak hour begins at 7:30 AM, and the PM peak hour begins at 4:45 PM.

Individual locations have various peak hour start times, as seen in Appendix "I". Within Newport Beach, the total volume percent in the peak hours of traffic is approximately 19%. This is higher than the typical value of 16 percent that Urban Crossroads, Inc. staff has observed in various other studies in Orange County and is probably related to the relatively high proportion of employment oriented land uses in the City of Newport Beach.

## 2.8 Peak Season Daily Traffic Volume Data

Peak season daily traffic volumes have been collected for select locations (primarily in coastal areas) of the City of Newport Beach. Daily traffic volume counts were collected over a one week period in August of 2003 for each selected roadway segment, and are included in Appendix "J". For each roadway segment selected for summertime counts, the highest typical weekday (Tuesday through Thursday)

TABLE 2-11

24-HOUR TRAFFIC VOLUME PEAK PERIOD AND HOUR RELATIONSHIPS

HOUR PERCENT OF PERIOD		PERIOD PERCENT OF DAY		HOUR PERCENT OF DAY	
AM	PM	AM	PM	AM	PM
44.73	29.14	19.43	35.54	8.67	10.36

AM PEAK HOUR = 7:30 - 8:30 AM

PM PEAK HOUR = 4:45 - 5:45 PM

volume has been compared to the shoulder season count volume at the same location. Table 2-12 contains the results of this analysis. All segments increase for summer conditions by at least 5% and as much as 74%. The only location with a volume increase of more than thirty (30) percent is on Balboa Boulevard east of 20th Street on the Peninsula.

Review of the data clearly indicates that Newport Boulevard is the most popular and heavily impacted access route to the beach for summertime traffic. Jamboree Road and MacArthur Boulevard appear to be the least affected routes, with increases in traffic of between 5 and 10 percent. Newport Coast Drive experiences a higher percentage increase in summertime traffic, but the magnitude of the increase (approximately 3,400 vehicles per day) is very similar to the increase on MacArthur Boulevard north of Coast Highway. The traffic increases along Coast Highway itself are also less than the increases on routes leading to the beach, suggesting that people are oriented towards traveling to the beach/coast, rather than along it.

For one special case (Newport Boulevard in front of City Hall), daily traffic volume data was collected every day for three weeks. Appendix "K" contains the count data for Newport Boulevard between 32nd Street and Finley Avenue. Although the count collection instrument was on the street for three weeks, a few days had to be removed from the sample for various reasons (e.g. count tube was displaced). A graphic depiction of the variation in daily summer volume is included in Appendix "L". As seen in Appendix "L", daily volumes range from approximately 35,000 to 50,000 with definite peaking trends on summer weekend days.

Table 2-13 provides analysis of daily summer traffic volume patterns over the three weeks collected on Newport Boulevard in front of City Hall. The average summer weekday volume is approximately 40,500 vehicles per day (vpd). The Monday volume is very near this same volume, but traffic is more evenly spread throughout the day. Saturday has the highest average summer volume with 48,144 vpd. The average Friday summer volume is approximately 2,500 vpd greater than the average summer Sunday volume.

TABLE 2-12

SUMMER TIME ADT COMPARISON

ID	ROAD NAME	ROAD SEGMENT	COUNTS		DELTA ( $\Delta$ )	DIFFERENCE (%)
			SHOULDER SEASON	SUMMER TIME		
3	Superior Av.	n/o Coast Hw.	23,535	30,533	6,998	29.73%
5	Newport Bl.	s/o Coast Hw.	52,844	55,582	2,738	5.18%
39	Jamboree Rd.	n/o Coast Hw.	31,264	33,028	1,764	5.64%
52	MacArthur Bl.	n/o Coast Hw.	30,904	34,266	3,362	10.88%
65	Newport Coast Dr.	n/o Coast Hw.	12,223	15,638	3,415	27.94%
68	Balboa Bl.	s/o Coast Hw.	19,227	21,906	2,679	13.93%
157	Coast Hw.	e/o Dover Dr.	62,526	70,303	7,777	12.44%
195	Coast Hw.	e/o Newport Coast Dr	35,375	41,917	6,542	18.49%
223	Coast Hw.	e/o Santa Ana River	46,000	48,513	2,513	5.46%
261	Balboa Bl.	e/o 20th St.	17,451	30,427	12,976	74.36%
<b>TOTAL</b>			<b>331,349</b>	<b>382,113</b>	<b>50,764</b>	<b>15.32%</b>

TABLE 2-13

DAILY VOLUME VARIATION OVER PEAK THREE SUMMER WEEKS

DAY	WEEK 1	WEEK 2	WEEK 3	WEEK 4	AVERAGE
Sunday		45,099	42,982	41,796	43,292
Monday		40,779			40,779
Tuesday		43,708	39,542	36,999	40,083
Wednesday		42,412	40,487	36,994	39,964
Thursday		43,248	40,301		41,775
Friday	47,683	45,437	44,077		45,732
Saturday	49,611	47,768	47,052		48,144
Average of Summer Monday and Friday					44,494
Average Summer Weekday (Tu-Th)					40,461
Average Summer Weekend Day					45,718
Shoulder Season					36,000



## 2.9 Daily Roadway Segment Analysis

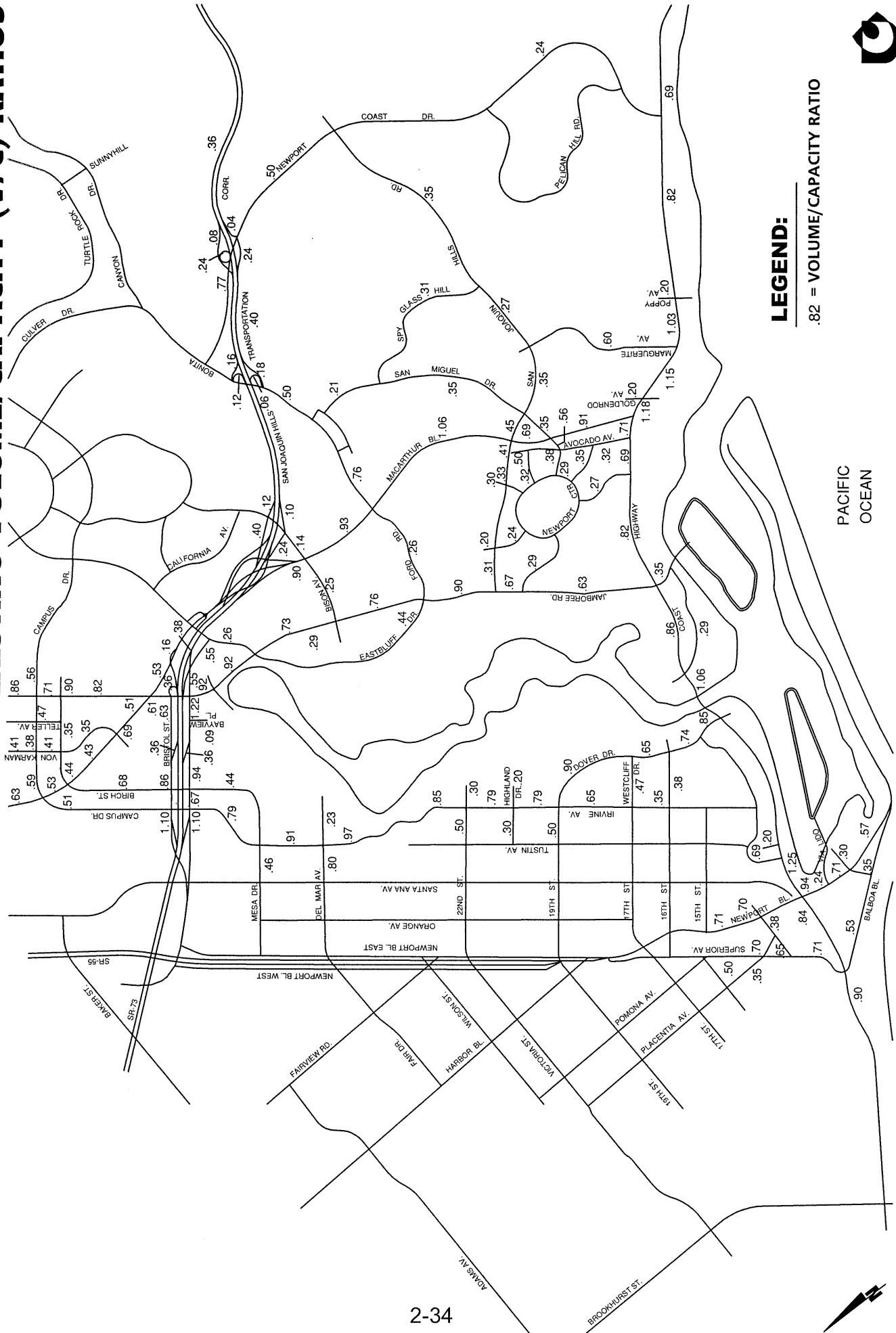
The ratio of daily roadway segment volumes to daily planning level capacities (presented in Table 1-10) provides an initial measure of roadway segment operations. The daily capacity of a roadway correlates to a number of widely varying factors, including traffic peaking characteristics, traffic turning volumes, and the volume of traffic on crossing streets. The actual daily capacity of a roadway can thus vary widely. The daily capacities are therefore most appropriately used for long range General Plan analysis, or as a screening tool to determine the need for more detailed peak hour analysis.

Volume/Capacity (V/C) Ratios for Existing conditions are shown on Exhibit 2-K. Roadway segments with V/C ratios greater than 0.90 are:

- Newport Boulevard north of Via Lido
- Irvine Avenue north of University Drive
- Jamboree Road north of Bayview Way
- Jamboree Road north of University Drive
- MacArthur Boulevard north of Ford Road
- MacArthur Boulevard north of San Joaquin Hills Road
- MacArthur Boulevard north of Coast Highway
- Irvine Avenue south of University Drive
- Bristol Street North west of Campus Drive
- Bristol Street South west of Campus Drive
- Bristol Street South east of Birch Street
- Bristol Street South west of Jamboree Road
- Coast Highway west of Riverside Drive
- Coast Highway east of Dover Drive
- Coast Highway east of MacArthur Boulevard
- Coast Highway east of Goldenrod Avenue
- Coast Highway east of Marguerite Avenue

# EXISTING VOLUME/CAPACITY (V/C) RATIOS

EXHIBIT 2-K



## LEGEND:

.82 = VOLUME/CAPACITY RATIO

PACIFIC OCEAN



More detailed peak hour analysis has been conducted at key intersections in the vicinity of all these roadway segments to quantify actual peak hour operations and levels of service.

## 2.10 Traffic Source Analysis

Traffic source analysis provides information on the destination of actual roadway users. This analysis has been used in this study primarily to identify through traffic that is utilizing the City of Newport Beach arterial roadway system. Traffic source evaluation was performed in the City of Newport Beach using car following techniques to determine their destinations in late spring of 2002. Three key entries to the City were evaluated in this process:

- Northbound Coast Highway, south of Newport Coast Drive
- Southbound Coast Highway, south of the Santa Ana River
- Southbound MacArthur Boulevard, north of Bonita Canyon Drive

At each of the three locations, 100 cars were followed until they left the arterial system or the City of Newport Beach. The predictive value or accuracy of a sampling process is best evaluated in terms of the sample's confidence interval. The confidence interval for a sample size of 100 is 10%. Table 2-14 shows the sample percentage of daily (one-way) volume for each source analysis location. For each vehicle followed, the data includes start time (when the vehicle was on the analysis location), end time (when the vehicle left the City or the arterial system), destination (interim traffic analysis zone or cordon location), vehicle type (brief description of the vehicle), initials, and date. Analysts were directed to select vehicles from each lane, and a variety of vehicle types. The resulting data from this exercise appears in Appendix "M".

As requested by City of Newport Beach staff, data was primarily collected during the peak periods (from 7:00 to 9:00 AM and from 4:30 to 6:30 PM). Appendix "N"

TABLE 2-14

TRAFFIC SOURCE ANALYSIS CONFIDENCE INTERVALS

LOCATION	EXISTING ADT	ONE WAY ADT	SAMPLE SIZE	SAMPLE PERCENTAGE
NB Coast Hw. south of Newport Coast Dr.	35,000	17,500	100	0.57%
SB Coast Hw. south of the Santa Ana River	46,000	23,000	100	0.43%
SB MacArthur Bl. North of Bonita Canyon Dr.	39,000	19,500	100	0.51%

contains graphs showing time distribution of sample data. This does not correspond to traffic flow patterns in Newport Beach, only to the time of collection. The graphs are provided to demonstrate that the data does reflect at least 30% of samples taken within each of the AM and PM peak periods for each of the three (3) starting point locations.

The City of Newport Beach has been divided into fourteen (14) traffic analysis districts, as shown previously on Exhibit 1-F. For the purpose of this analysis, districts 3 and 10 have been combined. Exhibit 2-L shows through trip destinations (cordon locations). Each cordon location is a roadway segment where vehicles can exit the City. Once a vehicle has left the City of Newport Beach, it is considered an external trip and is not further studied.

Table 2-15 contains a summary of the results for the northbound Coast Highway south of Newport Coast Drive. Internal traffic (with destinations in the City of Newport Beach) accounts for 64% of the vehicles studied. This percentage is slightly lower in the AM peak (60%) and higher in both the PM peak and off peak time frames. The top three traffic districts attracting vehicles from this location are 13, 8, and 9. District 13 roughly corresponds to Newport Coast West / Corona Del Mar. District 8 is approximately Newport Center. District 9 is Bayside/Balboa Island.

Through traffic from northbound Coast Highway south of Newport Coast Drive travels primarily to cordons A, W, and U. Each of these cordons was the destination of more than 5 of the 100 vehicles followed. Cordon A is Coast Highway at the Santa Ana River and received seven percent (7%) of the vehicles studied. Cordon W is Newport Coast Drive northeast of the SR-73 freeway and was the destination of seven percent (7%) of vehicles involved. Cordon U (the destination of six percent (6%) of the vehicles followed) is Bison Avenue northeast of the SR-73 freeway (towards University of California, Irvine). Exhibit

EXHIBIT 2-L  
**NEWPORT BEACH TRAFFIC SURVEY CORDON LOCATIONS**

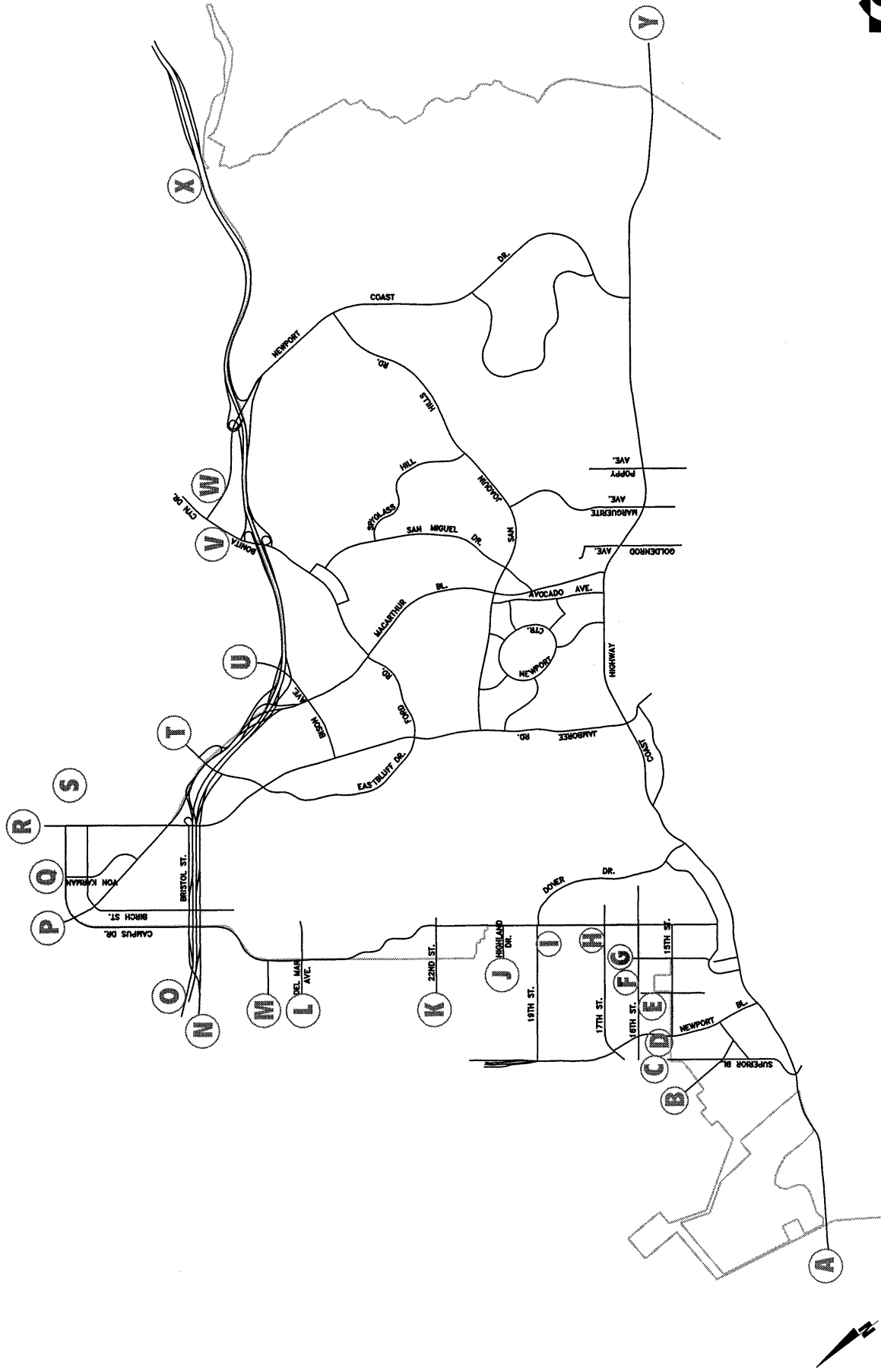
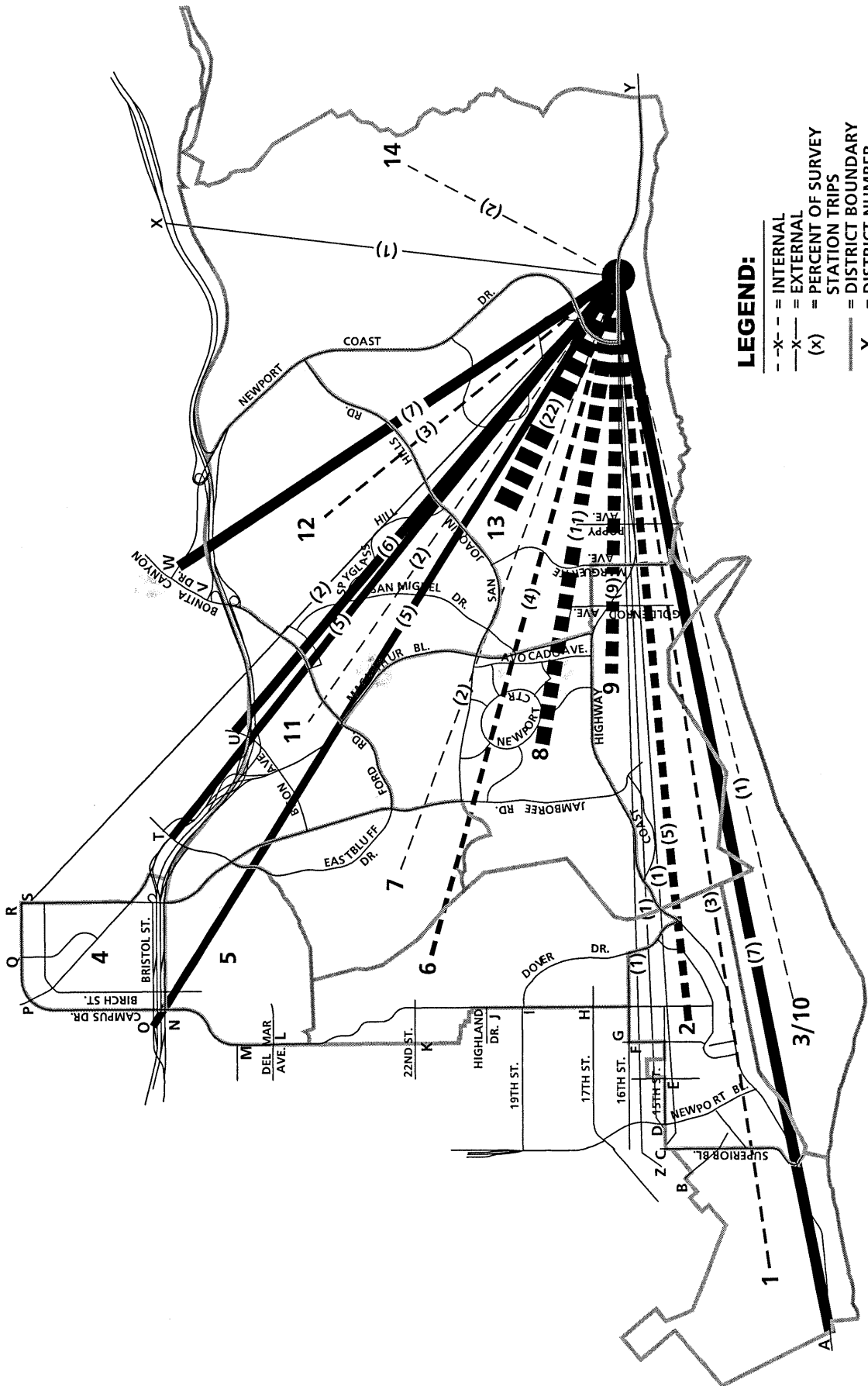


TABLE 2-15

TRAFFIC SURVEY RESULTS FOR NORTHBOUND COAST HIGHWAY  
SOUTH OF NEWPORT COAST DRIVE

DESTINATION	AM PEAK	PM PEAK	OFF-PEAK	TOTAL
1	1	2	0	3
2	3	1	1	5
3	0	0	1	1
4	0	0	0	0
5	0	0	0	0
6	2	2	0	4
7	0	2	0	2
8	4	5	2	11
9	1	7	1	9
10	0	0	0	0
11	0	2	0	2
12	3	0	0	3
13	6	11	5	22
14	1	1	0	2
<b>INTERNAL SUBTOTAL</b>	<b>21</b>	<b>33</b>	<b>10</b>	<b>64</b>
A	1	4	2	7
B	0	0	0	0
C	0	1	0	1
D	0	1	0	1
E	0	0	0	0
F	0	0	0	0
G	0	0	0	0
H	0	0	0	0
I	0	0	0	0
J	0	0	0	0
K	0	0	0	0
L	0	0	0	0
M	0	0	0	0
N	0	0	0	0
O	1	3	1	5
P	0	0	0	0
Q	0	0	0	0
R	0	0	0	0
S	0	2	0	2
T	3	1	1	5
U	3	2	1	6
V	0	0	0	0
W	4	3	0	7
X	1	0	0	1
Y	0	0	0	0
Z	1	0	0	1
<b>EXTERNAL SUBTOTAL</b>	<b>14</b>	<b>17</b>	<b>5</b>	<b>36</b>
<b>TOTAL</b>	<b>35</b>	<b>50</b>	<b>15</b>	<b>100</b>
INTERNAL PERCENT	60%	66%	67%	64%
EXTERNAL PERCENT	40%	34%	33%	36%

EXHIBIT 2-M  
**TRAFFIC SURVEY RESULTS FOR NB COAST HIGHWAY SOUTH OF NEWPORT COAST DRIVE**





Survey results for southbound Coast Highway south of the Santa Ana River are summarized in Table 2-16. Internal (City of Newport Beach) traffic comprises 66% of the 100 trips analyzed. In the off-peak time frame, this percentage is much lower, but the off-peak sample size is small (8 vehicles). Primary destinations include traffic analysis districts 2, 8, 3/10, and 9. District 2 is Mariners Mile/Newport Heights. Newport Center is district 8. District 3/10 is Newport Bay and the Balboa Peninsula, and district 9 is Bayside/Balboa Island.

Through traffic from the starting point on Coast Highway south of the Santa Ana River primarily exits the City of Newport Beach either at cordon C (Superior Boulevard north of 15th Street), or at cordon Y (Coast Highway south of Newport Coast Drive). Cordon C captured eleven percent (11%) of traffic studied, while Cordon Y was the destination of seven percent (7%) of vehicles followed. All other cordons had fewer than 5 of the 100 vehicles studied leaving. A graphic depiction of travel patterns for vehicles traveling into the city on Coast Highway south of the Santa Ana River is shown on Exhibit 2-N.

Table 2-17 contains survey results for southbound MacArthur Boulevard north of Bonita Canyon Drive. Almost 90% of traffic on this segment remains in the City of Newport Beach. Major destinations include districts 8, 13, 9, and 12. District 8 (Newport Center) was the destination of 37 vehicles. 32 total vehicles ended their trips in districts 13 and 9 (Newport Coast West/Corona Del Mar and Bayside/Balboa Island, respectively). District 12 is Harbor View Hills/Newport Ridge (the destination of 11 vehicles).

During the peak hours, 11 of the 100 vehicles did travel through the City. Their primary cordon destination was Y (Coast Highway south of Newport Coast Drive) to which seven percent (7%) of vehicles traveled. Exhibit 2-O shows generalized trip distribution patterns for vehicles studied on MacArthur Boulevard north of Bonita Canyon Drive.

TABLE 2-16

TRAFFIC SURVEY RESULTS FOR SOUTHBOUND COAST HIGHWAY  
SOUTH OF THE SANTA ANA RIVER

DESTINATION	AM PEAK	PM PEAK	OFF-PEAK	TOTAL
1	3	5		8
2	13	1	1	15
3	6	3		9
4	1			1
5				0
6		1		1
7		1		1
8	9	2		11
9	3	4	2	9
10				0
11	2			2
12	2			2
13	3	4		7
14				0
<b>INTERNAL SUBTOTAL</b>	<b>42</b>	<b>21</b>	<b>3</b>	<b>66</b>
A		1		1
B	1	1		2
C	6	5		11
D				0
E				0
F				0
G		1		1
H	1			1
I				0
J				0
K				0
L				0
M				0
N				0
O	1		1	2
P				0
Q				0
R				0
S		2		2
T	1	1		2
U				0
V				0
W				0
X		1		1
Y	4		3	7
Z	3		1	4
<b>EXTERNAL SUBTOTAL</b>	<b>17</b>	<b>12</b>	<b>5</b>	<b>34</b>
<b>TOTAL</b>	<b>59</b>	<b>33</b>	<b>8</b>	<b>100</b>
INTERNAL PERCENT	71%	64%	38%	66%
EXTERNAL PERCENT	29%	36%	63%	34%

# EXHIBIT 2-N TRAFFIC SURVEY RESULTS FOR SB COAST HIGHWAY SOUTH OF SANTA ANA RIVER

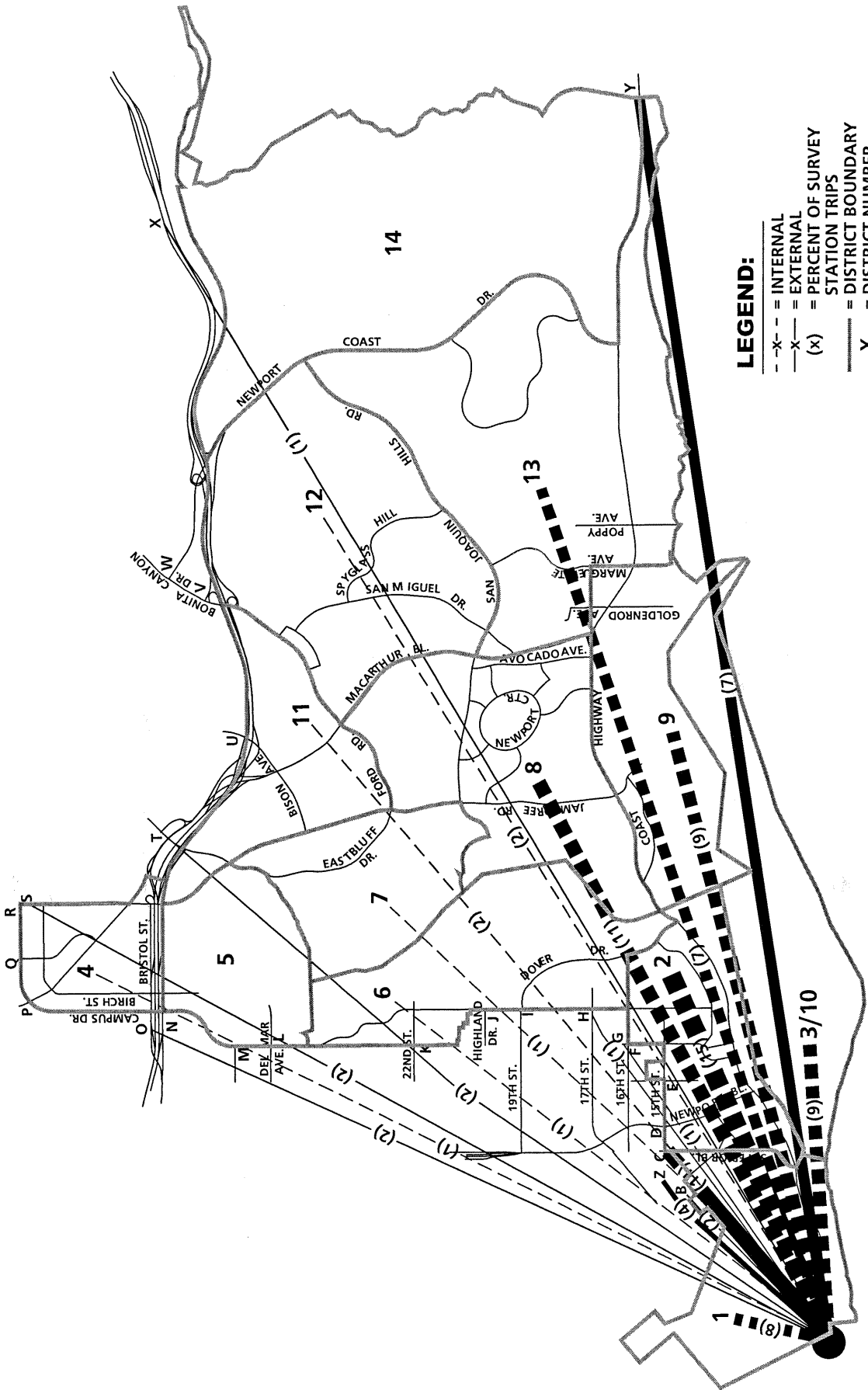
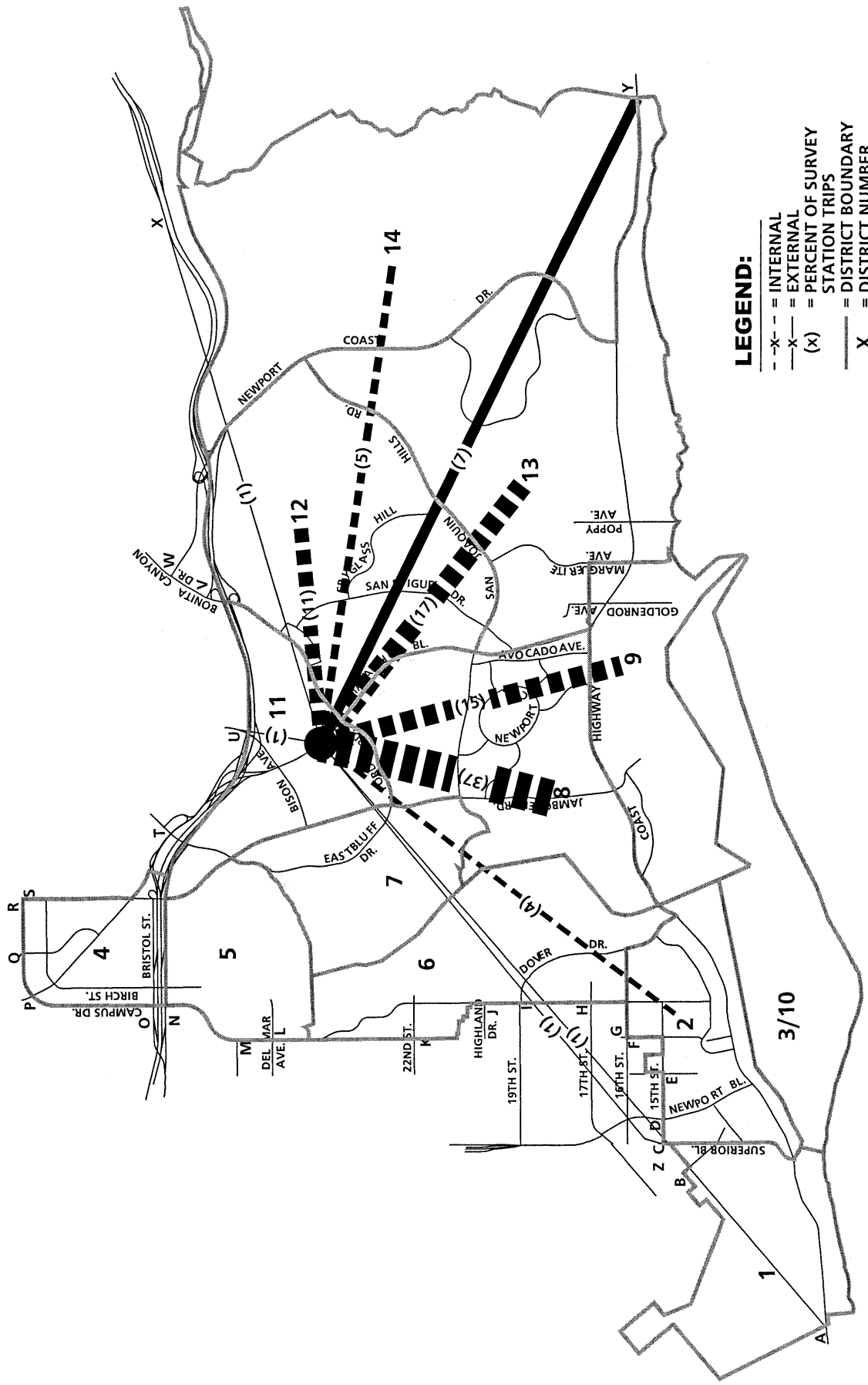


TABLE 2-17

TRAFFIC SURVEY RESULTS FOR SOUTHBOUND MACARTHUR BOULEVARD  
NORTH OF BONITA CANYON DRIVE

DESTINATION	AM PEAK	PM PEAK	OFF-PEAK	TOTAL
1				0
2	1	2	1	4
3				0
4				0
5				0
6				0
7				0
8	17	12	8	37
9	8	5	2	15
10				0
11				0
12	1	7	3	11
13	8	6	3	17
14	4		1	5
<b>INTERNAL SUBTOTAL</b>	<b>39</b>	<b>32</b>	<b>18</b>	<b>89</b>
A		1		1
B				0
C	1			1
D				0
E				0
F				0
G				0
H				0
I				0
J				0
K				0
L				0
M				0
N				0
O				0
P				0
Q				0
R				0
S				0
T				0
U		1		1
V				0
W				0
X	1			1
Y	2	5		7
Z				0
<b>EXTERNAL SUBTOTAL</b>	<b>4</b>	<b>7</b>	<b>0</b>	<b>11</b>
<b>TOTAL</b>	<b>43</b>	<b>39</b>	<b>18</b>	<b>100</b>
INTERNAL PERCENT	91%	82%	100%	89%
EXTERNAL PERCENT	9%	18%	0%	11%

EXHIBIT 2-0  
**TRAFFIC SURVEY RESULTS FOR SB MACARTHUR BOULEVARD  
 NORTH OF BONITA CANYON DRIVE**



### 2.10.1 Model Traffic Source Analysis

Each facility of interest in the traffic source analysis has been evaluated to determine corresponding model trip distribution representation. Travel patterns in the existing validation model generally reflect the results of the traffic survey. The model does reflect more through traffic. This is probably related to the longer trip lengths in socioeconomic data based models.

Exhibit 2-P shows the percent of traffic on each roadway segment from Coast Highway (northbound) south of Newport Coast Drive. Much of the model traffic exits the City of Newport Beach on SR-73 northbound (near John Wayne Airport). Coast Highway at the Santa Ana River into Huntington Beach (6%) and Bonita Canyon Drive north of Newport Coast Drive into Irvine (9%) were the destinations of most of the rest of the through traffic, well correlated to observed actual traffic. The larger proportion of through traffic is most likely related to the longer trip lengths in socioeconomic data based models. Much of the traffic that remained in the City of Newport Beach was destined for Newport Center, Newport Coast West/Corona Del Mar, and Newport Bay/Balboa Peninsula.

Exhibit 2-Q shows the trip distribution percents of traffic from Coast Highway southbound at the Santa Ana River. Much of the traffic was headed for Newport Bay/Balboa Peninsula. Other primary destinations included West Newport, Mariners Mile/Newport Heights, and, to a lesser extent, Newport Center. Through traffic exits the City of Newport Beach via Superior Boulevard into Costa Mesa (18%), and Placentia Avenue into Costa Mesa (7%), and on Coast Highway south of Newport Coast Drive towards Laguna Beach (4%).

Traffic percentages from MacArthur Boulevard southbound north of Bonita Canyon Drive are shown on Exhibit 2-R. The only significant through

# EXHIBIT 2-P GENERAL DISTRIBUTION OF MODEL TRAFFIC FROM COAST HIGHWAY SOUTH OF NEWPORT COAST DRIVE

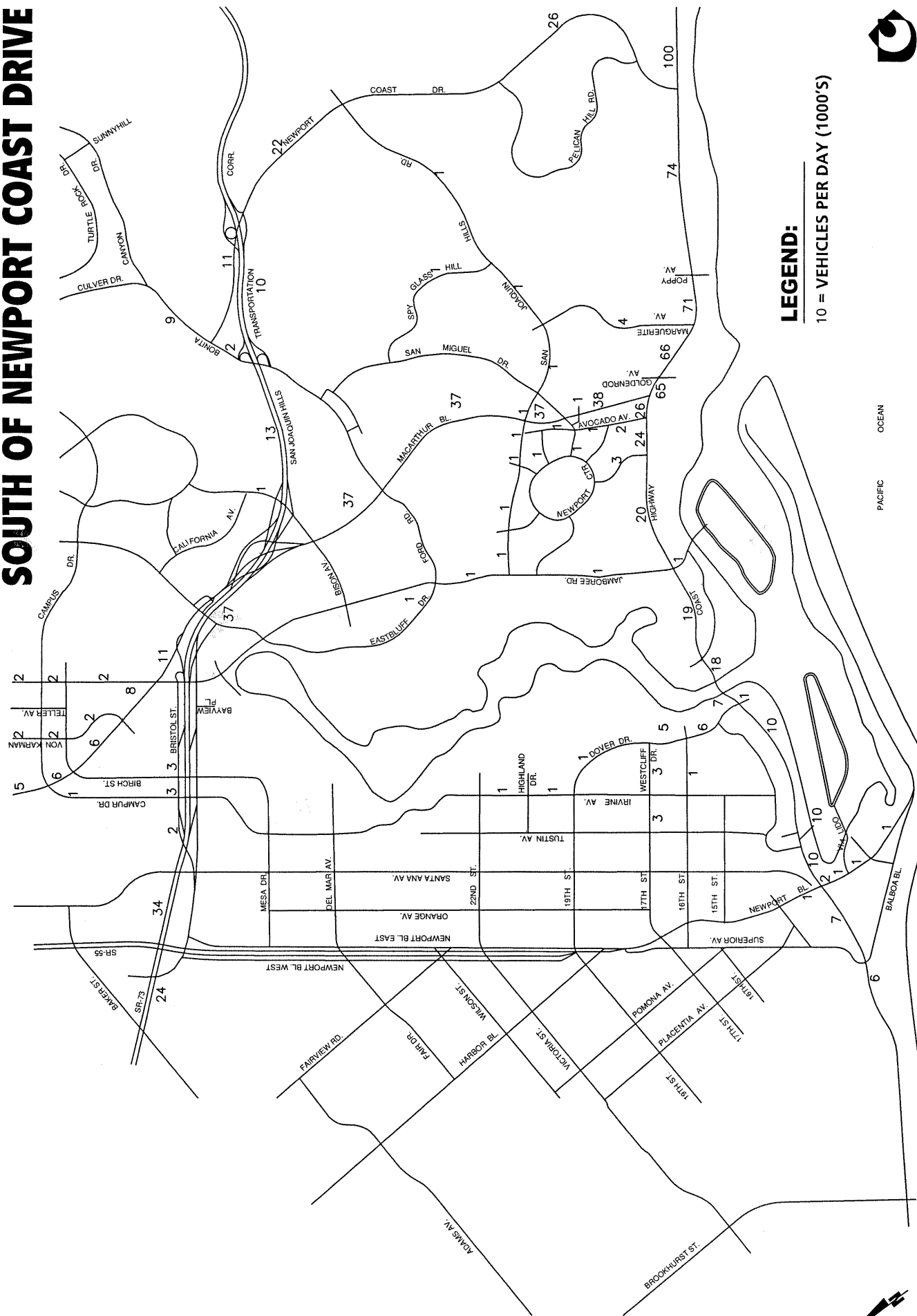


EXHIBIT 2-Q  
**GENERAL DISTRIBUTION OF MODEL TRAFFIC FROM COAST HIGHWAY  
 AT THE SANTA ANA RIVER**

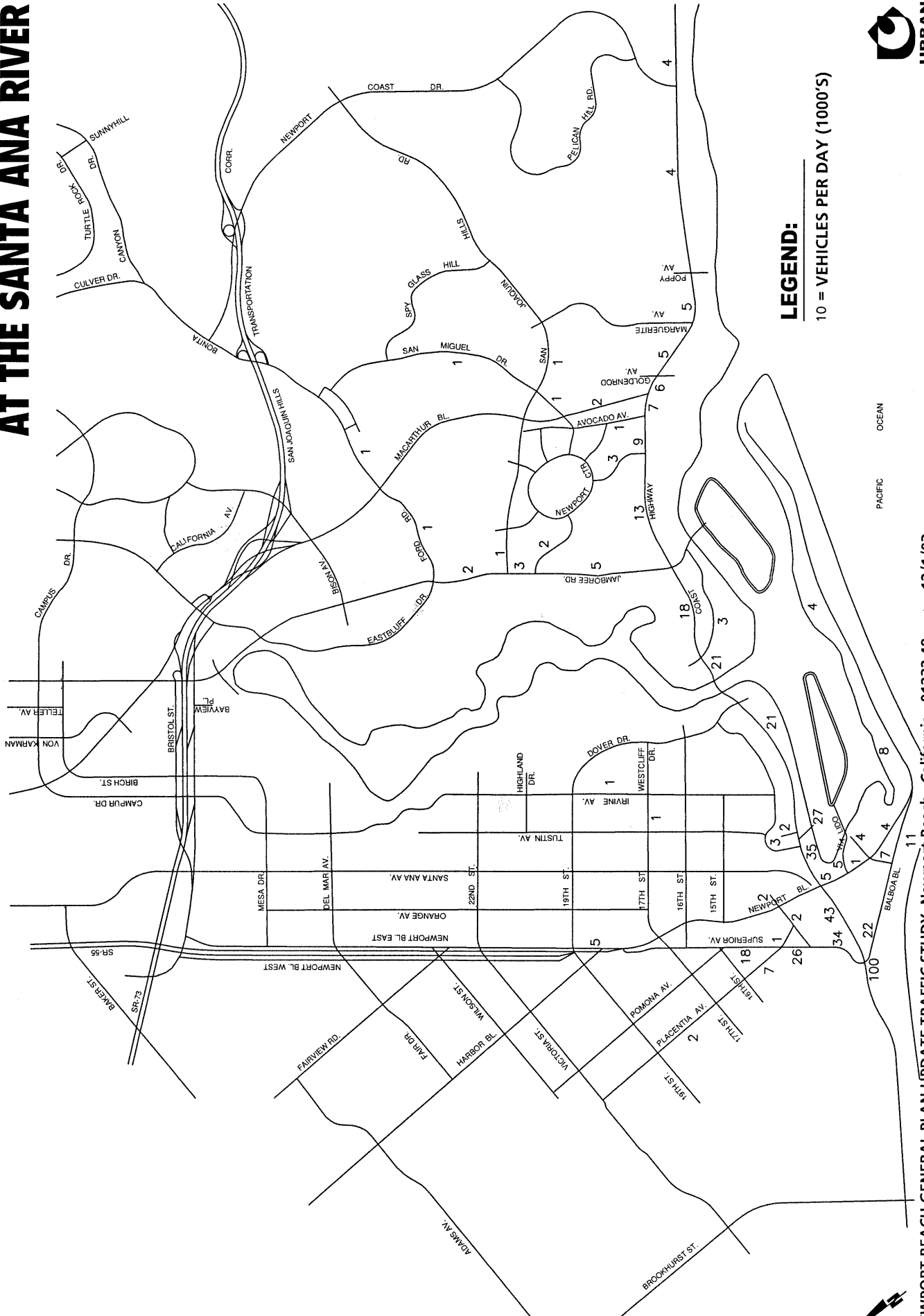
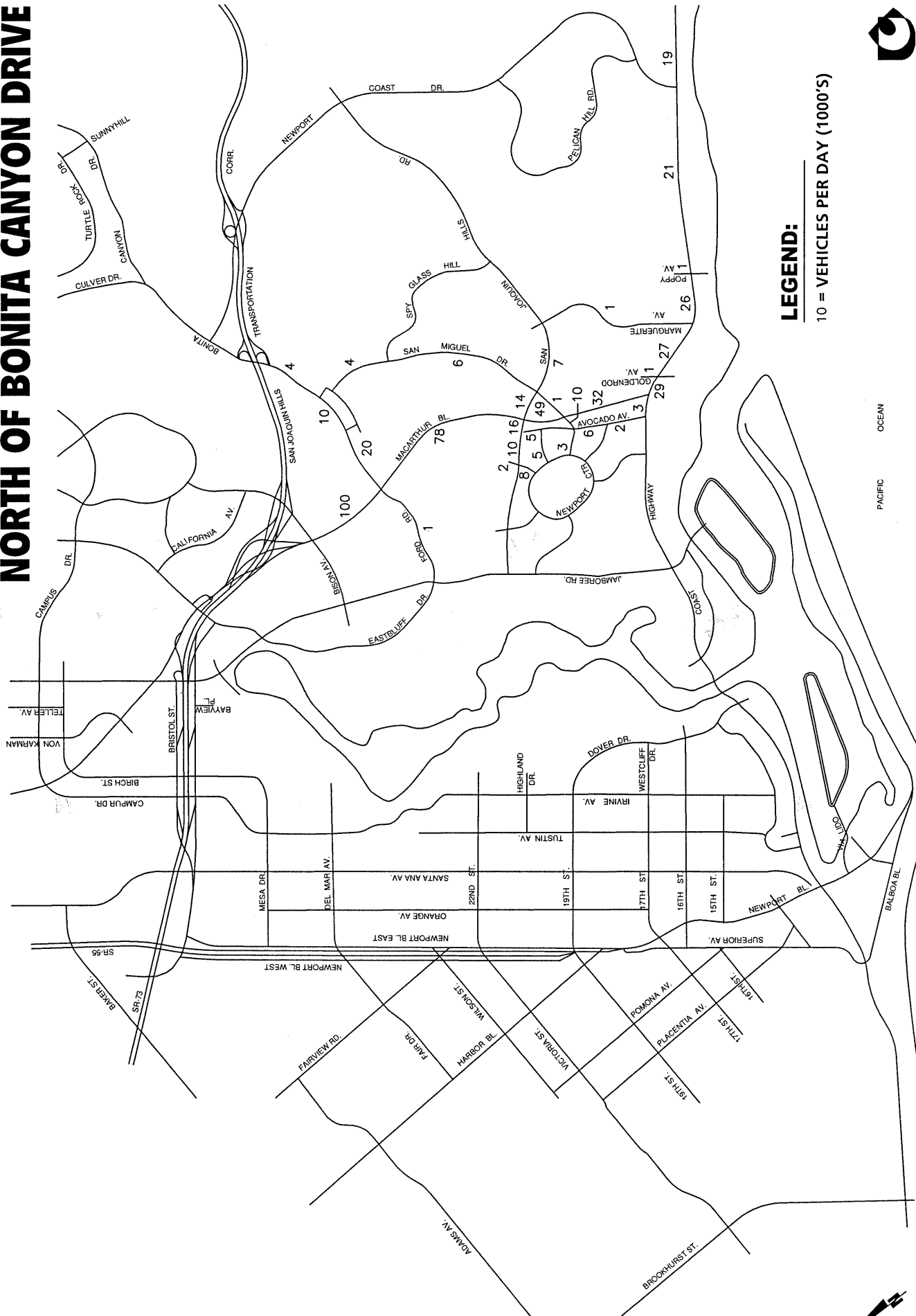




EXHIBIT 2-R  
**GENERAL DISTRIBUTION OF MODEL TRAFFIC FROM MACARTHUR BOULEVARD  
 NORTH OF BONITA CANYON DRIVE**



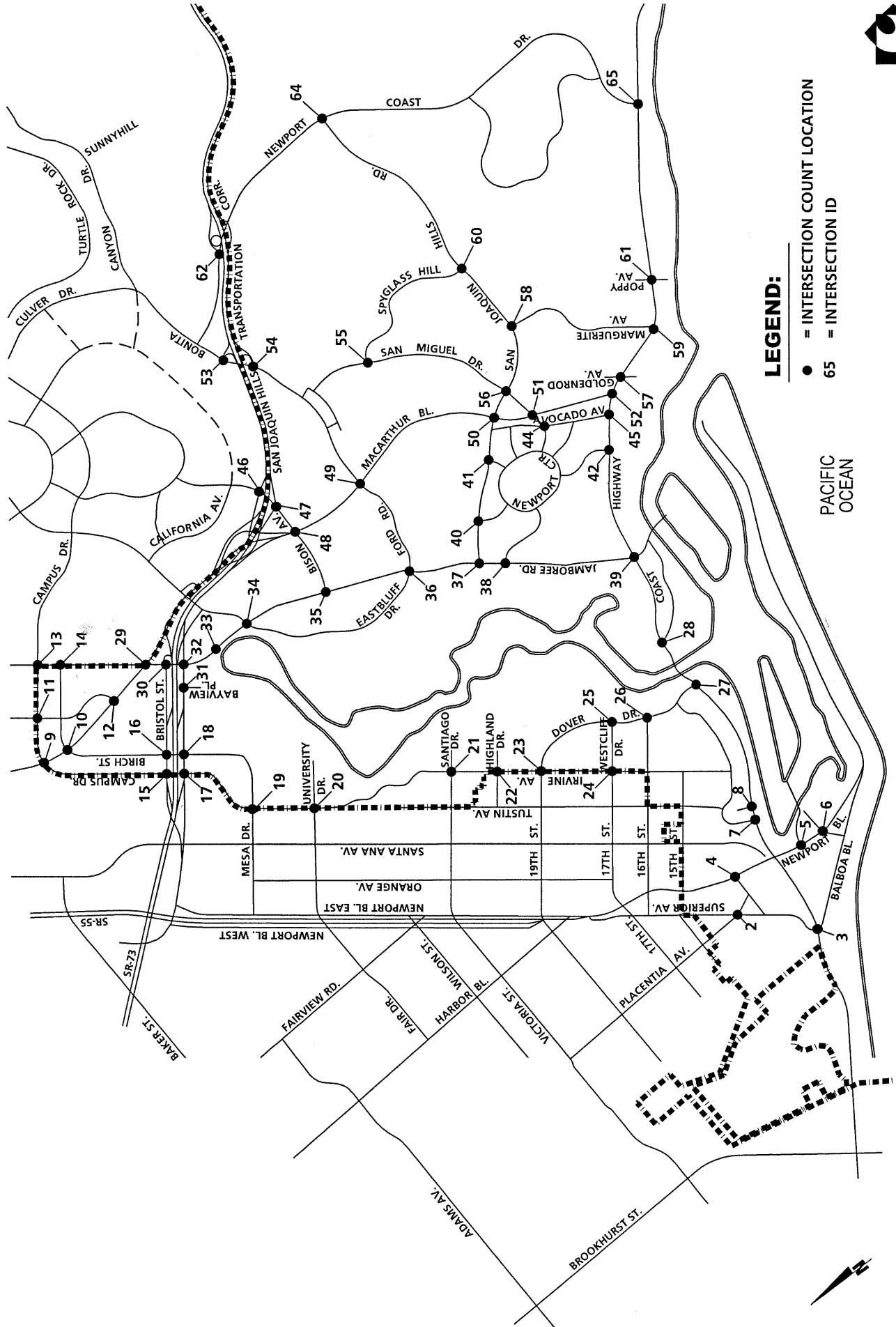
traffic leaves the City of Newport Beach traveling southbound on Coast Highway south of Newport Coast Drive (19%). Primary destinations within the City of Newport Beach include Harbor View Hills/Newport Ridge, Newport Center, and Newport Coast West/Corona Del Mar.

## 2.11 Peak Hour Intersection Operations

Peak period and hour traffic count data has been obtained from a variety of sources. Obtaining 2001/2002 data has been an emphasis of the validation effort. Peak period and hour turning movement traffic volume data have been compiled or counted at a total of 62 intersections throughout the City of Newport Beach, as shown on Exhibit 2-S. These locations were selected for analysis by City staff because of their locations along key travel corridors within the community. Appendix "O" contains the AM and PM 2 hour peak period traffic count data and the calculated one hour peak volumes. The data collected/compiled was input into a turning movement analysis database. For each location, leg inbound and outbound volumes were calculated. These were compared to those for surrounding intersections for conservation of flow. Some adjustments were necessary to provide reasonable flow conservation at adjacent intersections without significant intervening access such as driveways or local residential streets. An example of this type of situation is a freeway interchange. All necessary flow conservation adjustments are shown explicitly in Appendix "O".

Recent peak hour intersection count data (from 2003, 2004, and 2005) has been provided by City staff. The recent count data is contained in Appendix "P". Total volume at each study area intersection where new count data was available has been compared to the total volume counted for the baseline analysis in 2002. The analysis is shown in Appendix "Q". As shown in Appendix "Q", there is a general decrease in traffic volume at study area intersections for each recent count year. From 2002 to 2003, intersection volumes decrease by approximately 6%. From 2002 to 2004, intersection volumes decrease by approximately 7%. From 2002 to 2005, intersection volumes decrease by approximately 2%. Based on this analysis, volumes forecast using 2002 count data are conservative.

# EXHIBIT 2-S INTERSECTION COUNT LOCATIONS



## LEGEND:

- = INTERSECTION COUNT LOCATION
- 65 = INTERSECTION ID



An additional adjustment was to include a minimum of 1 vehicle for every allowed turning movement to ensure proper operation of the intersection capacity utilization (ICU) calculator and the future turn forecast algorithm. Geometric data has been collected for the 62 existing intersections selected for analysis. The geometric data was used to calculate existing (2002) intersection capacity utilization values (ICUs) at all 62 existing analysis intersections. Appendix "R" contains the detailed ICU calculation worksheets for existing count conditions. The worksheets in Appendix "R" summarize the intersection geometric data and the AM and PM peak intersection turning movement volumes.

Table 2-18 summarizes the ICU and Level of Service (LOS) for existing counted conditions. Exhibit 2-T shows intersections with deficient operations. The following 6 intersections currently experience deficient (LOS "E" or worse) peak hour operating conditions based on 2002 traffic counts:

- Riverside Drive (NS)/Coast Highway (EW) - PM
- Campus Drive (NS)/Bristol Street (N) (EW) - PM
- Irvine Avenue (NS)/Mesa Drive (EW) - PM
- MacArthur Boulevard (NS)/Jamboree Road (EW) - PM
- MacArthur Boulevard (NS)/San Joaquin Hills Road (EW) - PM
- Goldenrod Avenue (NS)/Coast Highway (EW) – AM

## 2.12 Truck Facilities

Commercial vehicles weighing in excess of 3 tons (6,000 pounds) are permitted on City of Newport Beach roads. Commercial vehicles weighing in excess of 3 tons are prohibited from certain study area roadways, as signed. Exhibit 2-U identifies the roadways where commercial vehicles are prohibited.

TABLE 2-18 (1 of 2)

NBTM EXISTING COUNT INTERSECTION ANALYSIS SUMMARY

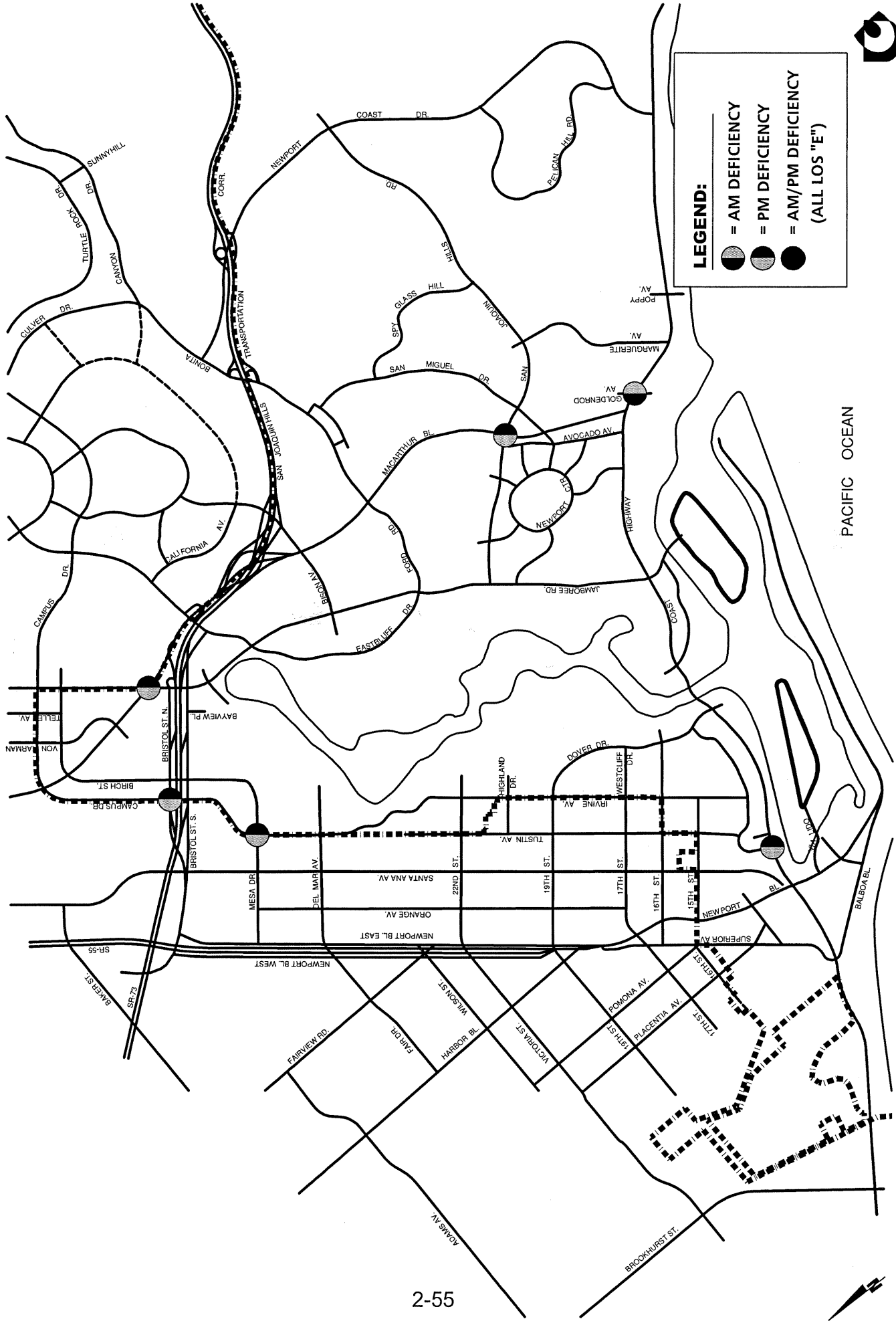
INTERSECTION (NS & EW)		AM PEAK HOUR		PM PEAK HOUR	
		ICU	LOS	ICU	LOS
2	Superior Av. & Placentia Av.	0.66	B	0.67	B
3	Superior Av. & Coast Hw.	0.84	D	0.90	D
4	Newport Bl. & Hospital Rd.	0.54	A	0.70	B
5	Newport Bl. & Via Lido	0.41	A	0.37	A
6	Newport Bl. & 32nd St.	0.73	C	0.78	C
7	Riverside Av. & Coast Hw.	0.84	D	0.93	E
8	Tustin Av. & Coast Hw.	0.80	C	0.67	B
9	MacArthur Bl. & Campus Dr.	0.61	B	0.85	D
10	MacArthur Bl. & Birch St.	0.49	A	0.66	B
11	Von Karman Av. & Campus Dr.	0.55	A	0.79	C
12	MacArthur Bl. & Von Karman Av.	0.46	A	0.53	A
13	Jamboree Rd. & Campus Dr.	0.74	C	0.85	D
14	Jamboree Rd. & Birch St.	0.55	A	0.60	A
15	Campus Dr. & Bristol St. (N)	0.77	C	0.94	E
16	Birch St. & Bristol St. (N)	0.66	B	0.61	B
17	Campus Dr./Irvine Av. & Bristol St. (S)	0.72	C	0.58	A
18	Birch St. & Bristol St. (S)	0.46	A	0.44	A
19	Irvine Av. & Mesa Dr.	0.70	B	0.94	E
20	Irvine Av. & University Dr.	0.82	D	0.89	D
21	Irvine Av. & Santiago Dr.	0.66	B	0.72	C
22	Irvine Av. & Highland Dr.	0.57	A	0.60	A
23	Irvine Av. & Dover Dr.	0.72	C	0.64	B
24	Irvine Av. & Westcliff Dr.	0.57	A	0.77	C
25	Dover Dr. & Westcliff Dr.	0.38	A	0.48	A
26	Dover Dr. & 16th St.	0.55	A	0.57	A
27	Dover Dr. & Coast Hw.	0.70	B	0.74	C
28	Bayside Dr. & Coast Hw.	0.69	B	0.70	B
29	MacArthur Bl. & Jamboree Rd.	0.88	D	0.91	E
30	Jamboree Rd. & Bristol St. (N)	0.55	A	0.59	A
31	Bayview Pl. & Bristol St. (S)	0.48	A	0.56	A
32	Jamboree Rd. & Bristol St. (S)	0.75	C	0.72	C
33	Jamboree Rd. & Bayview Wy.	0.41	A	0.57	A
34	Jamboree Rd. & Eastbluff Dr. /University Dr.	0.60	A	0.64	B
35	Jamboree Rd. & Bison Av.	0.45	A	0.51	A
36	Jamboree Rd. & Eastbluff Dr./Ford Rd.	0.69	B	0.65	B
37	Jamboree Rd. & San Joaquin Hills Rd.	0.56	A	0.57	A

**TABLE 2-18 (2 of 2)**  
**NBTM EXISTING COUNT INTERSECTION ANALYSIS SUMMARY**

INTERSECTION (NS & EW)		AM PEAK HOUR		PM PEAK HOUR	
		ICU	LOS	ICU	LOS
38	Jamboree Rd. & Santa Barbara Dr.	0.47	A	0.63	B
39	Jamboree Rd. & Coast Hw.	0.68	B	0.74	C
40	Santa Cruz Dr. & San Joaquin Hills Rd.	0.36	A	0.36	A
41	Santa Rosa Dr. & San Joaquin Hills Rd.	0.32	A	0.52	A
42	Newport Center Dr. & Coast Hw.	0.40	A	0.52	A
44	Avocado Av. & San Miguel Dr.	0.33	A	0.72	C
45	Avocado Av. & Coast Hw.	0.58	A	0.66	B
46	SR-73 NB Ramps & Bison Av.	0.31	A	0.37	A
47	SR-73 SB Ramps & Bison Av.	0.26	A	0.17	A
48	MacArthur Bl. & Bison Av.	0.63	B	0.60	A
49	MacArthur Bl. & Ford Rd./Bonita Canyon Dr.	0.71	C	0.90	D
50	MacArthur Bl. & San Joaquin Hills Rd.	0.64	B	0.93	E
51	MacArthur Bl. & San Miguel Dr.	0.56	A	0.65	B
52	MacArthur Bl. & Coast Hw.	0.60	A	0.71	C
53	SR-73 NB Ramps & Bonita Canyon Dr.	0.55	A	0.43	A
54	SR-73 SB Ramps & Bonita Canyon Dr.	0.30	A	0.41	A
55	Spyglass Hill Rd. & San Miguel Dr.	0.28	A	0.31	A
56	San Miguel Dr. & San Joaquin Hills Rd.	0.44	A	0.54	A
57	Goldenrod Av. & Coast Hw.	0.99	E	0.69	B
58	Marguerite Av. & San Joaquin Hills Rd.	0.31	A	0.35	A
59	Marguerite Av. & Coast Hw.	0.83	D	0.82	D
60	Spyglass Hill Rd. & San Joaquin Hills Rd.	0.44	A	0.30	A
61	Poppy Av. & Coast Hw.	0.61	B	0.65	B
62	Newport Coast Dr. & SR-73 NB Ramps	0.45	A	0.31	A
64	Newport Coast Dr. & San Joaquin Hills Rd.	0.37	A	0.29	A
65	Newport Coast Dr. & Coast Hw.	0.47	A	0.50	A
	<b>Average (All Locations)</b>	0.58	A	0.63	B

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# EXHIBIT 2-T EXISTING INTERSECTION DEFICIENCIES (6)

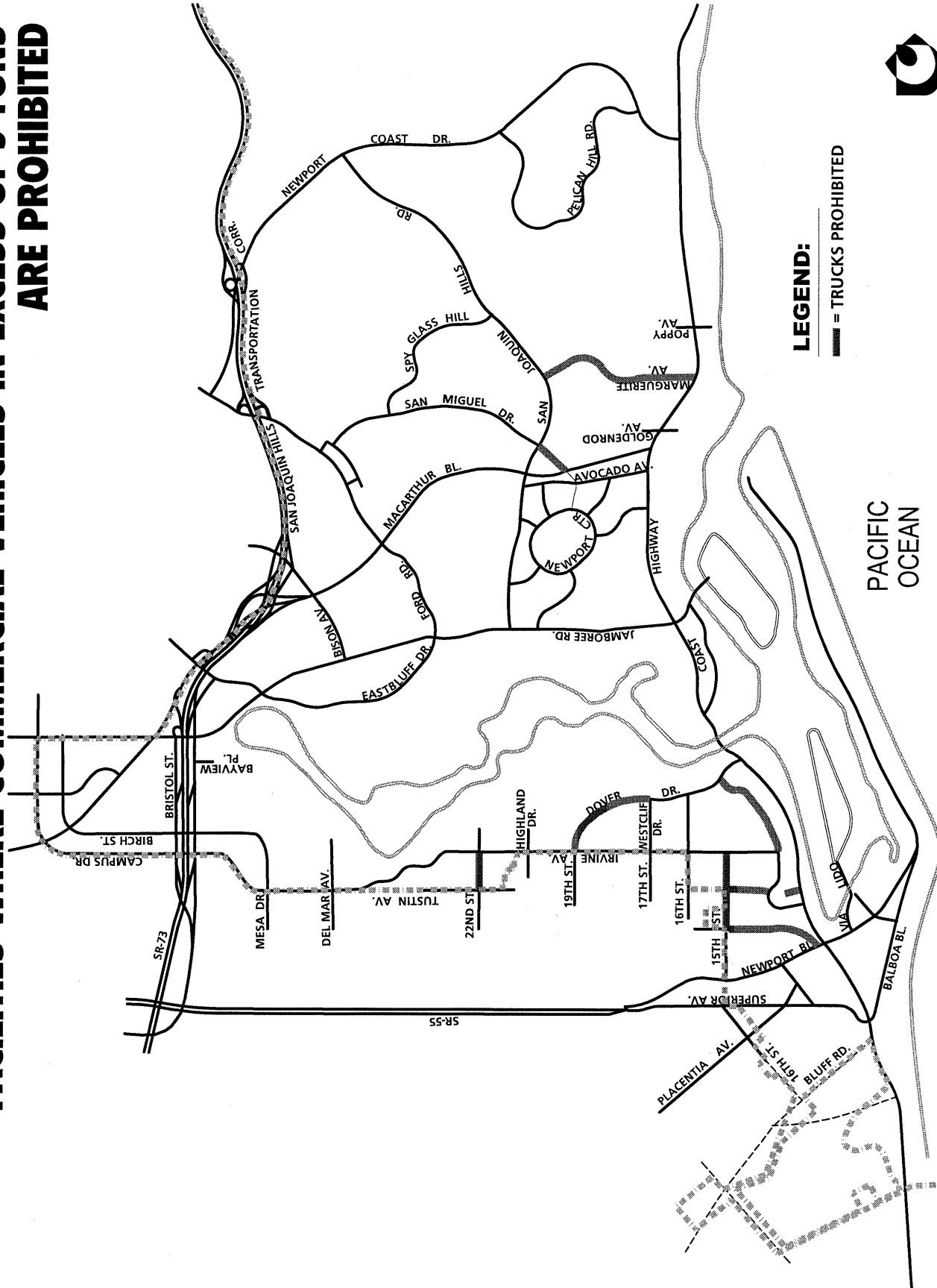


**LEGEND:**

- = AM DEFICIENCY
- = PM DEFICIENCY
- = AM/PM DEFICIENCY (ALL LOS "E")



EXHIBIT 2-U  
**FACILITIES WHERE COMMERCIAL VEHICLES IN EXCESS OF 3 TONS  
 ARE PROHIBITED**



**LEGEND:**  
 [Thick black line symbol] = TRUCKS PROHIBITED





## 2.14 Trail System

Trail systems, while providing alternates to automobile travel, also provide recreational opportunities for the community. The existing trail system in Newport Beach has been developed to provide access for commuter and recreational bicyclists, along with pedestrians.

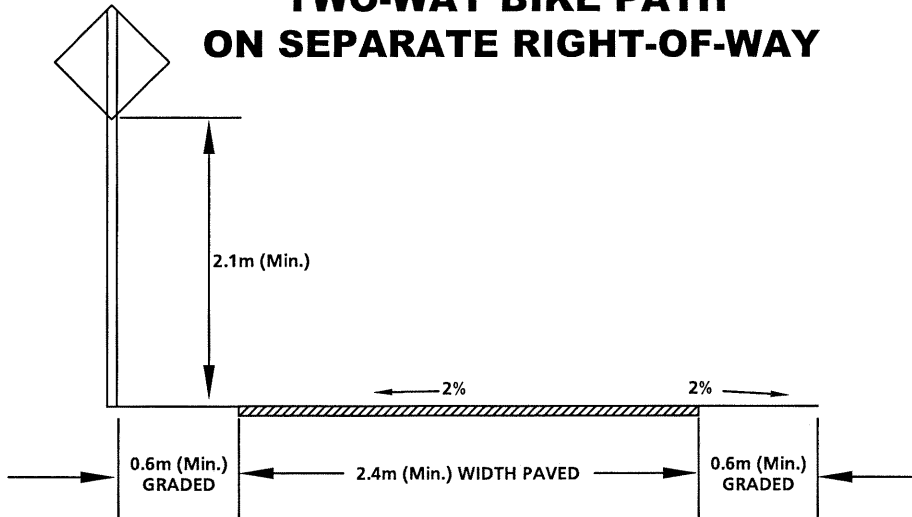
The Newport Beach bikeways system contains off-street bike paths, sidewalk bikeways, and on-street bike trails. Exhibit 2-V shows design cross-sections for bikeways, per the Caltrans Highway Design Manual, 5th Edition. The existing bikeway facilities in the study area are shown on Exhibit 2-W. Newport Beach has off-street bike paths primarily along parts of Coast Highway, Irvine Avenue, University Drive, Jamboree Road, Spyglass Hill Road and San Joaquin Hills Road. Additional off-road facilities are located in the San Diego Creek Channel along Newport Bay and through Buffalo Hills Park.

Sidewalk bikeways include the access roads to Fashion Island and:

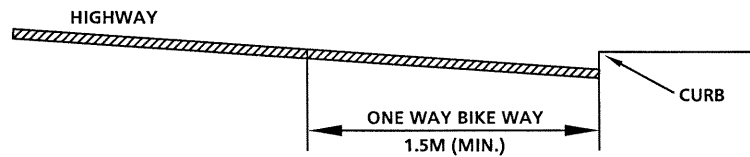
- Coast Highway from the westerly city limit to Riverside Drive, and from the projection of Irvine Avenue to Avocado Avenue
- Balboa Boulevard
- Campus Drive/Irvine Avenue
- Dover Drive
- MacArthur Boulevard
- Von Karman Avenue
- Jamboree Road
- Bristol Street
- Eastbluff Drive
- Bayside Drive
- Bison Avenue
- Ford Road
- Spyglass Hill Road
- Marguerite Avenue
- San Joaquin Hills Road

# STANDARD BIKE PATH CROSS-SECTIONS

## CLASS I TWO-WAY BIKE PATH ON SEPARATE RIGHT-OF-WAY

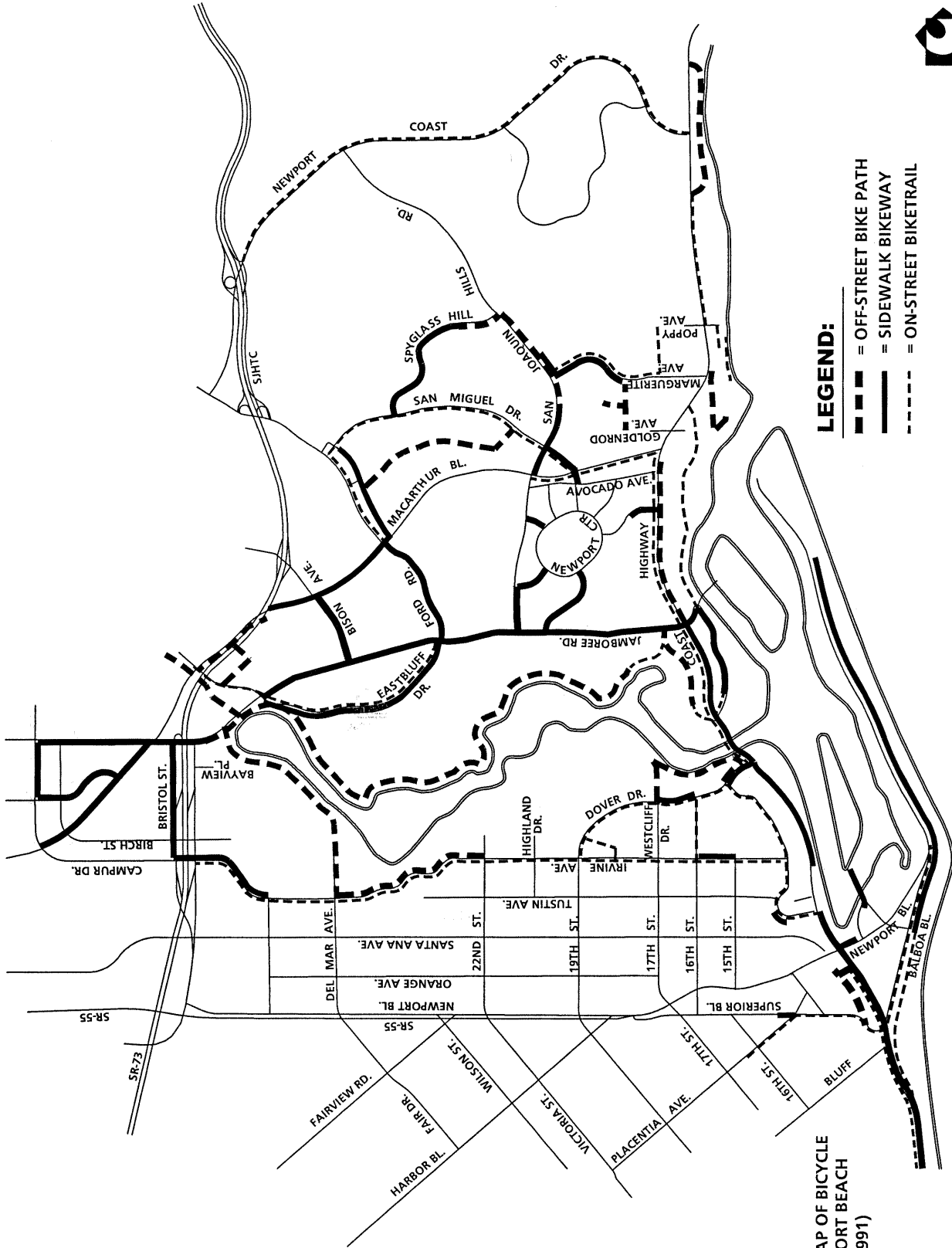


## CLASS II TYPICAL CROSS-SECTION OF BIKE WAY ALONG HIGHWAY



SOURCE: CALTRANS HIGHWAY DESIGN MANUAL, 5<sup>TH</sup> EDITION

# EXHIBIT 2-W NEWPORT BEACH EXISTING BICYCLE FACILITIES



SOURCE: BIKEWAYS: A MAP OF BICYCLE TRAILS IN NEWPORT BEACH AND VICINITY (1991)



On-street bike trails occur on San Miguel Drive, Newport Coast Drive, Irvine Avenue, Coast Highway and other minor streets throughout the City.

Recreational use of alternative travel modes (especially bicycle and pedestrian) is prevalent in the City of Newport Beach. The Back Bay trail is particularly popular among recreational travelers.

## 2.15 Public Transit

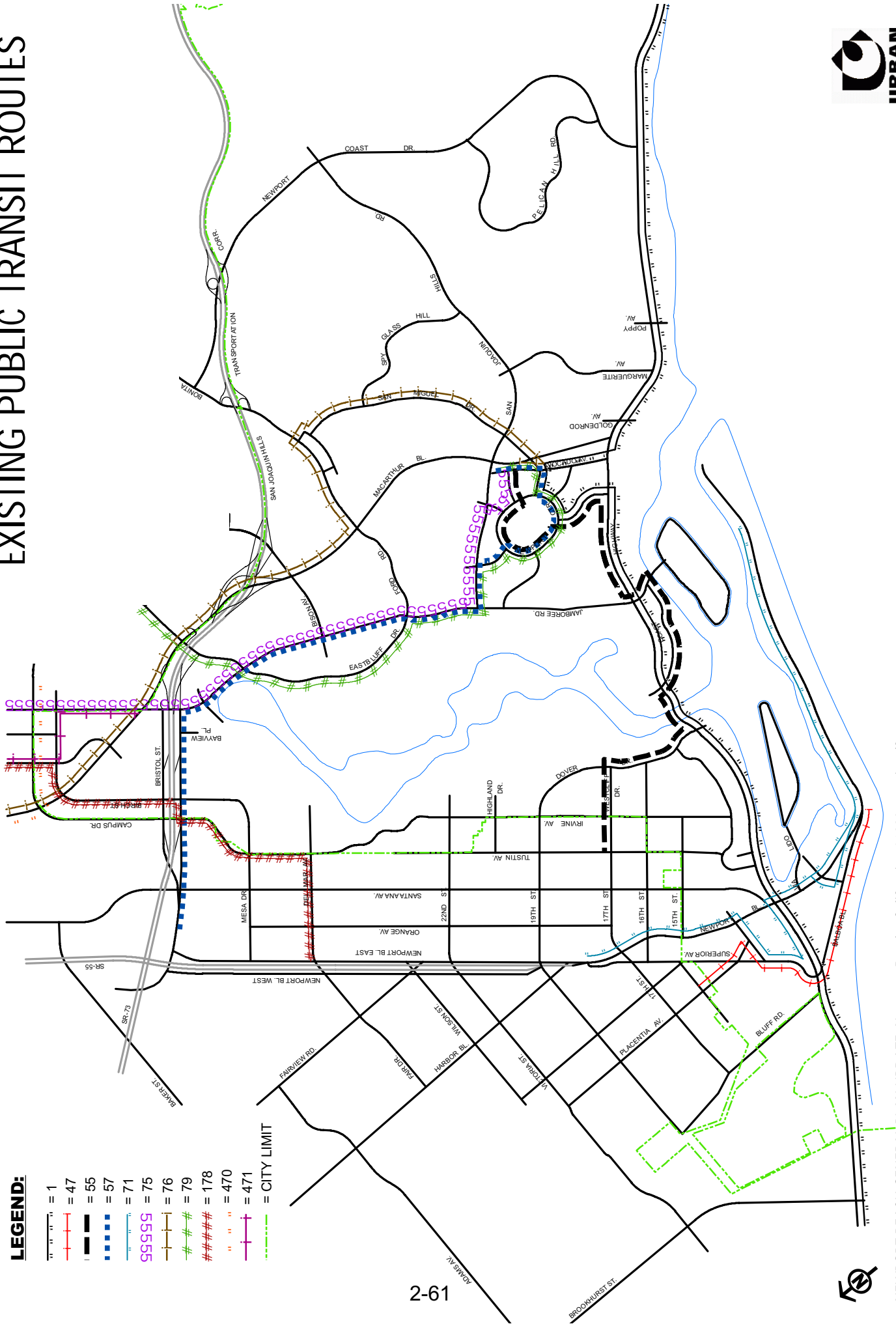
Public bus service is provided by OCTA. An established network of bus routes provides access to employment centers, shopping and recreational areas within the City. OCTA periodically updates a county-wide Bus Service Implementation Program (BSIP) which includes changes to service levels and route configurations.

Exhibit 2-X shows existing public-transit service in Newport Beach. Local bus routes in the City of Newport Beach include:

- Route 1 (along Coast Highway)
- Route 47 (provides access from Balboa Boulevard north of Fairview Street)
- Route 55 (from 17th Street in Costa Mesa providing access to Newport Center/Fashion Island)
- Route 57 (along Bristol Street and Jamboree Road to Newport Center)
- Route 71 (from the Balboa Fun Zone north along the SR-55 freeway)
- Route 75 (from Newport Center up Jamboree Road)
- Route 76 (along San Miguel Drive and MacArthur Boulevard)
- Route 79 (from Newport Center along Eastbluff Drive to University Drive)

The Newport Transportation Center and Park-and-Ride facility is located at MacArthur Boulevard and San Joaquin Hills Road in Newport Center. Community bus route 178 passes through the Airport Area of Newport Beach

# EXHIBIT 2-X EXISTING PUBLIC TRANSIT ROUTES



**LEGEND:**

- = 1
- - - = 47
- = 55
- - - = 57
- - - = 71
- = 75
- - - = 76
- - - = 79
- - - = 178
- - - = 470
- - - = 471
- - - = CITY LIMIT



before entering Santa Ana Heights. Additional bus service passes very near to Newport Beach, particularly in the vicinity of John Wayne Airport and the University of California at Irvine. Public transportation service typically operates periodically throughout the day, with less frequent or even no service in the middle of the night.

#### 2.16 Air Travel

Air Travel for residents, workers, and visitors in Newport Beach is served by John Wayne Airport (located just northwest of Campus Drive along the City boundary). SNA is a local airport, acting as a secondary facility to Los Angeles International Airport (LAX).

#### 2.17 Marine Transport

The proximity of the City of Newport Beach to the Pacific Ocean creates a unique opportunity for transportation solutions. Transportation related to maritime uses increases the potential for traffic problems around Newport Bay. Specific examples of alternative travel modes in Coastal Newport Beach include the Santa Catalina Ferry (providing access from the Balboa Pavilion to Santa Catalina Island), and the Balboa Ferry (connecting Balboa Island to the Balboa Peninsula).

#### 2.18 Freeway/Tollway and Ramp Analysis

After conferring with Caltrans staff, it was determined that Highway Capacity Manual (HCM) methodologies were to be used in analyzing freeway mainline and ramp operation levels of service. Caltrans staff was contacted to obtain the necessary data to perform the analysis. Some input parameters were provided; however, other parameters have been determined through further investigation and use of default HCM parameters, where necessary. All scenarios were analyzed using HCS2000 software by McTrans.

The existing volumes on the SR-73 freeway through Newport Beach indicate that the AM peak hour peak direction is northbound, while the PM peak hour peak direction is southbound. This flow pattern is consistent with the southern parts of Newport Beach and Orange County consisting mainly of residential housing. Table 2-19 shows the operational levels of service of the segments within City boundaries. The analysis sheets are contained in Appendix "S." The following mainline segments of the SR-73 Freeway operate at a deficient level of service (LOS "E" or "F") in either the AM or PM peak hour:

SR-73 Freeway Northbound:

- I-405 Freeway to Bear Street (AM)
- Bear Street to SR-55 Freeway (AM)
- SR-55 Freeway to Jamboree Rd. (AM/PM)

SR-73 Freeway Southbound:

- I-405 Freeway to Bear Street (PM)
- Bear Street to SR-55 Freeway (PM)
- SR-55 Freeway to Jamboree Rd. (PM)

The methodology to analyze freeway ramp operations is more complicated than for the mainline analysis. In addition to ramp volumes and lanes; the number of freeway mainline lanes, freeway mainline volumes, and the length of acceleration/deceleration lane(s) were also required. Appendix "T" contains the worksheets for the ramp analysis. Table 2-20 summarizes the results. Under Existing conditions, the ramps operating at a deficient level of service (LOS "E" or "F") are:

- Bristol Street Northbound Off
- Bristol Street Southbound Off
- Jamboree Road Northbound On
- Jamboree Road Southbound On

TABLE 2-19

EXISTING SR-73 FREEWAY/TOLL WAY MAINLINE ANALYSIS

AM SEGMENT	ADT	NORTHBOUND			SOUTHBOUND		
		LANES	VOLUME	LOS	LANES	VOLUME	LOS
405 Fw. to Bear St.	110,000	3	8,733	F	3	2,817	B
Bear St. to 55 Fw.	118,000	3	9,368	F	3	3,022	C
55 Fw. to Jamboree Rd.	150,000	3	11,909	F	3	3,841	C
Jamboree Rd. to Bonita Canyon Dr.	63,000	3	5,002	D	3	1,613	A
Bonita Canyon Dr. to Newport Coast Dr.	67,000	4	5,319	C	4	1,716	A
Newport Coast Dr. to Toll Plaza	66,000	3	5,240	D	3	1,690	A

PM SEGMENT	ADT	NORTHBOUND			SOUTHBOUND		
		LANES	VOLUME	LOS	LANES	VOLUME	LOS
405 Fw. to Bear St.	110,000	3	4,600	D	3	7,445	F
Bear St. to 55 Fw.	118,000	3	4,935	D	3	7,986	F
55 Fw. to Jamboree Rd.	150,000	3	6,273	F	3	10,152	F
Jamboree Rd. to Bonita Canyon Dr.	63,000	3	2,635	B	3	4,264	C
Bonita Canyon Dr. to Newport Coast Dr.	67,000	4	2,802	B	4	4,535	C
Newport Coast Dr. to Toll Plaza	66,000	3	2,760	B	3	4,467	D

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TABLE 2-20

## EXISTING SR-73 FREEWAY PEAK HOUR RAMP ANALYSIS

RAMP	MOVE	LANES ON FWY.	FREEWAY VOLUME		RAMP LANES	LENGTH OF ACCELERATION DECELERATION LANE (ft)	PEAK HOUR VOLUME		DENSITY		LOS	
			AM	PM			AM	PM	AM	PM	AM	PM
Bristol St.	NB Off	3	11,909	6,273	1	0	1,096	544	53.6	48.7	F	F
Bristol St.	SB Off	3	3,841	10,152	2	2,725	1,632	941	NOM	6.3	A	F
Jamboree Rd.	NB On	3	5,002	2,635	1	120	559	597	43.5	25.4	F <sup>2</sup>	C
Jamboree Rd.	SB On	3	3,841	10,152	1	1,700	578	1,203	31.8	87.4	F <sup>2</sup>	F
MacArthur Bl.	NB Off	3	5,002	2,635	2	1,480	1,598	176	9.1	NOM	A	A
MacArthur Bl.	NB On	3	5,002	2,635	1	340	1,636	1,883	44.1	33.6	F	D
MacArthur Bl.	SB Off	3	1,613	4,264	1	1,340	2,026	1,882	9.9	24.2	F <sup>1</sup>	F
University Dr.	NB On	3	5,002	2,635	1	200	281	533	33.2	22.8	D	C
University Dr.	SB Off	3	1,613	4,264	1	1,400	466	503	4.3	19.7	A	B
Bison Av.	NB Off	3	5,002	2,635	1	0	481	119	38.2	22.6	E	C
Bison Av.	NB On	3	5,002	2,635	1	250	160	549	31.9	22.7	D	C
Bison Av.	SB Off	3	1,613	4,264	1	0	745	434	17.6	32.2	B	D
Bison Av.	SB On	3	1,613	4,264	1	740	71	247	10.2	26.2	B	C
Bonita Canyon Dr.	NB Off	4	5,319	2,802	1	1,250	305	189	18.0	6.3	B	A
Bonita Canyon Dr.	NB On	3	5,002	2,635	1	2,440	249	106	21.8	6.6	C	A
Bonita Canyon Dr.	SB Off	4	1,613	4,264	1	0	114	163	12.0	23.9	B	C
Bonita Canyon Dr.	SB On	4	1,613	4,264	1	400	514	143	11.3	16.8	B	B
Newport Coast Dr.	NB Off	3	5,240	2,760	1	0	298	220	36.6	23.5	E	C
Newport Coast Dr.	NB On	4	5,240	2,760	1	1,250	598	286	35.6	18.5	F	B
Newport Coast Dr.	SB Off	4	1,716	4,535	1	0	222	119	13.0	24.8	B	C
Newport Coast Dr.	SB On	3	1,716	4,535	1	360	156	219	13.7	29.4	B	D

<sup>1</sup> Ramp failure due to ramp volumes over capacity.

<sup>2</sup> Worse LOS with lower volume due to adjacent ramp influence

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- MacArthur Boulevard Northbound On
- MacArthur Boulevard Southbound Off
- Bison Avenue Northbound Off
- Newport Coast Drive Northbound Off
- Newport Coast Drive Northbound On

### **3.0 MODEL TRIP GENERATION FOR SUBAREA LAND USE ALTERNATIVES**

This chapter documents trip generation for each subarea land use scenario identified for evaluation (existing, without project and with project) in this phase of the General Plan update process. Previously published analysis of a broader range of subarea land use alternatives identified by the General Plan Advisory Committee (GPAC) was then considered in identifying these subsequent alternatives. Full analysis with the traffic model has been run on two comprehensive future alternatives derived from the subarea data and overall City-wide data for the remainder of the City.

Thirteen subarea land use tables were provided to Urban Crossroads, Inc. staff. Each table contains land use data quantities and comparisons for existing, without and With Project conditions for the subarea. Urban Crossroads, Inc. staff has extracted trip generation results directly from the Newport Beach Traffic Model (NBTM) for each subarea. Daily and peak hour trips have been computed. Higher trip generation/volume may not necessarily increase congestion. The effects are dependent on many other factors, including peaking characteristics of traffic, directional split, even quantity of cross-street traffic.

#### **3.1 Trip Generation Rates and Adjustments**

This section provides information on trip generation characteristics unique to the City of Newport Beach and/or the types of land uses contemplated in the General Plan (including adjustments to some standard/typical rates). Coastal trip generation for residential land use is compared with general residential trip generation by type. Mixed use trip rate refinements are discussed. High-rise apartments trip generation rates are evaluated in comparison to typical apartments. Trip generation for the subarea alternatives has been extracted directly from the traffic model.

### 3.1.1 Coastal Trip Generation

As the Newport Beach Traffic Model (NBTM) was developed, Urban Crossroads, Inc. staff determined (during model validation) that the traffic patterns/trip generation rates in the coastal areas were different from elsewhere in the City of Newport Beach. The initial Existing conditions (validation) traffic model volumes were higher in the coastal areas than the actual traffic count data. Specialized occupancy factors and trip rates were therefore developed for residential uses in the coastal areas during the validation process. The shoulder season (spring/fall) occupancy rate for typical City of Newport Beach residential uses is 95%. For Coastal areas, the estimated occupancy rate is 90%. For total AM, total PM, and Daily trip rates, the trip generation range in Coastal areas is between 79% and 88% of typical residential trip rates. The PM peak hour is the timeframe in which the highest number of operational deficiencies has been identified, and in the PM peak hour, the coastal trip rates are between 85% and 87% of typical trip rates.

### 3.1.2 Mixed Use Developments

Mixed use development is being contemplated in the General plan With Project scenario. Mixed use is anticipated in 8 of the 12 subareas, including:

- Airport Area
- Balboa Village
- Cannery Village
- Lido Village
- Mariners Mile
- McFadden Square
- Newport Center
- Old Newport Boulevard

Based on research presented in this chapter, ten percent (10%) for both residential and commercial components of the proposed mixed use developments represent a conservative reduction in trip generation.

Mixed use trip generation information and research compiled by Urban Crossroads, Inc. has been included as Appendix "U". Information has been gathered from sampling done by ITE and documented in Trip Generation, 5<sup>th</sup> Edition (ITE, 1991). More recent versions of ITE's Trip Generation do not include information on mixed use sites. There are two examples of mixed use developments containing residential uses in the 5th Edition. Internal capture (the proportion of traffic that would typically be generated, then distributed to the surrounding system that is instead served on-site as a result of the land use mix) has been identified.

The first example contains 606 dwelling units and 64,000 square feet of commercial/office. The internal capture rates are 27% for the PM peak hour and 17% for the daily.

The second example is for a larger site, with 2,300 dwelling units and over 160 thousand square feet of total commercial, office, restaurant, and medical center uses. This site also includes schools, a church, and a day-care center. The internal capture for this site is substantially higher (45% or more for all time periods).

An additional data resource was the Santa Monica Civic Center study. The Santa Monica Civic Center study included a 50% reduction for the retail component, but no reduction was done on other uses. The net result in the analysis was an overall reduction of approximately 10%.

A final data resource consulted was the San Diego Association of Governments trip generation handbook. The San Diego Association of Governments (SANDAG) trip generation handbook suggests up to a 10% reduction.

Based on the examples cited, an adjustment factor of 10% of traffic for mixed uses will provide a conservative representation of trip generation. The factor is applied in cases where the land use has been defined as mixed use development. Where both the mixed use and coastal factors are applicable, only one is applied to avoid overstating trip generation benefits. Later sections of this report will discuss individual sub-area land use representation.

Sample mixed use calculations showing internal capture are contained in Appendix "V". Sample calculations for Balboa Village reveal that 11-12% internal capture is predicted. Therefore, 10% is conservative. Sample calculations have been prepared to show the effect of introducing residential uses to a commercial and office environment. The introduction of residential uses results in an expected internal capture of 14%, greater than the 10% used in mixed use calculations for this study. In the Airport Area, the 20% high rise apartment reduction has been applied, with no accompanying reduction for mixed use.

To assist with land use planning refinements in mixed use areas, conversion factors have been developed from the model trip generation rates. Table 3-1 contains the results of this analysis for the PM peak period. As shown in Table 3-1, for the PM peak hour, a reduction of one single-family detached residence allows 220 square feet of commercial without an increase in trip generation. A transfer the other direction (from commercial to single-family detached residential) could be performed to increase dwelling units by 4.49 for every thousand square feet of commercial lost. Similar conversion factors are included for single-family attached and apartment residential uses.

The factors presented in Table 3-1 are related to the PM peak period (consistent with other trip generation calculations for Newport Beach modeling purposes). Conversion factors could potentially be related to

**TABLE 3-1**

**CONVERSION FACTORS BASED ON PM TOTAL ONLY**

STARTING LAND USE	UNITS <sup>1</sup>	ENDING LAND USE	UNITS	CONVERSION FACTOR
Res-Low (SFD)	DU	General Commercial	TSF	0.22
Res-Medium (SFA)	DU	General Commercial	TSF	0.17
Apartment	DU	General Commercial	TSF	0.16
General Commercial	TSF	Res-Low (SFD)	DU	4.49
General Commercial	TSF	Res-Medium (SFA)	DU	5.82
General Commercial	TSF	Apartment	DU	6.32

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<sup>1</sup> TSF = thousand square feet

DU = Dwelling Units

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daily traffic or AM peak hour, or a subset of AM or PM peak hour total. These factors are included in Table 3-2. The worst case conversion for each type of residential use is included in Table 3-3. To provide the most conservative conversion, AM peak hour inbound rates should govern for converting residential uses to commercial (approximately 70 to 120 square feet per dwelling unit). To convert from commercial to residential using the worst case conversion factor, the AM outbound should be used (and 1.25 to 1.67 units would result from a reduction of 1 thousand square feet of commercial).

### 3.1.3 High-Rise Apartments

High-rise apartments are a special apartment use. As defined by ITE Trip Generation Manual, 7<sup>th</sup> edition (2003), high-rise apartments have more than 10 floors and typically include one or two elevators. Trip Generation rates for high-rise apartments are compared to general apartment trip generation rates in Table 3-4. As shown in Table 3-4, the ratio of trip generation for high-rise apartments to apartments ranges from 0.56 to 0.63 trips, depending on the time period. Because the ITE rates show a trip reduction of 37 to 43%, the reduction factor of 20% used for high-rise apartments in this General Plan analysis is conservative.

## 3.2 Subarea Land Use Alternatives Trip Generation Summaries

Exhibit 3-A depicts the various subareas where detailed land use alternatives have been evaluated.

### 3.2.1 Airport Area

The With Project scenario contains a total of approximately 4,300 residential units developed at urban densities. There is no residential component for the Existing or Without Project (currently adopted General



TABLE 3-2

OVERALL MIXED USE CONVERSION FACTORS

STARTING LAND USE	UNITS <sup>2</sup>	ENDING LAND USE	UNITS	PEAK HOUR						DAILY
				AM			PM			
				IN	OUT	TOTAL	IN	OUT	TOTAL	
Res-Low (SFD)	DU	General Commercial	TSF	0.12	0.80	0.33	0.32	0.15	0.22	0.23
Res-Medium (SFA)	DU	General Commercial	TSF	0.07	0.68	0.26	0.26	0.11	0.17	0.17
Apartment	DU	General Commercial	TSF	0.07	0.60	0.23	0.24	0.10	0.16	0.16
General Commercial	TSF	Res-Low (SFD)	DU	8.68	1.25	3.06	3.12	6.71	4.49	4.43
General Commercial	TSF	Res-Medium (SFA)	DU	13.94	1.46	3.83	3.87	9.42	5.82	5.74
General Commercial	TSF	Apartment	DU	14.66	1.67	4.29	4.25	10.05	6.32	6.24

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<sup>2</sup> TSF = thousand square feet  
DU = Dwelling Units

TABLE 3-3

ABSOLUTE WORST CASE CONVERSION FACTORS

STARTING LAND USE	UNITS <sup>2</sup>	ENDING LAND USE	UNITS	TIME PERIOD/ DIRECTION	CONVERSION FACTOR
Res-Low (SFD)	DU	General Commercial	TSF	AM IN	0.12
Res-Medium (SFA)	DU	General Commercial	TSF	AM IN	0.07
Apartment	DU	General Commercial	TSF	AM IN	0.07
General Commercial	TSF	Res-Low (SFD)	DU	AM OUT	1.25
General Commercial	TSF	Res-Medium (SFA)	DU	AM OUT	1.46
General Commercial	TSF	Apartment	DU	AM OUT	1.67

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<sup>2</sup> TSF = thousand square feet

DU = Dwelling Units

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TABLE 3-4

APARTMENT TRIP GENERATION RATE COMPARISON<sup>1</sup>

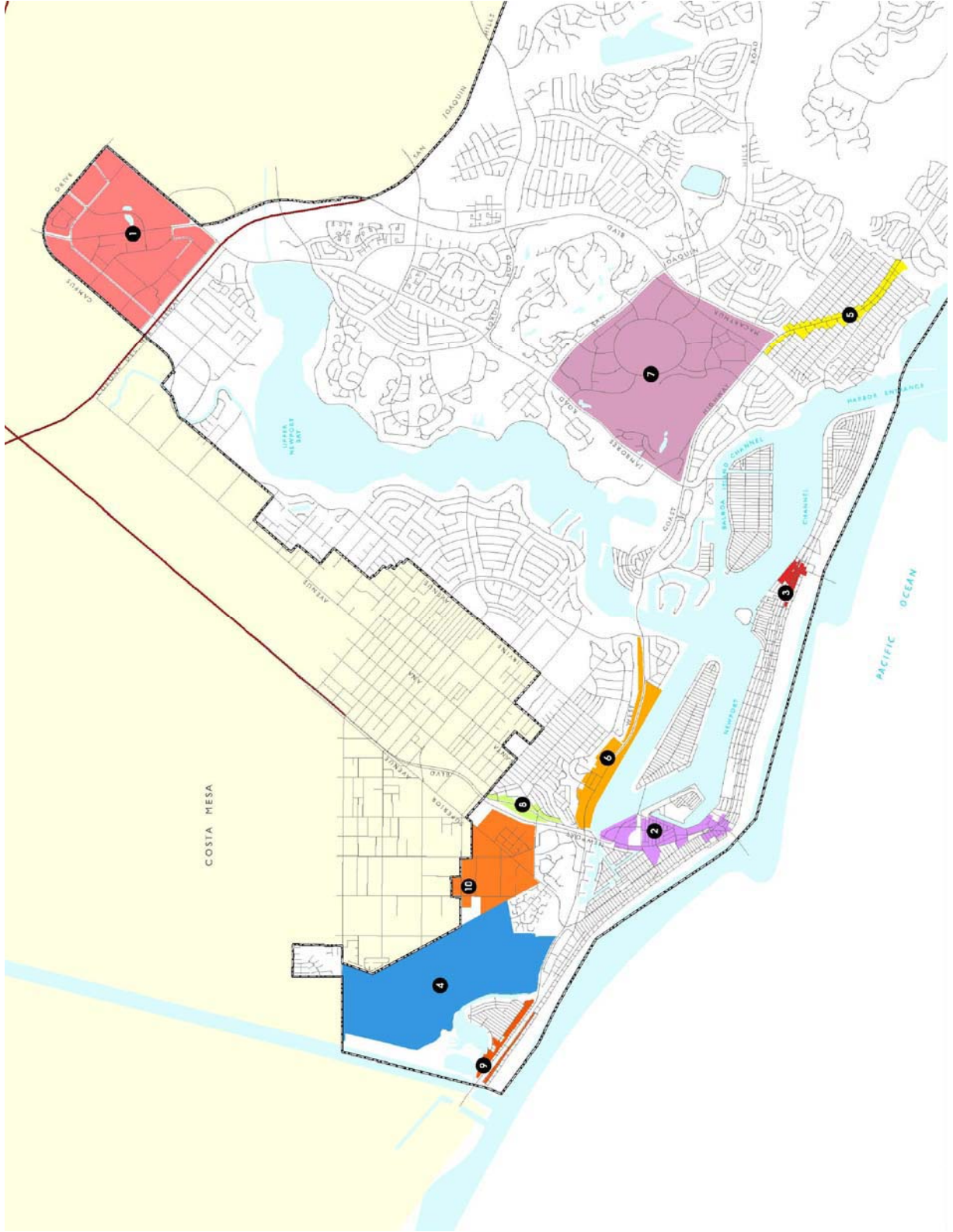
LAND USE	ITE CODE	UNITS <sup>2</sup>	PEAK HOUR						DAILY
			AM			PM			
			IN	OUT	TOTAL	IN	OUT	TOTAL	
Apartment	220	DU	0.10	0.41	0.51	0.40	0.22	0.62	6.72
High-Rise Apartment	222	DU	0.08	0.23	0.30	0.21	0.14	0.35	4.20
Ratio (High-Rise Apt. /Apartment)					0.59			0.56	0.63

<sup>1</sup> Source: ITE (Institute of Transportation Engineers) Trip Generation Manual, 7th Edition, 2003.

<sup>2</sup> DU = Dwelling Units

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# EXHIBIT 3-A CITY OF NEWPORT BEACH GENERAL PLAN SUB AREAS



## Legend

- 1 Airport Area
- 2 Balboa Peninsula, Lido Village, Cannery Village, McFadden Square
- 3 Balboa Village
- 4 Banning Ranch
- 5 Corona del Mar
- 6 Mariner's Mile
- 7 Newport Center, Fashion Island
- 8 Old Newport Boulevard
- 9 West Newport Highway
- 10 West Newport Mesa



Plan) scenarios. Table 3-5 summarizes the results of the analysis. PM peak hour trip generation grows from 9,182 peak hour trips in the Existing conditions scenario to 10,798 peak hour trips for Without Project conditions or 11,752 for With Project conditions. Daily and AM peak hour trip generation follows the same pattern as for the PM peak hour (Without Project increases from Existing conditions, but the With Project scenario results in the maximum trip generation).

### 3.2.2 Balboa Village

Table 3-6 summarizes the land use and trip generation data and results for Balboa Village. The With Project scenario has a mixed use component. There are 270 mixed use residences and 174,693 square feet of mixed use commercial in the With Project scenario. PM peak hour trip generation increases from 1,684 peak hour trips in the Existing condition to 1,809 peak hour trips in the Without Project (currently adopted General Plan) scenario or 1,889 peak hour trips in the With Project (Preferred Alternative) scenario. In each of the three time periods (AM peak hour, PM peak hour, and daily), the With Project scenario generates more traffic than the Without Project scenario.

### 3.2.3 Banning Ranch

The City Council has identified open space as the preferred use of Banning Ranch, but this analysis has assumed worst case conditions, including development on the Banning Ranch property. Banning Ranch has not been analyzed as part of the coastal area (e.g. no trip reduction has been assumed). Table 3-7 summarizes the results of the analysis. PM peak hour trip generation ranges from 7 peak hour trips in the Existing conditions scenario to 1,990 peak hour trips for Without Project conditions. The Without Project (currently adopted General Plan)

TABLE 3-5

AIRPORT AREA  
SUBAREA TRIP GENERATION SUMMARY

ALT	MIXED USE / HIGH-RISE APARTMENT (DU)	HOTEL (ROOM)	MIXED USE COMM. (TSF)	GEN. COMM. (TSF)	GEN. OFFICE (TSF)	MED./GOV. OFFICE (TSF)	INDUST. (TSF)	YOUTH CTR/ SERVICE (TSF)	TRIPS		
									AM	PM	DAILY
Existing	0	974	0	665.019	5427.333	86.096	508.759	0	8,875	9,182	99,667
Without Project	0	984	0	871.5	5786.916	86.096	551.93	10.9	10,178	10,798	117,430
With Project	4510	1213	181.275	699.345	4825.101	86.096	0	10.9	11,137	11,752	128,638

TABLE 3-6  
BALBOA VILLAGE  
SUBAREA TRIP GENERATION SUMMARY

ALT	COASTAL RESIDENTIAL			MIXED USE		HOTEL (ROOM)	GEN. COMM. (TSF)	MARINA (SLIP)	THEATER (SEAT)	GEN. OFFICE (TSF)	LIB. (TSF)	POST OFFICE (TSF)	CHURCH (TSF)	YOUTH CTR/ SERVICE (TSF)	TRIPS		
	RES-LOW (SFD) (DU)	RES-MEDIUM (SFA) (DU)	APART-MENT (DU)	APART-MENT (DU)	COMM. (TSF)										AM	PM	DAILY
Existing	577	614	178	0	0	34	203.36	14	440	22.92	4.8	1.7	2	4.97	1,474	1,684	18,733
Without Project	375	815	242	0	0	34	217.34	14	350	89.26	4.8	1.7	2	4.97	1,595	1,809	19,981
With Project	381	815	242	270	174.693	265	17.81	14	350	12	4.8	1.7	2	4.97	1,699	1,899	20,849

TABLE 3-7

BANNING RANCH  
SUBAREA TRIP GENERATION SUMMARY

ALT	RES-LOW (SFD) (DU)	APARTMENT <sup>1</sup> (DU)	HOTEL (ROOM)	GENERAL COMM. (TSF)	GENERAL OFFICE (TSF)	INDUST. (TSF)	ELEMENTARY/ PRIV. SCHOOL (STU)	PARK (AC)	TRIPS		
									AM	PM	DAILY
Existing	0	14	0	0	0	0	0	0	8	7	73
Without Project	225	2510	0	50	235.6	164.4	0	0	2,080	1,990	22,075
With Project	688	687	75	75	0	0	500	60	1,317	1,285	14,296

<sup>1</sup> Land use includes 14 units outside Banning Ranch but in overall Traffic Analysis Zones (TAZs).



generates the highest number of trips. The With Project (worst case, rather than open space) scenario indicates the site may generate as much as 1,285 PM peak hour trips. This represents a worst case scenario, in the event that the property is not acquired for Open Space.

#### 3.2.4 Cannery Village

Cannery Village is composed of two Traffic Analysis Zones (TAZs), each of which is analyzed individually, as the options are not related and should be considered separately. TAZ 1449 is located west of Newport Boulevard south of 32nd Street while TAZ 1454 is east of Newport Boulevard south of 32nd Street. Because of the location, the mixed use residential in the With Project scenario of TAZ 1449 may be represented as coastal residential (e.g., no double counting of potential trip reductions). The same is true of mixed use residential in TAZ 1454. In both cases, coastal representation has been used. TAZ 1449 also includes 67,235 square feet of mixed use commercial. TAZ 1454 contains 36,209 square feet of mixed use commercial. Table 3-8 summarizes the results of the analysis.

For TAZ 1449, PM peak hour trip generation increases from 320 existing peak hour trips to 335 without project or 400 with project peak hour trips. Trip generation for AM peak hour and daily traffic follow the same pattern as for the PM peak hour (the Without Project scenario generates fewer trips than the With Project scenario).

For TAZ 1454, PM peak hour trip generation increases from 860 peak hour trips for Existing conditions to 944 peak hour trips for Without Project conditions. For With Project conditions, trip generation decreases to 530 PM peak hour trips. Trip generation for AM peak hour and daily traffic follow the same pattern as for the PM peak hour (trip generation is less than Existing for the With Project scenario, and greater than Existing for the Without Project scenario).

TABLE 3-8

CANNERY VILLAGE  
SUBAREA TRIP GENERATION SUMMARY

ALT	COASTAL RESIDENTIAL		MIXED USE		GEN. COMM. (TSF)	COMM./ RECREATION (AC)	GEN. OFFICE (TSF)	INDUST. (TSF)	YOUTH CTR/ SERVICE (TSF)	TRIPS		
	RES-LOW (SFD) (DU)	RES-MEDIUM (SFA) (DU)	APART-MENT (DU)	COMM. (TSF)						APART-MENT (DU)	AM	PM
TAZ 1449												
Existing	9	78	0	0	71.44	0	20.02	0	0	252	320	3,552
Without Project	0	95	0	0	74.9	0	20.02	0	0	263	335	3,703
With Project	0	95	0	67.235	15	0	0	0	0	326	400	4,460
TAZ 1454												
Existing	41	19	0	0	196.27	0.85	91.32	47.85	4.65	678	860	9,499
Without Project	41	172	0	0	201.78	0.85	101.5	0	4.65	759	944	10,487
With Project	0	0	73	36.209	73.27	0.85	42.156	0	4.65	429	530	5,882

### 3.2.5 Corona Del Mar

Table 3-9 summarizes the land use and trip generation data and results for Corona Del Mar. PM peak hour trip generation increases from 4,116 peak hour trips in Existing conditions to 4,917 peak hour trips for Without Project conditions or 4,925 peak hour trips for With Project conditions. The With Project scenario also generates the most AM peak hour and daily trips.

### 3.2.6 Lido Village

Lido Village is composed of two Traffic Analysis Zones (TAZs), each of which is analyzed individually. TAZ 1452 is located northeast of Via Lido. TAZ 1453 is located between Via Lido, 32nd Street, and Newport Boulevard. Table 3-10 summarizes the results of the analysis. There is a mixed use component in each TAZ for the With Project scenario.

For TAZ 1452, PM peak hour trip generation increases from 565 peak hour trips for Existing conditions to 570 peak hour trips for Without Project conditions or 879 peak hour trips for With Project conditions. Trip generation for AM peak hour and daily traffic follow the same pattern as for the PM peak hour.

For TAZ 1453, PM peak hour trip generation increases from 593 peak hour trips for Existing conditions to 693 peak hour trips for Without Project conditions. For With Project conditions, there is a decrease in peak hour trips (to 533). Trip generation for AM peak hour and daily traffic follow the same pattern as for the PM peak hour.

TABLE 3-9

CORONA DEL MAR  
SUBAREA TRIP GENERATION SUMMARY

ALT	RES-LOW (SFD) <sup>1</sup>		APARTMENT		GEN. COMM. (TSF)	GEN. OFFICE (TSF)	LIBRARY (TSF)	POST OFFICE (TSF)	CHURCH (TSF)	PARK (AC)	TRIPS		
	COASTAL (DU)	OTHER (DU)	COASTAL (DU)	OTHER (DU)							AM	PM	DAILY
Existing Without Project	1435	1447	8	62	406.842	84.921	3.8	0.5	12.34	6	3,721	4,116	45,707
With Project	1629	1584	0	54	538.63	148.06	3.8	0.5	12.34	6	4,413	4,917	54,431
With Project	1629	1584	0	54	538.63	148.06	3.8	0.5	12.34	6	4,416	4,925	54,534

<sup>1</sup> Land use includes land use outside Corona del Mar but in overall Traffic Analysis Zones (TAZs).

TABLE 3-10

LIDO VILLAGE  
SUBAREA TRIP GENERATION SUMMARY

ALT	COASTAL RESIDENTIAL		HOTEL (ROOM)	GENERAL COMM. (TSF)	MIXED USE		THEATER (SEAT)	GENERAL OFFICE (TSF)	YOUTH CTR/ SERVICE (TSF)	CIVIC CENTER (TSF)	CHURCH (TSF)	TRIPS				
	(SFA)	(DU)			COMM. (TSF)	APARTMENT (DU)						AM	PM	DAILY		
TAZ 1452																
Existing	12		0	129.28	0	0	0	90.22	6	0	0	0	444	565	6,258	
Without Project	12		0	130.510	0	0	0	90.22	6	0	0	0	448	570	6,273	
With Project	0		100	62.4	124.799	208	0	35	6	0	0	0	697	879	9,740	
TAZ 1453																
Existing	0		0	105.12	0	0	685	64.68	0	0	15.71	0	487	593	6,490	
Without Project	0		0	111.58	0	0	685	119.900	0	0	26.01	0	580	693	7,598	
With Project	0		0	111.58	21.192	70	685	3.5	0	75	15.71	0	405	533	5,913	

### 3.2.7 Mariners Mile

Mariners Mile has not been represented as having coastal residential characteristics, so the mixed use apartments in the With Project scenario are represented as mixed use for trip generation purposes. The mixed use commercial has been factored as well. Table 3-11 summarizes the results of the analysis. PM peak hour trip generation increases from 3,899 peak hour trips for Existing conditions to 4,644 peak hour trips for Without Project conditions or 5,014 peak hour trips for With Project conditions. The AM peak hour and daily trip generation follow the same pattern as the PM peak hour.

### 3.2.8 McFadden Square

McFadden Square is composed of two Traffic Analysis Zones (TAZs), each of which is analyzed individually. TAZ 1450 is located east of Newport Boulevard in the vicinity of the intersection of Balboa Boulevard and Newport Boulevard. TAZ 1451 is located west of TAZ 1450. Table 3-12 summarizes the results of this analysis.

TAZ 1450 contains mixed use residential (represented as coastal residential) and mixed use commercial. For TAZ 1450, PM peak hour trip generation ranges from 321 peak hour trips for Existing conditions to 663 peak hour trips for With Project conditions (the Without Project scenario generates 371 peak hour trips). Trip generation for AM peak hour and daily traffic follow the same pattern as for the PM peak hour.

Only the coastal residential adjustment applies to TAZ 1451. For TAZ 1451, PM peak hour trip generation ranges from 357 peak hour trips for Existing conditions to 506 peak hour trips for With Project conditions (the Without Project scenario generates 392 peak hour trips). Trip generation

TABLE 3-11

MARINERS MILE  
SUBAREA TRIP GENERATION SUMMARY

ALT	RES- LOW (SFD) (DU)	MIXED APART- MENT (DU)	MIXED USE APART- MENT (DU)	HOTEL (ROOM)	MIXED USE COMM. (TSF)	GEN. COMM. (TSF)	GEN. OFFICE (TSF)	JUNIOR /HIGH SCHOOL (STU)	POST OFFICE (TSF)	NURSING/ CONV. HOME (BED)	CHURCH (TSF)	YOUTH CTR./ SERVICE (TSF)	PARK (AC)	TRIPS		
														AM	PM	DAILY
Existing	820	188	0	177	0	633.95	266.27	2184	9.9	68	59.68	29.83	0.4	3,521	3,889	43,137
Without Project	837	188	0	204	0	779.8	466.19	2184	9.9	68	59.68	35.68	0.4	4,160	4,644	51,410
With Project	837	347	278	204	166.835	686.373	294.725	2184	9.9	68	59.68	35.68	0.4	4,445	5,014	55,576

TABLE 3-12

MCFADDEN SQUARE  
SUBAREA TRIP GENERATION SUMMARY

ALT	COASTAL RESIDENTIAL			MOTEL (ROOM)	HOTEL (ROOM)	GEN. COMM. (TSF)	MIXED USE		GEN. OFFICE (TSF)	INDUST. (TSF)	YOUTH CTR/ SERVICE (TSF)	TRIPS		
	RES-LOW (SFD) (DU)	RES-MEDIUM (SFA) (DU)	APART-MENT (DU)				COMM. (TSF)	APART-MENT (DU)				AM	PM	DAILY
Existing	2	55	3	16	0	66.64	0	0	35.75	11.1	0	257	321	3,514
Without Project	0	159	3	16	0	67.59	0	0	35.75	0	0	309	371	4,121
With Project	0	159	3	16	0	73.03	67.387	185	0	0	0	534	663	7,376
TAZ 1450														
Existing	22	106	5	3	22	74.27	0	0	3.55	0	6	288	357	3,982
Without Project	22	110	5	3	22	82.75	0	0	8	0	6	312	392	4,369
With Project	22	110	5	3	121	93.218	0	0	0	0	6	415	506	5,612
TAZ 1451														



for AM peak hour and daily traffic follow the same pattern as for the PM peak.

### 3.2.9 Newport Center / Fashion Island

New residential uses (apartments) are proposed for the Newport Center/Fashion Island subarea. All of the new apartments in Newport Center are High Rise apartments. Table 3-13 summarizes the results of the trip generation analysis. PM peak hour trip generation grows from 9,413 peak hour trips for Existing conditions to 10,819 peak hour trips for the With Project scenario or 10,094 for the Without Project scenario. The Without Project (currently adopted General Plan) scenario generates fewer trips than the With Project scenario. AM peak hour and daily trip generation follows the same pattern as for the PM peak hour.

### 3.2.10 Old Newport Boulevard

Although there is a true mixed use development in Old Newport Boulevard for With Project conditions, the small size of the development precludes it from qualifying for mixed use trip reduction factoring. Table 3-14 summarizes the results of this analysis. PM peak hour trip generation increases from 622 peak hour trips in Existing conditions to 885 peak hour trips for Without Project conditions or 1,272 peak hour trips for With Project conditions. Trip generation for AM peak hour and daily traffic follow the same pattern as for the PM peak.

### 3.2.11 West Newport Highway and Adjoining Residential

Table 3-15 summarizes the results of the West Newport Highway and adjoining Residential analysis. PM peak hour trip generation increases from 760 peak hour trips for Existing conditions to 890 peak hour trips for With Project conditions or 816 peak hour trips for Without Project conditions.

TABLE 3-13

NEWPORT CENTER/FASHION ISLAND  
SUBAREA TRIP GENERATION SUMMARY

ALT	RES-MEDIUM (SFA) (SU)	APART-MENT (DU)	HOTEL (ROOM)	REG. COMM.	GEN. COMM. (TSF)	TENNIS CLUB (CRT)	THEATER (SEAT)	GEN. OFFICE (TSF)	MED./GOV. OFFICE (TSF)	CULTURAL/ LEARNING CENTER (TSF)	LIBRARY (TSF)	GOLF COURSE (AC)	TRIPS		
													AM	PM	DAILY
Existing	419	245	925	1259	297.32	22	3774	3240.13	351.95	35	65	99	8,523	9,413	103,075
Without Project	419	245	1110	1559	302.98	22	3850	3283.72	351.95	40	65	99	9,042	10,094	110,372
With Project	419	845	1175	1684	302.98	22	3850	3323.72	351.95	40	65	99	9,718	10,819	118,395

TABLE 3-14

OLD NEWPORT BOULEVARD  
SUBAREA TRIP GENERATION SUMMARY

ALT	MIXED USE		RES-LOW (SFD) (DU)	RES-MEDIUM (SFA) (DU)	APART- MENT (DU)	HOTEL (ROOM)	GEN. COMM. (TSF)	GEN. OFFICE (TSF)	INDUST. (TSF)	MEDICAL OFFICE (TSF)	TRIPS		
	COMM. (TSF)	APART- MENT (DU)									AM	PM	DAILY
Existing	0	0	280	104	8	23	48.7	90.34	300	7.4	594	622	6,899
Without Project	0	0	205	379	8	53	66.38	135.73	0	11.29	852	885	9,816
With Project	92.848	236	200	379	8	53	0	0	0	185.696	1,189	1,272	14,073

TABLE 3-15

WEST NEWPORT HIGHWAY AND ADJOINING RESIDENTIAL  
SUBAREA TRIP GENERATION SUMMARY

ALT	RES-LOW (SFD) (DU)	APARTMENT (DU)	MIXED USE APARTMENT (DU)	HOTEL (ROOM)	MOTEL (ROOM)	GENERAL COMMERCIAL (TSF)	PARK (AC)	TRIPS		
								AM	PM	DAILY
Existing	462	292	0	0	90	35.35	0	746	760	8,440
Without Project	462	293	0	0	90	50.03	0	787	816	9,076
With Project	462	361	0	0	90	57.935	0	854	890	9,901

### 3.2.12 West Newport Mesa

For West Newport Mesa, no adjustments have been made. Table 3-16 summarizes the results of the analysis. PM peak hour trip generation increases from 2,386 for Existing conditions to 5,000 for With Project conditions or 4,210 for Without Project conditions. AM peak hour and daily trip generation follow the same pattern as the PM peak hour traffic.

### 3.3 Conclusions

Tables 3-17 through 3-19 present total City trip generation for Existing, Without and With Project scenarios in the AM peak hour, PM peak hour, and daily timeframes, respectively. Overall City trip generation increases from Existing conditions by less than 30% in all scenarios and timeframes included in this analysis.

Similar tables have been prepared to show the change between the General Plan buildout scenarios. Tables 3-20 through 3-22 contain these comparisons for with AM peak hour, PM peak hour, and daily conditions. In each timeframe, With Project increases exceed the Without Project increases by between 2 and 3% citywide. Some of these increases actually reduce the impact to the roadway system because of a better balance of residences and employment generating uses or locating commercial uses in close proximity to the residential uses they are most likely to serve.

TABLE 3-16

WEST NEWPORT MESA  
SUBAREA TRIP GENERATION SUMMARY

ALT	RES-LOW (SFD) (DU)	APARTMENT (DU)	NURSING HOME (BEDS)	GENERAL COMMERCIAL (TSF)	GENERAL OFFICE (TSF)	MEDICAL OFFICE (TSF)	HOSPITAL (BEDS)	INDUST. (TSF)	DAY CARE (TSF)	SCHOOL (STU)	PARK (AC)	TRIPS		
												AM	PM	DAILY
Existing	108	2472	593	72.17	150.63	302.9	351	678.53	7.7	622	0.2	2,564	2,386	26,265
Without Project	98	2649	593	72.17	373.73	410.55	1265	1191.722	7.7	622	0.2	4,590	4,210	46,038
With Project	98	3542	593	50.91	306.67	719.195	1265	837.27	7.7	622	0	5,347	5,000	54,769

TABLE 3-17

AM PEAK HOUR TRIP GENERATION SUMMARY

AREA	EXISTING	WITHOUT PROJECT			WITH PROJECT		
		TRIPS	GROWTH	% GROWTH	TRIPS	GROWTH	% GROWTH
AIRPORT	8,875	10,178	1,303	14.7%	11,137	2,262	25.5%
BALBOA VILLAGE	1,474	1,595	121	8.2%	1,699	225	15.3%
BANNING RANCH	8	2,080	2,072	25900.0%	1,317	1,309	16362.5%
CANNERY VILLAGE(TAZ 1449)	252	263	11	4.4%	326	74	29.4%
CANNERY VILLAGE(TAZ 1454)	678	759	81	11.9%	429	-249	-36.7%
CORONA DEL MAR	3,721	4,413	692	18.6%	4,416	695	18.7%
LIDO VILLAGE TAZ 1452	444	448	4	0.9%	697	253	57.0%
LIDO VILLAGE TAZ 1453	487	580	93	19.1%	405	-82	-16.8%
MARINERS MILE	3,521	4,160	639	18.1%	4,445	924	26.2%
MCFADDEN SQUARE TAZ 1450	257	309	52	20.2%	534	277	107.8%
MCFADDEN SQUARE TAZ 1451	288	312	24	8.3%	415	127	44.1%
NEWPORT CENTER/FASHION ISLAND	8,523	9,042	519	6.1%	9,718	1,195	14.0%
OLD NEWPORT BOULEVARD	594	852	258	43.4%	1,189	595	100.2%
WEST NEWPORT HIGHWAY AND ADJOINING RESIDENTIAL	746	787	41	5.5%	854	108	14.5%
WEST NEWPORT INDUSTRIAL	2,564	4,590	2,026	79.0%	5,347	2,783	108.5%
<b>TOTAL</b>	<b>32,432</b>	<b>40,368</b>	<b>7,936</b>	<b>24.5%</b>	<b>42,928</b>	<b>10,496</b>	<b>32.4%</b>
<b>REMAINDER OF CITY</b>	<b>35,303</b>	<b>43,969</b>	<b>8,666</b>	<b>24.5%</b>	<b>43,672</b>	<b>8,369</b>	<b>23.7%</b>
<b>CITY TOTAL</b>	<b>67,735</b>	<b>84,337</b>	<b>16,602</b>	<b>24.5%</b>	<b>86,600</b>	<b>18,865</b>	<b>27.9%</b>

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TABLE 3-18

PM PEAK HOUR TRIP GENERATION SUMMARY

AREA	EXISTING	WITHOUT PROJECT			WITH PROJECT		
		TRIPS	GROWTH	% GROWTH	TRIPS	GROWTH	% GROWTH
AIRPORT	9,182	10,798	1,616	17.6%	11,752	2,570	28.0%
BALBOA VILLAGE	1,684	1,809	125	7.4%	1,889	205	12.2%
BANNING RANCH	7	1,990	1,983	28328.6%	1,285	1,278	18257.1%
CANNERY VILLAGE(TAZ1449)	320	335	15	4.7%	400	80	25.0%
CANNERY VILLAGE(TAZ1454)	860	944	84	9.8%	530	-330	-38.4%
CORONA DEL MAR	4,116	4,917	801	19.5%	4,925	809	19.7%
LIDO VILLAGE TAZ 1452	565	570	5	0.9%	879	314	55.6%
LIDO VILLAGE TAZ 1453	593	693	100	16.9%	533	-60	-10.1%
MARINERS MILE	3,889	4,644	755	19.4%	5,014	1,125	28.9%
MCFADDEN SQUARE TAZ 1450	321	371	50	15.6%	663	342	106.5%
MCFADDEN SQUARE TAZ 1451	357	392	35	9.8%	506	149	41.7%
NEWPORT CENTER/FASHION ISLAND	9,413	10,094	681	7.2%	10,819	1,406	14.9%
OLD NEWPORT BOULEVARD	622	885	263	42.3%	1,272	650	104.5%
WEST NEWPORT HIGHWAY AND ADJOINING RESIDENTIAL	760	816	56	7.4%	890	130	17.1%
WEST NEWPORT INDUSTRIAL	2,386	4,210	1,824	76.4%	5,000	2,614	109.6%
<b>TOTAL</b>	<b>35,075</b>	<b>43,468</b>	<b>8,393</b>	<b>23.9%</b>	<b>46,357</b>	<b>11,282</b>	<b>32.2%</b>
<b>REMAINDER OF CITY - 2002 EXISTING</b>	<b>35,222</b>	<b>44,536</b>	<b>9,314</b>	<b>26.4%</b>	<b>44,338</b>	<b>9,116</b>	<b>25.9%</b>
<b>CITY TOTAL - 2002 EXISTING</b>	<b>70,297</b>	<b>88,004</b>	<b>17,707</b>	<b>25.2%</b>	<b>90,695</b>	<b>20,398</b>	<b>29.0%</b>

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TABLE 3-19

DAILY TRIP GENERATION SUMMARY

AREA	EXISTING	WITHOUT PROJECT			WITH PROJECT		
		TRIPS	GROWTH	% GROWTH	TRIPS	GROWTH	% GROWTH
AIRPORT	99,667	117,430	17,763	17.8%	128,638	28,971	29.1%
BALBOA VILLAGE	18,733	19,981	1,248	6.7%	20,849	2,116	11.3%
BANNING RANCH	73	22,075	22,002	30139.7%	14,296	14,223	19483.6%
CANNERY VILLAGE TAZ1449	3,552	3,703	151	4.3%	4,460	908	25.6%
CANNERY VILLAGE TAZ1454	9,499	10,487	988	10.4%	5,882	-3,617	-38.1%
CORONA DEL MAR	45,707	54,431	8,724	19.1%	54,534	8,827	19.3%
LIDO VILLAGE TAZ 1452	6,258	6,273	15	0.2%	9,740	3,482	55.6%
LIDO VILLAGE TAZ 1453	6,490	7,598	1,108	17.1%	5,913	-577	-8.9%
MARINERS MILE	43,137	51,410	8,273	19.2%	55,576	12,439	28.8%
MCFADDEN SQUARE TAZ 1450	3,514	4,121	607	17.3%	7,376	3,862	109.9%
MCFADDEN SQUARE TAZ 1451	3,982	4,369	387	9.7%	5,612	1,630	40.9%
NEWPORT CENTER/FASHION ISLAND	103,075	110,372	7,297	7.1%	118,395	15,320	14.9%
OLD NEWPORT BOULEVARD	6,899	9,816	2,917	42.3%	14,073	7,174	104.0%
WEST NEWPORT HIGHWAY AND ADJOINING RESIDENTIAL	8,440	9,076	636	7.5%	9,901	1,461	17.3%
WEST NEWPORT MESA	26,265	46,038	19,773	75.3%	54,769	28,504	108.5%
<b>SUBAREA ALTERNATIVES TOTAL</b>	<b>385,291</b>	<b>477,180</b>	<b>91,889</b>	<b>23.8%</b>	<b>510,014</b>	<b>124,723</b>	<b>32.4%</b>
<b>REMAINDER OF CITY</b>	<b>375,934</b>	<b>488,531</b>	<b>112,597</b>	<b>30.0%</b>	<b>486,094</b>	<b>110,160</b>	<b>29.3%</b>
<b>CITY TOTAL</b>	<b>761,225</b>	<b>965,711</b>	<b>204,486</b>	<b>26.9%</b>	<b>996,108</b>	<b>234,883</b>	<b>30.9%</b>

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TABLE 3-20

WITH PROJECT AM PEAK HOUR TRIP GENERATION  
COMPARISON TO WITHOUT PROJECT

AREA	WITHOUT PROJECT	WITH PROJECT	CHANGE	% CHANGE
AIRPORT	10,178	11,137	959	9%
BALBOA VILLAGE	1,595	1,699	104	7%
BANNING RANCH	2,080	1,317	-763	-37%
CANNERY VILLAGE(TAZ1449)	263	326	63	24%
CANNERY VILLAGE(TAZ1454)	759	429	-330	-43%
CORONA DEL MAR	4,413	4,416	3	0%
LIDO VILLAGE TAZ 1452	448	697	249	56%
LIDO VILLAGE TAZ 1453	580	405	-175	-30%
MARINERS MILE	4,160	4,445	285	7%
MCFADDEN SQUARE TAZ 1450	309	534	225	73%
MCFADDEN SQUARE TAZ 1451	312	415	103	33%
NEWPORT CENTER/FASHION ISLAND	9,042	9,718	676	7%
OLD NEWPORT BOULEVARD	852	1,189	337	40%
WEST NEWPORT HIGHWAY AND ADJOINING RESIDENTIAL	787	854	67	9%
WEST NEWPORT MESA	4,590	5,347	757	16%
<b>TOTAL</b>	<b>40,368</b>	<b>42,928</b>	<b>2,560</b>	<b>6%</b>
<b>REMAINDER OF CITY</b>	<b>43,969</b>	<b>43,672</b>	<b>-297</b>	<b>-1%</b>
<b>CITY TOTAL</b>	<b>84,337</b>	<b>86,600</b>	<b>2,263</b>	<b>2.68%</b>

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TABLE 3-21

WITH PROJECT PM PEAK HOUR TRIP GENERATION  
COMPARISON TO WITHOUT PROJECT

AREA	WITHOUT PROJECT	WITH PROJECT	CHANGE	% CHANGE
AIRPORT	10,798	11,752	954	9%
BALBOA VILLAGE	1,809	1,889	80	4%
BANNING RANCH	1,990	1,285	-705	-35%
CANNERY VILLAGE(TAZ1449)	335	400	65	19%
CANNERY VILLAGE(TAZ1454)	944	530	-414	-44%
CORONA DEL MAR	4,917	4,925	8	0%
LIDO VILLAGE TAZ 1452	570	879	309	54%
LIDO VILLAGE TAZ 1453	693	533	-160	-23%
MARINERS MILE	4,644	5,014	370	8%
MCFADDEN SQUARE TAZ 1450	371	663	292	79%
MCFADDEN SQUARE TAZ 1451	392	506	114	29%
NEWPORT CENTER/FASHION ISLAND	10,094	10,819	725	7%
OLD NEWPORT BOULEVARD	885	1,272	387	44%
WEST NEWPORT HIGHWAY AND ADJOINING RESIDENTIAL	816	890	74	9%
WEST NEWPORT MESA	4,210	5,000	790	19%
<b>TOTAL</b>	<b>43,468</b>	<b>46,357</b>	<b>2,889</b>	<b>7%</b>
<b>REMAINDER OF CITY</b>	<b>44,536</b>	<b>44,338</b>	<b>-198</b>	<b>0%</b>
<b>CITY TOTAL</b>	<b>88,004</b>	<b>90,695</b>	<b>2,691</b>	<b>3.06%</b>

TABLE 3-22

WITH PROJECT DAILY TRIP GENERATION COMPARISON TO WITHOUT PROJECT

AREA	WITHOUT PROJECT	WITH PROJECT	CHANGE	% CHANGE
AIRPORT	117,430	128,638	11,208	10%
BALBOA VILLAGE	19,981	20,849	868	4%
BANNING RANCH	22,075	14,296	-7,779	-35%
CANNERY VILLAGE TAZ1449	3,703	4,460	757	20%
CANNERY VILLAGE TAZ1454	10,487	5,882	-4,605	-44%
CORONA DEL MAR	54,431	54,534	103	0%
LIDO VILLAGE TAZ 1452	6,273	9,740	3,467	55%
LIDO VILLAGE TAZ 1453	7,598	5,913	-1,685	-22%
MARINERS MILE	51,410	55,576	4,166	8%
MCFADDEN SQUARE TAZ 1450	4,121	7,376	3,255	79%
MCFADDEN SQUARE TAZ 1451	4,369	5,612	1,243	28%
NEWPORT CENTER/FASHION ISLAND	110,372	118,395	8,023	7%
OLD NEWPORT BOULEVARD	9,816	14,073	4,257	43%
WEST NEWPORT HIGHWAY AND ADJOINING RESIDENTIAL	9,076	9,901	825	9%
WEST NEWPORT MESA	46,038	54,769	8,731	19%
<b>SUBAREA ALTERNATIVES TOTAL</b>	<b>477,180</b>	<b>510,014</b>	<b>32,834</b>	<b>7%</b>
<b>REMAINDER OF CITY</b>	<b>488,531</b>	<b>486,094</b>	<b>-2,437</b>	<b>0%</b>
<b>CITY TOTAL</b>	<b>965,711</b>	<b>996,108</b>	<b>30,397</b>	<b>3.15%</b>

## **4.0 GENERAL PLAN BUILDOUT WITHOUT PROJECT (POST-2030) LAND USE WITH PROJECT NETWORK SCENARIO**

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This chapter presents General Plan buildout Without Project (Post-2030) conditions. The Without Project designation refers to the currently adopted General Plan. The anticipated General Plan (future) network is essentially the same for both future scenarios and is discussed in subsequent sections of this report. General Plan buildout model inputs are discussed and forecast volumes are presented. Data are compared to Existing Conditions to show traffic growth trends.

### **4.1 Land Use and Socioeconomic Data (SED)**

This section discusses the land use and socioeconomic data inputs.

#### **4.1.1 General Plan Buildout Without Project Land Use Data**

The General Plan buildout Without Project land use data was provided to Urban Crossroads, Inc. staff by City of Newport Beach staff. Appendix “W” of this report documents the explicit land use data included in NBTM 3.1 for General Plan buildout Without Project (currently adopted General Plan) conditions in this analysis.

Table 4-1 summarizes the overall General Plan buildout Without Project land uses for the City of Newport Beach. Land uses have been updated compared to previous reports, based on more detailed information available (especially in the Newport Coast and Newport Ridge areas, where detailed land use information was unavailable in previous analyses).

Table 4-1 also shows General Plan buildout Without Project land use growth from Existing conditions. Medium density residential and apartments each grow by more than 4,000 dwelling units. Non-residential categories that grow by more than 500,000 square feet include general commercial, general office, and industrial land uses.

TABLE 4-1

**CITY OF NEWPORT BEACH GENERAL PLAN BUILDOUT WITHOUT  
PROJECT LAND USE GROWTH FROM EXISTING**

NBTM CODE <sup>1</sup>	DESCRIPTION	UNITS <sup>2</sup>	EXISTING QUANTITY <sup>3</sup>	BUILDOUT WITHOUT PROJECT QUANTITY <sup>3</sup>	GROWTH	% GROWTH
1	Low Density Residential	DU	18,702	19,570	868	4.64%
2	Medium Density Residential	DU	10,974	15,077	4,103	37.38%
3	Apartment	DU	9,703	14,427	4,724	48.69%
4	Elderly Residential	DU	200	200	-	0.00%
5	Mobile Home	DU	600	455	-145	-24.17%
	<b>TOTAL DWELLING UNITS</b>	<b>DU</b>	<b>40,179</b>	<b>49,729</b>	<b>9,550</b>	<b>23.77%</b>
6	Motel	ROOM	134	139	5	3.73%
7	Hotel	ROOM	3,231	5,537	2,306	71.37%
9	Regional Commercial	TSF	1,331,000	1,559,000	228,000	17.13%
10	General Commercial	TSF	3,823,398	5,120,942	1,297,544	33.94%
11	Commercial/Recreation	ACRE	5,100	5,100	-	0.00%
13	Restaurant	TSF	99,450	198,860	99,410	99.96%
15	Fast Food Restaurant	TSF	15,640	15,640	-	0.00%
16	Auto Dealer/Sales	TSF	201,300	386,050	184,750	91.78%
17	Yacht Club	TSF	51,830	70,310	18,480	35.66%
18	Health Club	TSF	16,770	61,330	44,560	265.71%
19	Tennis Club	CRT	60	59	(1)	-1.67%
20	Marina	SLIP	1,055	1,055	-	0.00%
21	Theater	SEAT	5,489	5,475	-14	-0.26%
22	Newport Dunes	ACRE	64.00	64.00	-	0.00%
23	General Office	TSF	11,657,109	13,492,354	1,835,245	15.74%
24	Medical/Government Office	TSF	959,718	1,084,576	124,858	13.01%
25	Research & Development	TSF	81,730	81,730	-	0.00%
26	Industrial	TSF	1,291,079	1,956,092	665,013	51.51%
27	Mini-Storage/Warehouse	TSF	196,420	196,420	-	0.00%
28	Pre-school/Day Care	TSF	48,050	49,000	0,950	1.98%
29	Elementary/Private School	STU	4,999	5,055	56	1.13%
30	Junior/High School	STU	5,215	5,215	-	0.00%
31	Cultural/Learning Center	TSF	35,000	40,000	5,000	14.29%
32	Library	TSF	78,800	84,600	5,800	7.36%
33	Post Office	TSF	53,700	73,700	20,000	37.24%
34	Hospital	BED	1,031	2,001	970	94.08%
35	Nursing/Conv. Home	BEDS	661	566	(95)	-14.37%
36	Church	TSF	377,780	511,704	133,924	35.45%
37	Youth Ctr./Service	TSF	149,540	183,209	33,669	22.52%
38	Park	ACRE	128,360	127,780	-0,580	-0.45%
39	Regional Park	ACRE		45,910	45,910	N/A
40	Golf Course	ACRE	305,330	298,290	-7,040	-2.31%

<sup>1</sup> Uses 8, 12, and 14 are part of the old NBTAM model structure and are not currently utilized in the City land use datasets.

<sup>2</sup> Units Abbreviations:  
DU = Dwelling Units  
TSF = Thousand Square Feet  
CRT = Court  
STU = Students

<sup>3</sup> Includes Newport Coast and recent annexation areas.

#### 4.1.2 General Plan Buildout Without Project Socioeconomic Data (SED)

General Plan buildout Without Project SED that has been calculated from land use is summarized in Table 4-2. Appendix “X” contains SED summaries by traffic analysis zone. Table 4-2 also contains a comparison of General Plan buildout Without Project SED to Existing SED for the City of Newport Beach. The total number of dwelling units are projected to grow by 8,818 units (23 %) from Existing conditions. For total employment, an increase of 20,292 employees (28 %) is anticipated.

#### 4.2 Trip Generation

Table 4-3 summarizes the updated General Plan buildout Without Project trip generation in the City of Newport Beach. Table 4-4 summarizes the overall trip generation for General Plan buildout Without Project conditions for the City of Newport Beach and compares it to Existing conditions trip generation. Appendix “Y” contains a report of trip generation by NBTM TAZ for the City of Newport Beach. Most of these trips have been calculated from the final General Plan buildout SED presented previously. Some trips are derived from supplemental SED or represent special generator trips within the City of Newport Beach. The overall trip generation for the City of Newport Beach currently adopted General Plan is an estimated 1,022,385 daily vehicle trips.

#### 4.3 Traffic Assignment

Exhibit 4-A shows the anticipated General Plan buildout through lanes on all Newport Beach arterial roadways. Appendix “Z” contains letters prepared by Urban Crossroads to document recommendations on roadway system features for the constrained and the With Project network. The General Plan buildout With Project model network matches the With Project configurations. This network is used to analyze both the Without Project and With Project scenarios, to maintain consistency.

TABLE 4-2

CITY OF NEWPORT BEACH GENERAL PLAN BUILDOUT WITHOUT PROJECT LAND USE BASED SOCIOECONOMIC DATA GROWTH FROM EXISTING

VARIABLE	EXISTING <sup>1</sup> QUANTITY	BUILDOUT <sup>2</sup> WITHOUT PROJECT QUANTITY	GROWTH	% GROWTH
Occupied Single Family Dwelling Units	17,467	18,324	857	5%
Occupied Multi-Family Dwelling Units	20,136	28,097	7,961	40%
<b>TOTAL OCCUPIED DWELLING UNITS</b>	<b>37,603</b>	<b>46,421</b>	<b>8,818</b>	<b>23%</b>
Group Quarters Population	661	566	-95	-14%
Population	83,007	100,625	17,618	21%
Employed Residents	49,632	60,919	11,287	23%
Retail Employees	11,525	15,108	3,583	31%
Service Employees	19,681	25,887	6,206	32%
Other Employees	41,468	51,971	10,503	25%
<b>TOTAL EMPLOYEES</b>	<b>72,674</b>	<b>92,966</b>	<b>20,292</b>	<b>28%</b>
Elem/High School Students	10,214	10,270	56	1%

<sup>1</sup> Includes data converted from land use only. Excludes Newport Coast and recent annexation areas.

<sup>2</sup> Includes Newport Coast and recent annexation areas.



TABLE 4-3

CITY OF NEWPORT BEACH GENERAL PLAN  
 BUILDOUT WITHOUT PROJECT TRIP GENERATION

TRIP PURPOSE	PRODUCTIONS	ATTRACTIONS	PRODUCTIONS - ATTRACTIONS	PRODUCTIONS / ATTRACTIONS
Home Based Work <sup>1</sup>	74,938	112,693	-37,755	0.66
Home Based School	14,241	9,041	5,200	1.58
Home Based Other <sup>2</sup>	195,168	148,526	46,642	1.31
Work Based Other	71,257	77,664	-6,407	0.92
Other - Other	125,391	123,330	2,061	1.02
<b>TOTAL</b>	<b>480,995</b>	<b>471,254</b>	<b>9,741</b>	<b>1.02</b>
<b>OVERALL TOTAL</b>	<b>952,249</b>			

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<sup>1</sup> Home-Work includes Home-Work and Home-University trips, consistent with OCTAM mode choice output.

<sup>2</sup> Home-Other includes Home-Shop and Home-Other trips, consistent with OCTAM mode choice output.

TABLE 4-4

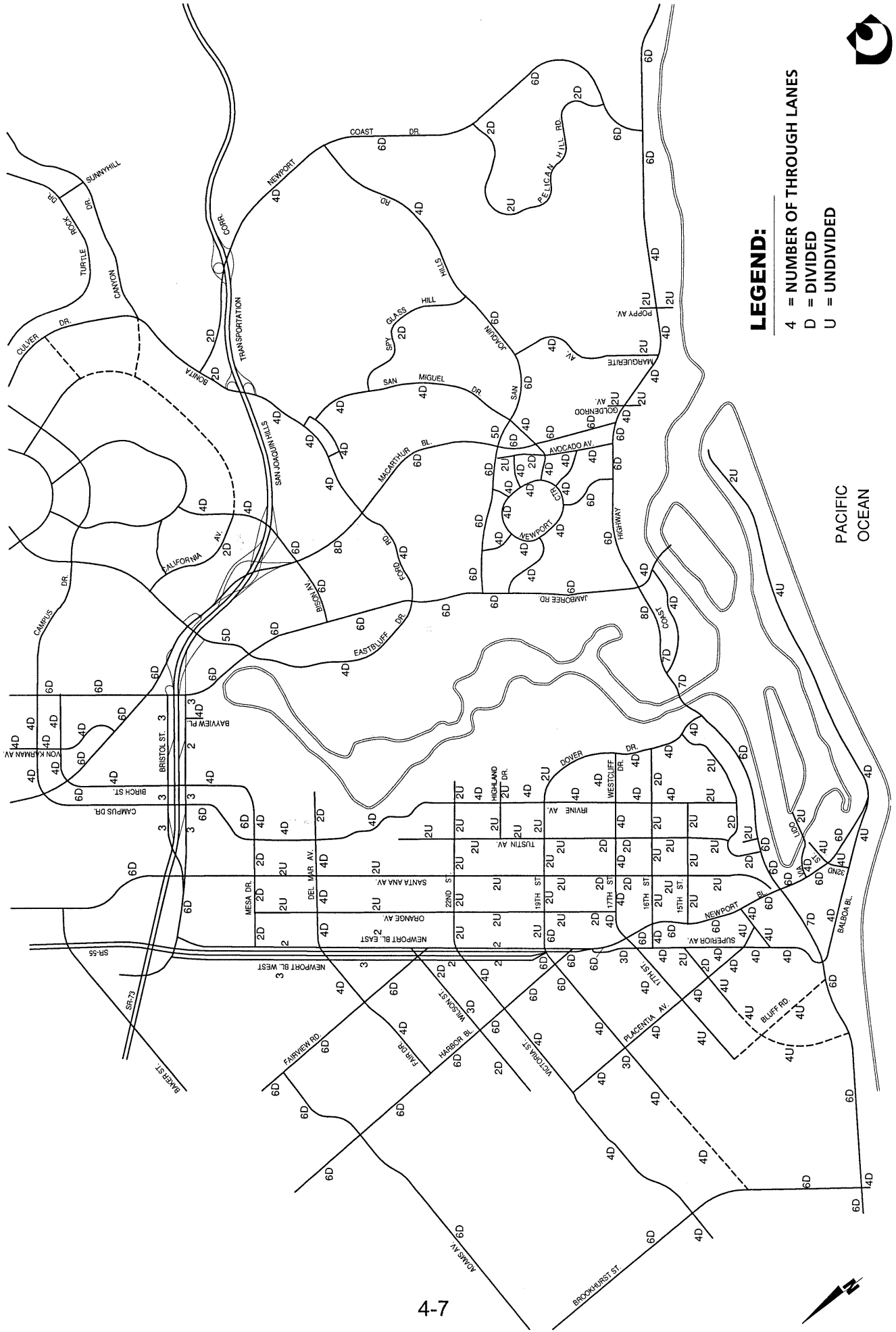
CITY OF NEWPORT BEACH GENERAL PLAN BUILDOUT  
WITHOUT PROJECT TRIP GENERATION GROWTH

TRIP PURPOSE	DAILY TRIP ENDS		GROWTH	PERCENT GROWTH
	EXISTING	BUILDOUT WITHOUT PROJECT		
Home Based Work Productions <sup>1</sup>	61,128	74,938	13,810	22.59%
Home Based Work Attractions	88,446	112,693	24,247	27.41%
Home Based School Productions	11,756	14,241	2,485	21.14%
Home Based School Attractions	8,990	9,041	51	0.57%
Home Based Other Productions <sup>2</sup>	165,256	195,168	29,912	18.10%
Home Based Other Attractions	115,052	148,526	33,474	29.09%
Work Based Other Productions	55,488	71,257	15,769	28.42%
Work Based Other Attractions	60,741	77,664	16,923	27.86%
Other - Other Productions	98,005	125,391	27,386	27.94%
Other - Other Attractions	96,363	123,330	26,967	27.98%
<b>TOTAL PRODUCTIONS</b>	<b>391,633</b>	<b>480,995</b>	<b>89,362</b>	<b>22.82%</b>
<b>TOTAL ATTRACTIONS</b>	<b>369,592</b>	<b>471,254</b>	<b>101,662</b>	<b>27.51%</b>
<b>OVERALL TOTAL</b>	<b>761,225</b>	<b>952,249</b>	<b>191,024</b>	<b>25.09%</b>

<sup>1</sup> Home-Work includes Home-Work and Home-University trips, consistent with OCTAM mode choice output.

<sup>2</sup> Home-Other includes Home-Shop and Home-Other trips, consistent with OCTAM mode choice output.

# EXHIBIT 4-A NEWPORT BEACH GENERAL PLAN BUILDOUT WITH PROJECT THROUGH LANES



## LEGEND:

- 4 = NUMBER OF THROUGH LANES
- D = DIVIDED
- U = UNDIVIDED

PACIFIC OCEAN



The constrained network was developed in response to visioning process input that residents want to minimize further widening and extension of the arterial roadway system, as well as staff and consultant information on roadway improvements that are uncertain due to political or funding issues. Differences in the constrained (versus original Baseline) network include:

- No extension of SR-55 Freeway
- No widening of Coast Highway through Mariners Mile
- No extension of 19<sup>th</sup> Street across the Santa Ana River
- No widening of Jamboree Road north of Ford Road

While the extension of the SR-55 freeway is included in regional plans, it is not expected to be completed prior to buildout of the City of Newport Beach. Appendix “Z” contains a letter prepared by Urban Crossroads to document changes to the currently adopted roadway system for the constrained network (used previously in the preliminary alternatives analysis). The network outside the Tier 3 area is unchanged from before.

Key roadway changes reflected in the currently analyzed roadway system (versus constrained) include:

- Widening of Coast Highway through Mariners Mile
- Extension of 19th Street across the Santa Ana River

These changes are based on the findings of the preliminary alternatives analysis, which indicated that these improvements are critical to maintaining acceptable levels of service on key arterial roadways in the City of Newport Beach.

Exhibit 4-B summarizes the NBTM 3.1 refined General Plan buildout With Project network daily traffic volumes throughout the City of Newport Beach. Table 4-5 compares these refined forecasts to existing counted volumes (presented in Chapter 2 of this Report). The highest daily traffic volume increase on a study area roadway segment occurs on Newport Coast Drive. Throughout Newport Coast

EXHIBIT 4-B  
**GENERAL PLAN BUILDOUT WITHOUT PROJECT  
 AVERAGE DAILY TRAFFIC (ADT)**

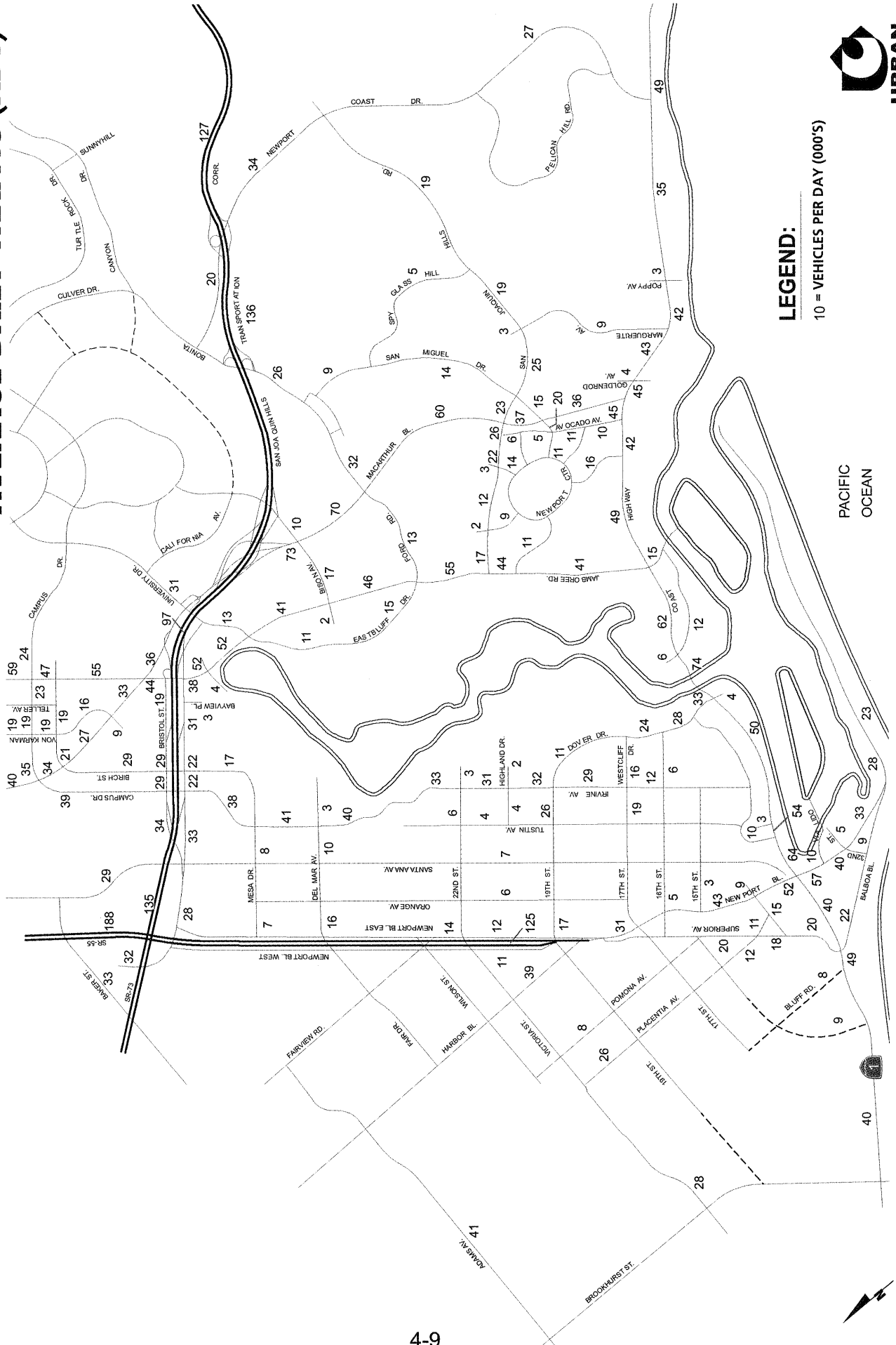


TABLE 4-5 (Page 1 of 4)

CITY OF NEWPORT BEACH GENERAL PLAN BUILDOUT  
WITHOUT PROJECT AVERAGE DAILY TRAFFIC GROWTH

LOCATION	EXISTING COUNT (2001/2002)	BUILDOUT WITHOUT PROJECT FORECAST	CHANGE	% CHANGE
15th St. (Coast Hwy. to Bluff Rd.)	0	9,000	9,000	N/A
16th St. (Irvine Ave. to Dover Dr.)	5,000	6,000	1,000	20%
32nd St. (west of Newport Blvd.)	8,000	9,000	1,000	13%
32nd St. (east of Newport Blvd.)	3,000	5,000	2,000	67%
Avocado Ave. (north of San Miguel Dr.)	5,000	5,000	0	0%
Avocado Ave. (south of San Miguel Dr.)	12,000	11,000	-1,000	-8%
Avocado Ave. (north of Coast Hwy.)	11,000	10,000	-1,000	-9%
Balboa Blvd. (south of Coast Hwy.)	18,000	22,000	4,000	22%
Bayside Dr. (south of Coast Hwy.)	10,000	12,000	2,000	20%
Birch St. (Jamboree Rd. to Von Karman Ave.)	12,000	19,000	7,000	58%
Birch St. (Von Karman Ave. to MacArthur Blvd.)	15,000	21,000	6,000	40%
Birch St. (west of MacArthur Blvd.)	16,000	21,000	5,000	31%
Birch St. (north of Bristol St. North)	23,000	29,000	6,000	26%
Birch St. (Bristol St. North to Bristol St. South)	19,000	22,000	3,000	16%
Birch St. (south of Bristol St. South)	15,000	17,000	2,000	13%
Bison Ave. (Jamboree Rd. to MacArthur Blvd.)	13,000	17,000	4,000	31%
Bison Ave. (MacArthur Blvd. to SR-73 Fwy.)	7,000	10,000	3,000	43%
Bluff Rd. (Coast Hwy. to 15th St.)	0	8,000	8,000	N/A
Bluff Rd. (15th St. to 17th St.)	0	9,000	9,000	N/A
Bonita Canyon Dr. (east of MacArthur Blvd.)	26,000	32,000	6,000	23%
Bonita Canyon Dr. (west of SR-73 Fwy.)	17,000	26,000	9,000	53%
Bristol St. North (west of Campus Dr.)	28,000	34,000	6,000	21%
Bristol St. North (Campus Dr. to Birch St.)	23,000	29,000	6,000	26%
Bristol St. North (east of Birch St.)	22,000	29,000	7,000	32%
Bristol St. North (west of Jamboree Rd.)	16,000	19,000	3,000	19%
Bristol St. South (west of Campus Dr./Irvine Ave.)	28,000	33,000	5,000	18%
Bristol St. South (Campus Dr. to Birch St.)	17,000	22,000	5,000	29%
Bristol St. South (east of Birch St.)	16,000	22,000	6,000	38%
Bristol St. South (west of Jamboree Rd.)	31,000	38,000	7,000	23%
Campus Dr. (Jamboree Rd. to Von Karman Ave.)	16,000	23,000	7,000	44%
Campus Dr. (Von Karman Ave. to MacArthur Blvd.)	20,000	35,000	15,000	75%
Campus Dr. (west of MacArthur Blvd.)	26,000	39,000	13,000	50%
Campus Dr. (north of Bristol St. North)	28,000	39,000	11,000	39%
Campus Dr. (Bristol St. North to Bristol St. South)	30,000	41,000	11,000	37%
Coast Hwy. (west of Bluff Rd.)	46,000	45,000	-1,000	-2%
Coast Hwy. (Bluff Rd. to Superior Ave./Balboa Blvd.)	46,000	49,000	3,000	7%
Coast Hwy. (Superior Ave. to Newport Blvd.)	28,000	40,000	12,000	43%
Coast Hwy. (Newport Blvd. to Riverside Ave.)	53,000	64,000	11,000	21%
Coast Hwy. (Riverside Ave. to Tustin Ave.)	45,000	56,000	11,000	24%
Coast Hwy. (Tustin Ave. to Dover Dr.)	42,000	51,000	9,000	21%
Coast Hwy. (Dover Dr. to Bayside Dr.)	63,000	74,000	11,000	17%
Coast Hwy. (Bayside Dr. to Jamboree Rd.)	51,000	62,000	11,000	22%

TABLE 4-5 (Page 2 of 4)

CITY OF NEWPORT BEACH GENERAL PLAN BUILDOUT  
WITHOUT PROJECT AVERAGE DAILY TRAFFIC GROWTH

LOCATION	EXISTING COUNT (2001/2002)	BUILDOUT WITHOUT PROJECT FORECAST	CHANGE	% CHANGE
Coast Hwy. (Jamboree Rd. to Newport Center Dr.)	42,000	49,000	7,000	17%
Coast Hwy. (Newport Center Dr. to Avocado Ave.)	35,000	42,000	7,000	20%
Coast Hwy. (Avocado Ave. to MacArthur Blvd.)	36,000	45,000	9,000	25%
Coast Hwy. (MacArthur Blvd. to Goldenrod Ave.)	40,000	45,000	5,000	13%
Coast Hwy. (Goldenrod Ave. to Marguerite Ave.)	39,000	43,000	4,000	10%
Coast Hwy. (Marguerite Ave. to Poppy Ave.)	35,000	42,000	7,000	20%
Coast Hwy. (Poppy Ave. to Newport Coast Dr.)	28,000	38,000	10,000	36%
Coast Hwy (east of Newport Coast Dr.)	35,000	49,000	14,000	40%
Dover Dr. (Irvine Ave. to Westcliff Dr.)	9,000	11,000	2,000	22%
Dover Dr. (Westcliff Dr. to 16th St.)	22,000	24,000	2,000	9%
Dover Dr. (16th St. to Cliff Dr.)	25,000	28,000	3,000	12%
Dover Dr. (Cliff Dr. to Coast Hwy.)	29,000	33,000	4,000	14%
Eastbluff Dr. (west of Jamboree Rd. at University Dr.)	10,000	11,000	1,000	10%
Eastbluff Dr. (west of Jamboree Rd. at Ford Rd.)	15,000	15,000	0	0%
Ford Rd. (Jamboree Rd. to MacArthur Blvd.)	9,000	13,000	4,000	44%
Goldenrod Ave. (north of Coast Hwy.)	2,000	4,000	2,000	100%
Highland Dr. (east of Irvine Ave.)	2,000	2,000	0	0%
Hospital Rd. (Placentia Ave. to Newport Blvd.)	13,000	15,000	2,000	15%
Hospital Rd. (east of Newport Blvd.)	7,000	9,000	2,000	29%
Irvine Ave. (Bristol St. South to Mesa Dr.)	27,000	38,000	11,000	41%
Irvine Ave. (Mesa Dr. to University Dr.)	31,000	41,000	10,000	32%
Irvine Ave. (University Dr. to Santa Isabel Ave.)	33,000	40,000	7,000	21%
Irvine Ave. (Santa Isabel Ave. to Santiago Dr.)	29,000	33,000	4,000	14%
Irvine Ave. (Santiago Dr. to Highland Dr.)	27,000	32,000	5,000	19%
Irvine Ave. (Highland Dr. to Dover Dr.)	27,000	32,000	5,000	19%
Irvine Ave. (Dover Dr. to Westcliff Dr.)	22,000	29,000	7,000	32%
Irvine Ave. (Westcliff Dr. to 16th St.)	12,000	12,000	0	0%
Jamboree Rd. (Campus Dr. to Birch St.)	36,000	47,000	11,000	31%
Jamboree Rd. (Birch St. to MacArthur Blvd.)	42,000	55,000	13,000	31%
Jamboree Rd. (MacArthur Blvd. to Bristol St. North)	36,000	44,000	8,000	22%
Jamboree Rd. (Bristol St. North to Bristol St. South)	47,000	51,000	4,000	9%
Jamboree Rd. (Bristol St. South to Bayview Wy.)	47,000	52,000	5,000	11%
Jamboree Rd. (Bayview Wy. to University Dr.)	47,000	52,000	5,000	11%
Jamboree Rd. (University Dr. to Bison Ave.)	37,000	42,000	5,000	14%
Jamboree Rd. (Bison Ave. to Ford Rd.)	39,000	46,000	7,000	18%
Jamboree Rd. (Ford Rd. to San Joaquin Hills Rd.)	46,000	55,000	9,000	20%
Jamboree Rd. (San Joaquin Hills Rd. to Santa Barbara Dr.)	34,000	44,000	10,000	29%
Jamboree Rd. (Santa Barbara Dr. to Coast Hwy.)	32,000	42,000	10,000	31%
Jamboree Rd. ( Coast Hwy. to Bayside Dr.)	12,000	15,000	3,000	25%
MacArthur Blvd. (Campus Dr. to Birch St.)	27,000	34,000	7,000	26%
MacArthur Blvd. (Birch St. to Von Karman Ave.)	22,000	27,000	5,000	23%
MacArthur Blvd. (Von Karman Ave. to Jamboree Rd.)	26,000	33,000	7,000	27%

TABLE 4-5 (Page 3 of 4)

**CITY OF NEWPORT BEACH GENERAL PLAN BUILDOUT  
WITHOUT PROJECT AVERAGE DAILY TRAFFIC GROWTH**

<b>LOCATION</b>	<b>EXISTING COUNT (2001/2002)</b>	<b>BUILDOUT WITHOUT PROJECT FORECAST</b>	<b>CHANGE</b>	<b>% CHANGE</b>
MacArthur Blvd. (south of Jamboree Rd.)	27,000	36,000	9,000	33%
MacArthur Blvd. (north of Bison Ave.)	61,000	73,000	12,000	20%
MacArthur Blvd. (Bison Ave. to Ford Rd.)	63,000	70,000	7,000	11%
MacArthur Blvd. (Ford Rd. to San Joaquin Hills Rd.)	54,000	60,000	6,000	11%
MacArthur Blvd. (San Joaquin Hills Rd. to San Miguel Rd.)	35,000	37,000	2,000	6%
MacArthur Blvd. (San Miguel Rd. to Coast Hwy.)	31,000	36,000	5,000	16%
Marguerite Ave. (south of San Joaquin Hills Rd.)	7,000	9,000	2,000	29%
Marguerite Ave. (north of Coast Hwy.)	6,000	9,000	3,000	50%
Mesa Dr. (east of Irvine Ave.)	12,000	13,000	1,000	8%
Newport Blvd. (north of Hospital Rd.)	36,000	43,000	7,000	19%
Newport Blvd. (Hospital Rd. to Coast Hwy.)	43,000	52,000	9,000	21%
Newport Blvd. (Coast Hwy. to Via Lido)	48,000	57,000	9,000	19%
Newport Blvd. (Via Lido to 32nd St.)	36,000	40,000	4,000	11%
Newport Blvd. (south of 32nd St.)	29,000	33,000	4,000	14%
Newport Center Dr. (north of Coast Hwy.)	14,000	16,000	2,000	14%
Newport Coast Dr. (SR-73 Fwy. to San Joaquin Hills Rd.)	17,000	34,000	17,000	100%
Newport Coast Dr. (south of San Joaquin Hills Rd.)	15,000	32,000	17,000	113%
Newport Coast Dr. (north of Coast Hwy.)	12,000	27,000	15,000	125%
Placentia Ave. (north of Superior Ave.)	12,000	12,000	0	0%
Placentia Ave. (Superior Ave. to Hospital Rd.)	7,000	11,000	4,000	57%
Poppy Ave. (north of Coast Hwy.)	2,000	3,000	1,000	50%
Riverside Ave. (north of Coast Hwy.)	9,000	10,000	1,000	11%
San Joaquin Hills Rd. (Jamboree Rd. to Santa Cruz Rd.)	16,000	17,000	1,000	6%
San Joaquin Hills Rd. (Santa Cruz Rd. to Santa Rosa Rd.)	11,000	12,000	1,000	9%
San Joaquin Hills Rd. (Santa Rosa Rd. to MacArthur Blvd.)	21,000	26,000	5,000	24%
San Joaquin Hills Rd. (MacArthur Blvd. to San Miguel Rd.)	19,000	23,000	4,000	21%
San Joaquin Hills Rd. (San Miguel Rd. to Marguerite Ave.)	18,000	25,000	7,000	39%
San Joaquin Hills Rd. (Marguerite Ave. to Spyglass Hill Rd.)	12,000	19,000	7,000	58%
San Joaquin Hills Rd. (Spyglass Hill Rd. to Newport Coast Dr.)	12,000	19,000	7,000	58%
San Miguel Dr. (north of Spyglass Hill Rd.)	7,000	9,000	2,000	29%
San Miguel Dr. (south of Spyglass Hill Rd.)	7,000	9,000	2,000	29%
San Miguel Dr. (north of San Joaquin Hills Rd.)	12,000	14,000	2,000	17%
San Miguel Dr. (San Joaquin Hills Rd. to MacArthur Blvd.)	12,000	15,000	3,000	25%
San Miguel Dr. (MacArthur Blvd. to Avocado Ave.)	19,000	20,000	1,000	5%
San Miguel Dr. (west of Avocado Ave.)	10,000	11,000	1,000	10%
Santa Barbara Dr. (east of Jamboree Rd.)	10,000	11,000	1,000	10%
Santa Cruz Dr. (south of San Joaquin Hills Rd.)	8,000	9,000	1,000	13%
Santa Rosa Dr. (south of San Joaquin Hills Rd.)	11,000	14,000	3,000	27%
Santiago Dr. (Tustin Ave. to Irvine Ave.)	5,000	6,000	1,000	20%
Santiago Dr. (east of Irvine Ave.)	3,000	3,000	0	0%
Spyglass Hill Rd. (San Miguel Dr. to San Joaquin Hills Rd.)	4,000	5,000	1,000	25%
SR-55 Freeway (north of SR-73 Fwy.)	155,000	188,000	33,000	21%



TABLE 4-5 (Page 4 of 4)

CITY OF NEWPORT BEACH GENERAL PLAN BUILDOUT  
WITHOUT PROJECT AVERAGE DAILY TRAFFIC GROWTH

LOCATION	EXISTING COUNT (2001/2002)	BUILDOUT WITHOUT PROJECT FORECAST	CHANGE	% CHANGE
SR-55 Freeway (22nd St. to 19th St.)	94,000	125,000	31,000	33%
SR-73 Freeway (SR-55 Fwy. to Campus Dr.)	94,000	135,000	41,000	44%
SR-73 Freeway (Jamboree Rd. to University Dr.)	59,000	97,000	38,000	64%
SR-73 Freeway (Bonita Canyon Rd. to Newport Coast Dr.)	62,000	136,000	74,000	119%
SR-73 Freeway (east of Newport Coast Dr.)	56,000	127,000	71,000	127%
Superior Ave. (north of Placentia Ave.)	17,000	20,000	3,000	18%
Superior Ave. (Placentia Ave. to Hospital Rd.)	22,000	18,000	-4,000	-18%
Superior Ave. (Hospital Rd. to Coast Hwy.)	24,000	20,000	-4,000	-17%
Tustin Ave. (north of Coast Hwy.)	2,000	3,000	1,000	50%
University Dr. (east of Irvine Ave.)	3,000	3,000	0	0%
University Dr. (east of Jamboree Rd.)	11,000	13,000	2,000	18%
Via Lido (east of Newport Blvd.)	8,000	10,000	2,000	25%
Von Karman Ave. (Campus Dr. to Birch St.)	14,000	19,000	5,000	36%
Von Karman Ave. (Birch St. to MacArthur Blvd.)	12,000	16,000	4,000	33%
Westcliff Dr. (Irvine Ave. to Dover Dr.)	16,000	16,000	0	0%

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Drive, traffic increases by 15,000 to 17,000 vehicles per day (VPD). This increase is largely caused by the additional development anticipated in Newport Coast/Newport Ridge subsequent to 2002. The already constructed roadway cross-section of Newport Coast Drive can accommodate this projected increase in traffic at acceptable levels of service. Other study area roadway segments to experience traffic increases of greater than 10,000 VPD are:

- Campus Drive/Irvine Avenue from Von Karman Avenue to Mesa Drive
- Coast Highway from Superior Avenue to Tustin Avenue, from Dover Drive to Jamboree Road, and east of Newport Coast Drive
- Jamboree Road from Campus Drive to MacArthur Boulevard
- MacArthur Boulevard from SR-73 Ramps to Bison Avenue

Volume increases on all of these roadways are attributed to growth in the City of Newport Beach and surrounding regional growth.

#### 4.4 Daily Capacity Analysis

Daily roadway segment capacity analysis has been performed at study area roadways, and is shown on Exhibit 4-C. The following roadway segments are expected to operate with daily V/C greater than 0.90:

- Newport Boulevard north of Via Lido
- Jamboree Road north of Campus Drive
- Jamboree Road north of Birch Street
- Irvine Avenue north of University Drive
- Irvine Avenue north of Santiago Drive
- Irvine Avenue north of Highland Drive
- Irvine Avenue north of Dover Drive
- Dover Drive north of Westcliff Drive
- Dover Drive north of Coast Highway
- Jamboree Road north of Bayview Way
- Jamboree Road north of University Drive



- Jamboree Road north of San Joaquin Hills Road
- MacArthur Boulevard north of Bison Avenue
- MacArthur Boulevard north of Ford Road
- MacArthur Boulevard north of San Joaquin Hills Road
- Newport Coast Drive north of SR-73 NB Ramps
- Newport Coast Drive north of San Joaquin Hills Road
- Newport Boulevard south of Hospital Road
- Jamboree Road south of Birch Street
- Irvine Avenue south of University Drive
- Campus Drive east of MacArthur Boulevard
- Bristol Street North east of Birch Street
- Bristol Street South east of Birch Street
- Coast Highway east of Dover Drive
- Coast Highway east of Bayside Drive
- Coast Highway east of Jamboree Road
- Ford Road east of MacArthur Boulevard
- Coast Highway east of MacArthur Boulevard
- Coast Highway east of Goldenrod Avenue
- Coast Highway east of Marguerite Avenue
- Coast Highway east of Poppy Avenue
- Coast Highway east of Newport Coast Drive
- Coast Highway west of Superior Avenue/Balboa Boulevard
- Coast Highway west of Riverside Drive
- Bristol Street North west of Campus Drive
- Bristol Street South west of Campus Drive
- Dover Drive west of Irvine Avenue
- Bristol Street South west of Jamboree Road

The daily capacity of a roadway correlates to a number of widely varying factors, including traffic peaking characteristics, traffic turning volumes, and the volume of

traffic on crossing streets. The daily capacities are therefore most appropriately used for long range General Plan analysis, or as a screening tool to determine the need for more detailed peak hour analysis. More detailed peak hour analysis has been conducted at key intersections in the vicinity of all these roadway segments to quantify actual peak hour operations and levels of service.

#### 4.5 Peak Hour Forecasts

The final and most meaningful data used to evaluate the General Plan buildout Without Project scenario was intersection volume and geometric data for the 64 intersections selected for analysis. The geometric data was provided by City staff and was used to calculate existing General Plan Buildout intersection capacity utilization values (ICUs) at all 64 analysis intersections. Table 4-6 summarizes the General Plan buildout Without Project ICUs, based on the AM and PM peak hour intersection turning movement volumes and existing (2005) intersection geometric data, as compared with existing (2002) conditions ICUs. Appendix "AA" contains the detailed ICU calculation worksheets. The worksheets in Appendix "AA" summarize the intersection geometric data and the AM and PM peak intersection turning movement volumes.

As shown in Table 4-6, ICU values generally increase in the General Plan Buildout conditions compared to Existing conditions. The exceptions occur where new parallel facilities are available, or where an increase in lanes results in increased capacity. Intersections with ICU values greater than 0.90 (LOS "E" or worse) in either peak period without improvements beyond 2005 conditions are:

- Newport Boulevard (NS)/Hospital Road (EW) (PM)
- Riverside Avenue (NS)/Coast Highway (EW) (AM/PM)
- Tustin Avenue (NS)/Coast Highway (EW) (AM)
- MacArthur Boulevard (NS)/Campus Drive (EW) (PM)
- Von Karman Avenue (NS)/Campus Drive (EW) (PM)
- Jamboree Road (NS)/Campus Drive (EW) (AM/PM)

TABLE 4-6 (Page 1 of 2)

**GENERAL PLAN BUILDOUT WITHOUT PROJECT INTERSECTION  
CAPACITY UTILIZATION (ICU) COMPARISON TO EXISTING**

INTERSECTION (NS/EW)	AM PEAK HOUR			PM PEAK HOUR		
	EXISTING COUNT	WITHOUT PROJECT	DELTA	EXISTING COUNT	WITHOUT PROJECT	DELTA
1a. Bluff Rd. & Coast Hw.	N/A	0.65	N/A	N/A	0.84	N/A
1b. 15th St. & Coast Hw.	N/A	0.74	N/A	N/A	0.89	N/A
2. Superior Av. & Placentia Av.	0.66	0.65	-0.01	0.67	0.55	-0.12
3. Superior Av. & Coast Hw.	0.84	0.89	0.05	0.90	0.75	-0.15
4. Newport Bl. & Hospital Rd.	0.54	0.75	0.21	0.70	0.91	0.21
5. Newport Bl. & Via Lido	0.41	0.56	0.15	0.37	0.40	0.03
6. Newport Bl. & 32nd St.	0.73	0.82	0.09	0.78	0.88	0.10
7. Riverside Av. & Coast Hw.	0.84	0.98	0.14	0.93	0.92	-0.01
8. Tustin Av. & Coast Hw.	0.80	0.91	0.11	0.67	0.76	0.09
9. MacArthur Bl. & Campus Dr.	0.61	0.76	0.15	0.85	1.21	0.36
10. MacArthur Bl. & Birch St.	0.49	0.79	0.30	0.66	0.90	0.24
11. Von Karman Av. & Campus Dr.	0.55	0.70	0.15	0.79	0.93	0.14
12. MacArthur Bl. & Von Karman Av.	0.46	0.58	0.12	0.53	0.66	0.13
13. Jamboree Rd. & Campus Dr.	0.70	0.91	0.21	0.85	1.18	0.33
14. Jamboree Rd. & Birch St.	0.61	1.00	0.39	0.60	0.84	0.24
15. Campus Dr. & Bristol St. (N)	0.77	0.99	0.22	0.94	1.07	0.13
16. Birch St. & Bristol St. (N)	0.66	0.94	0.28	0.61	0.74	0.13
17. Campus Dr./Irvine Av. & Bristol St. (S)	0.72	0.91	0.19	0.58	0.75	0.17
18. Birch St. & Bristol St. (S)	0.46	0.52	0.06	0.44	0.52	0.08
19. Irvine Av. & Mesa Dr.	0.70	0.99	0.29	0.94	1.19	0.25
20. Irvine Av. & University Dr.	0.82	1.17	0.35	0.89	1.08	0.19
21. Irvine Av. & Santiago Dr.	0.66	0.68	0.02	0.72	0.76	0.04
22. Irvine Av. & Highland Dr.	0.57	0.60	0.03	0.60	0.65	0.05
23. Irvine Av. & Dover Dr.	0.72	0.77	0.05	0.64	0.68	0.04
24. Irvine Av. & Westcliff Dr.	0.57	0.64	0.07	0.77	0.80	0.03
25. Dover Dr. & Westcliff Dr.	0.38	0.38	0.00	0.48	0.53	0.05
26. Dover Dr. & 16th St.	0.55	0.60	0.05	0.57	0.60	0.03
27. Dover Dr. & Coast Hw.	0.70	0.80	0.10	0.74	0.93	0.19
28. Bayside Dr. & Coast Hw.	0.69	0.88	0.19	0.70	0.85	0.15
29. MacArthur Bl. & Jamboree Rd.	0.88	0.92	0.04	0.91	0.98	0.07
30. Jamboree Rd. & Bristol St. (N)	0.55	0.68	0.13	0.59	0.65	0.06
31. Bayview Pl. & Bristol St. (S)	0.48	0.60	0.12	0.56	0.62	0.06
32. Jamboree Rd. & Bristol St. (S)	0.75	0.96	0.21	0.72	0.85	0.13
33. Jamboree Rd. & Bayview Wy.	0.41	0.46	0.05	0.57	0.67	0.10
34. Jamboree Rd. & Eastbluff Dr./University Dr.	0.60	0.68	0.20	0.64	0.66	0.12
35. Jamboree Rd. & Bison Av.	0.45	0.52	0.07	0.51	0.62	0.11
36. Jamboree Rd. & Eastbluff Dr./Ford Rd.	0.69	0.80	0.11	0.65	0.76	0.11
37. Jamboree Rd. & San Joaquin Hills Rd.	0.56	0.60	0.04	0.57	0.71	0.14

TABLE 4-6 (Page 2 of 2)

GENERAL PLAN BUILDOUT WITHOUT PROJECT INTERSECTION  
CAPACITY UTILIZATION (ICU) COMPARISON TO EXISTING

INTERSECTION (NS/EW)	AM PEAK HOUR			PM PEAK HOUR		
	EXISTING COUNT	WITHOUT PROJECT	DELTA	EXISTING COUNT	WITHOUT PROJECT	DELTA
38. Jamboree Rd. & Santa Barbara Dr.	0.47	0.54	0.07	0.63	0.76	0.13
39. Jamboree Rd. & Coast Hw.	0.68	0.77	0.09	0.74	0.78	0.04
40. Santa Cruz Dr. & San Joaquin Hills Rd.	0.36	0.36	0.00	0.36	0.34	-0.02
41. Santa Rosa Dr. & San Joaquin Hills Rd.	0.32	0.39	0.07	0.52	0.69	0.17
42. Newport Center Dr. & Coast Hw.	0.40	0.47	0.07	0.52	0.62	0.10
44. Avocado Av. & San Miguel Dr.	0.33	0.35	0.02	0.72	0.79	0.07
45. Avocado Av. & Coast Hw.	0.58	0.73	0.15	0.66	0.79	0.13
46. SR-73 NB Ramps & Bison Av.	0.31	0.51	0.20	0.37	0.61	0.24
47. SR-73 SB Ramps & Bison Av.	0.26	0.42	0.16	0.17	0.32	0.15
48. MacArthur Bl. & Bison Av.	0.63	0.77	0.14	0.60	0.79	0.19
49. MacArthur Bl. & Ford Rd./Bonita Canyon Dr.	0.71	0.79	0.08	0.90	1.00	0.10
50. MacArthur Bl. & San Joaquin Hills Rd.	0.64	0.78	0.14	0.93	1.11	0.18
51. MacArthur Bl. & San Miguel Dr.	0.56	0.64	0.08	0.65	0.75	0.10
52. MacArthur Bl. & Coast Hw.	0.60	0.73	0.13	0.71	0.77	0.06
53. SR-73 NB Ramps & Bonita Canyon Dr.	0.55	1.08	0.53	0.43	0.75	0.32
54. SR-73 SB Ramps & Bonita Canyon Dr.	0.30	0.46	0.16	0.41	0.67	0.26
55. Spyglass Hill Rd. & San Miguel Dr.	0.28	0.30	0.02	0.31	0.37	0.06
56. San Miguel Dr. & San Joaquin Hills Rd.	0.44	0.56	0.12	0.54	0.74	0.20
57. Goldenrod Av. & Coast Hw.	0.99	0.99	0.00	0.69	0.69	0.00
58. Marguerite Av. & San Joaquin Hills Rd.	0.31	0.43	0.12	0.35	0.52	0.17
59. Marguerite Av. & Coast Hw.	0.83	0.97	0.14	0.82	1.00	0.18
60. Spyglass Hill Rd. & San Joaquin Hills Rd.	0.44	0.61	0.17	0.30	0.51	0.21
61. Poppy Av. & Coast Hw.	0.61	0.70	0.09	0.65	0.76	0.11
62. Newport Coast Dr. & SR-73 NB Ramps	0.45	0.64	0.19	0.31	0.39	0.08
64. Newport Coast Dr. & San Joaquin Hills Rd.	0.37	0.62	0.25	0.29	0.48	0.19
65. Newport Coast Dr. & Coast Hw.	0.47	0.70	0.23	0.50	0.73	0.23

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- Jamboree Road (NS)/Birch Street (EW) (AM)
- Campus Drive (NS)/Bristol Street North (EW) (AM/PM)
- Birch Street (NS)/Bristol Street North (EW) (AM)
- Campus Drive (NS)/Bristol Street South (EW) (AM)
- Irvine Avenue (NS)/Mesa Drive (EW) (PM)
- Irvine Avenue (NS)/University Drive (EW) (AM/PM)
- Dover Drive (NS)/Coast Highway (EW) (PM)
- MacArthur Boulevard (NS)/Jamboree Road (EW) (AM/PM)
- Jamboree Road (NS)/Bristol Street South (EW) (AM)
- MacArthur Boulevard (NS)/Ford Road/Bonita Canyon Drive (EW) (PM)
- MacArthur Boulevard (NS)/San Joaquin Hills Road (EW) (PM)
- SR-73 NB Ramps (NS)/Bonita Canyon Drive (EW) (AM)
- Goldenrod Avenue (NS)/Coast Highway (EW) (AM)
- Marguerite Avenue (NS)/Coast Highway (EW) (AM/PM)

Intersection analysis has been performed to determine the additional improvements necessary to provide acceptable levels of service. ICU worksheets are included in Appendix “BB”. Table 4-7 summarizes intersection analysis for buildout conditions, including potential improvements and discussion regarding improvement feasibility. Table 4-7 also compares the ICU results with and without additional improvements. Improvements necessary to provide acceptable levels of service are listed in Table 4-8. Improvements that require the least additional right-of-way or other environmental impacts have generally been recommended. Individual intersections improvements are discussed in Chapter 6 for each location requiring improvements.

#### 4.6 Freeway/Tollway and Ramp Analysis

For the General Plan buildout Without Project scenario, the volumes on the SR-73 increase enough that all segments being analyzed are failing, as shown on Table 4-9. Anticipated regional improvements were taken from OCTAM (Orange County Transportation Analysis Model). Worksheets for the analysis



TABLE 4-7 (Page 1 of 6)

INTERSECTION ANALYSIS SUMMARY FOR GENERAL PLAN BUILDOUT WITHOUT PROJECT

INTERSECTION	TRAFFIC CONTROL <sup>2</sup>	INTERSECTION APPROACH LANES <sup>1</sup>												LEVEL OF SERVICE		FEASIBILITY/COMMENTS		
		NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND			AM	PM			
		L	T	R	L	T	R	L	T	R	L	T	R					
Bluff Rd. (NS) at: • Coast Hw. (EW) -LOS D Improvements	TS	0	0	0	2	0	2>	2	3	0	0	3	1	0.69	0.84	B	D	Shares Southbound volume with 15th St.
15th St. (NS) at: • Coast Hw. (EW) -LOS D Improvements	TS	0	0	0	2	0	2>	2	3	0	0	3	1	0.74	0.89	C	D	Shares Southbound volume with Bluff Rd.
Superior Av. (NS) at: • Placentia Av. (EW) • Coast Hw. (EW)	TS	1	2	1	1	2	d	1	1	1	0.5	1.5	0	0.65	0.55	B	A	
Newport Bl. (NS) at: • Hospital Rd. (EW) -LOS D Improvements	TS	1	3	1	1	3	d	2	1	1	1	2	0	0.75	0.91	C	E	Consistent with historic plan
Via Lido (EW) • 32nd St. (EW)	TS	0	3	1	2	3	0	0	0	0	1	0	2>	0.56	0.40	A	A	
Riverside Av. (NS) at: • Coast Hw. (EW) -LOS E Improvements	TS	0	1	d	0.5	0.5	1>	1	2	0	1	3	1	0.98	0.92	E	E	Consistent with historic plan. Would remove parking and WB RT lane on north side of street. Severe ROW constraints.
Tustin Av. (NS) at: • Coast Hw. (EW) -LOS D Improvements	TS	0	1	d	0.5	0.5	1>	2	3	0	1	3	0	0.75	0.88	C	D	Consistent with historic plan
MacArthur Bl. (NS) at: • Campus Dr. (EW) -LOS E Improvements	TS	1	4	1	1	4	1	2	3	d	2	3	1>>	0.76	1.21	C	F	Would require narrow lanes or minor landscape area reductions.
Birch St. (EW)	TS	1	3	1	1	4	0	1.5	1.5	0	1	2	1>>	0.79	0.90	C	D	

TABLE 4-7 (Page 2 of 6)

INTERSECTION ANALYSIS SUMMARY FOR GENERAL PLAN BUILDOUT WITHOUT PROJECT

INTERSECTION	TRAFFIC CONTROL <sup>2</sup>	INTERSECTION APPROACH LANES <sup>1</sup>												LEVEL OF SERVICE		FEASIBILITY/COMMENTS		
		NORTH-BOUND			SOUTH-BOUND			EAST-BOUND			WEST-BOUND			AM	PM			
		L	T	R	L	T	R	L	T	R	L	T	R					
Von Karman Av. (NS) at: • Campus Dr. (EW)	TS	1	2	1>>	1	2	0	1	2	1	1	2	0	0.70	0.93	B	E	Can be accomplished within existing curb to curb section by eliminating NB and EB RT lanes.  Logical (high demand movement) improvement. Would encroach on landscape area on north leg of intersection.  Logical (high demand movement) improvement. Would encroach on landscape area on north leg and south leg of intersection.
-LOS D Alternative 1	TS	1	2	0	1	2	0	2	2	0	1	2	0	0.59	0.86	A	D	
-LOS D Alternative 2	TS	1	2	0	1	2	0	1	2	0	1	3	0	0.65	0.82	B	D	
-LOS D Alternative 3	TS	1	2	1>>	1	2	1	1	2	1	1	2	0	0.70	0.84	B	D	
-LOS D Alternative 4	TS	1	2	1>>	1	3	0	1	2	1	1	2	0	0.70	0.79	B	C	
MacArthur Bl. (NS) at: • Von Karman Av. (EW)	TS	1	3	1	1	3	1	1	2	1>>	2	1	1>>	0.58	0.66	A	B	
Jamboree Rd. (NS) at: • Campus Dr. (EW)	TS	2	4	0	2	3	0	2	2	1>>	2	2	1	0.91	1.18	E	F	Achieves LOS D for With Project
-LOS E Improvements	TS	2	4	1>	2	4	0	2	2	0	2	2	1>	0.87	0.92	D	E	
-LOS D Improvements	TS	2	4	1>	2	4	0	2	2	0	2	3	1>	0.87	0.89	D	D	
• Birch St. (EW)	TS	1	3	0	1	3	1>>	1.5	0.5	1>>	0	1	0	1.00	0.84	E	D	
-LOS D Alternative 1	TS	1	3	0	1	4	1>>	1.5	0.5	1>>	0	1	0	0.89	0.78	D	C	
-LOS D Alternative 2	TS	2	3	0	1	3	1>>	1.5	0.5	1>>	0	1	0	0.86	0.79	D	C	
Campus Dr. (NS) at: • Bristol St. N (EW)	TS	2	3	0	0	4	2	0	0	0	2	4	0	0.99	1.07	E	F	Based on field reconnaissance, it appears this could be accomplished on inside (south side), involving improvements to SR-73 NB On-ramp. SB Free Right implies braided ramp to allow access to Freeway - Runway height limit issues impacts building on NW corner
-LOS E Improvements	TS	2	3	0	0	4	2	0	0	0	2	5	0	0.92	0.97	E	E	
-LOS D Alternative 1	TS	2	4	0	0	4	1>>	0	0	0	2	5	0	0.75	0.86	C	D	
-LOS D Alternative 2	TS	2	4	0	0	4	3	0	0	0	2	5	0	0.75	0.86	C	D	

TABLE 4-7 (Page 3 of 6)

INTERSECTION ANALYSIS SUMMARY FOR GENERAL PLAN BUILDOUT WITHOUT PROJECT

INTERSECTION	TRAFFIC CONTROL <sup>2</sup>	INTERSECTION APPROACH LANES <sup>1</sup>												LEVEL OF SERVICE		FEASIBILITY/COMMENTS	
		NORTH-BOUND			SOUTH-BOUND			EAST-BOUND			WEST-BOUND			AM	PM		
		L	T	R	L	T	R	L	T	R	L	T	R				
Birch St. (NS) at: • Bristol St. N (EW) -LOS D Alternative 1 -LOS D Alternative 2	TS TS TS	2 2 2	2 3 2	0 0 0	1.5 1.5 1.5	2.5 2.5 2.5	0 0 0	0 0 0	0 0 0	1.5 1.5 1.5	3.5 3.5 2.5	0 0 1.5	0 0 0	0.94 0.80 0.83	0.74 0.74 0.79	C C C	Restripe only (Not needed for With Project)
Campus Dr. (NS) at: • Bristol St. S (EW) -LOS D Improvements	TS TS	0 0	5 5	0 0	1.5 2	2.5 1.5	2 0	0 0	0 0	1.5 2.5	3.5 1.5	0 0	0 0	0.91 0.85	0.75 0.76	C C	Restripe only (Not needed for With Project)
Birch St. (NS) at: • Bristol St. S (EW)	TS	0	2.5	1.5	2	2	0	1.5	3.5	0	0	0	0	0.52	0.52	A	
Irvine Av. (NS) at: • Mesa Dr. (EW) -Funded Improvements -LOS D Alternative 1	TS TS TS	1 1 1	2 3 3	1 1 1	1 1 1	1 1 1	1 1 1	1 1 1	1 1 1	1 1 1	1 1 1	1 2 2	0 0 0	0.99 0.70 0.75	1.19 0.94 0.88	E B C	Highly problematic ROW / topographic issues on the west leg of the intersection. Assumes reallocated PM WB LT / Thru Volume. ROW and potential environmental issues.
-LOS D Alternative 2 • University Dr. (EW) -LOS D Improvements • Santiago Dr. (EW) • Highland Dr. (EW) • Dover Dr. (EW) • Westcliff Dr. (EW)	TS TS TS TS TS TS TS	1 1 1 1 1 1 2	2 1 3 0 2 2 2	1 1 1 1 1 1 1	1 1 1 1 1 1 1	1 1 1 1 1 1 1	1 1 1 1 1 1 1	1 1 1 1 1 1 1	1 1 1 1 1 1 1	1 1 1 1 1 1 1	1 1 1 1 1 1 1	1 1 1 1 1 1 1	0 0 0 0 0 0 0	0.73 1.17 0.79 0.68 0.60 0.77 0.64	0.86 1.08 0.83 0.76 0.65 0.68 0.80	C D D F C B C	
Dover Dr. (NS) at: • Westcliff Dr. (EW) • 16th St. (EW) • Coast Hw. (EW) -LOS D Improvements	TS TS TS TS	2 1 1 1	2 2 1 1	0 1 3 3	1 2 1 1	1 d 1 1	2 d 1 1	0 d 1 1	2 0 1 1	2 0 1 1	0 1 3 3	0 d 0 0	1 1 1 1	0.38 0.60 0.80 0.80	0.53 0.60 0.93 0.78	A A E C	Highly problematic ROW issues.
Bayside Dr. (NS) at: • Coast Hw. (EW)	TS	2.5	0.5	0	1	1	d	1	3	1	1	4	0	0.88	0.85	D	

TABLE 4-7 (Page 4 of 6)

INTERSECTION ANALYSIS SUMMARY FOR GENERAL PLAN BUILDOUT WITHOUT PROJECT

INTERSECTION	TRAFFIC CONTROL <sup>2</sup>	INTERSECTION APPROACH LANES <sup>1</sup>												LEVEL OF SERVICE			FEASIBILITY/COMMENTS				
		NORTH-BOUND			SOUTH-BOUND			EAST-BOUND			WEST-BOUND			AM	PM	PM					
		L	T	R	L	T	R	L	T	R	L	T	R								
MacArthur Bl. (NS) at: • Jamboree Rd. (EW) <b>-LOS D Alternative 1</b> -LOS D Alternative 2 -LOS D Alternative 3A -LOS D Alternative 3B	TS TS TS TS TS	2 2 2 2 0	3 3 3 0 3	1 1 1 0 1	2 2 2 0 2	3 3 3 0 3	1 1 1 0 3	1 1 1 0 3	2 2 2 0 2	3 3 4 0 3	1 1 1 0 3	0 0 0 0 0	2 3 3 2 0	3 3 3 3 0	1 1 1 1 0	0 0 0 0 0	0.92 0.89 0.87 0.39 0.77	0.98 0.89 0.81 0.73 0.63	E D D A C	E D D A C B	Jamboree improvement only. (LOS E for With Project) Feasible at-grade improvements. Grade separated alternative. Grade separated alternative.
Jamboree Rd. (NS) at: • Bristol St. N (EW)	TS	2	3	0	0	2.5	1.5	0	0	0	0	0	0	0	0	0	0.68	0.65	B	B	
Bayview Pl. (NS) at: • Bristol St. S (EW)	TS	0	0	2	0	0	0	0	4	1	0	0	0	0	0	0	0.60	0.62	A	B	
Jamboree Rd. (NS) at: • Bristol St. S (EW)	TS TS	0 0	5 6	0 0	0 4	0 0	0 0	1.5 1.5	2 2	1.5 1.5	2 2	0 0	0 0	0 0	0 0	0 0	0.96 0.91	0.85 0.80	E E	D D	Improvements currently under study. (LOS D for With Project) Appears feasible, but might cause operational issues.
<b>-LOS E Improvements</b> -LOS D Improvements Bayview Wy. (EW) Eastbluff Dr./University Dr. (EW) Bison Av. (EW) Eastbluff Dr./Ford Rd. (EW) San Joaquin Hills Rd. (EW) Santa Barbara Dr. (EW) Coast Hw. (EW)	TS TS TS TS TS TS TS	0 1 1 0 2 1 1	5 4 3 3 3 3 3	0 0 1 1 1 1 1	0 1 2 2 2 2 2	0 3 3 3 3 3 3	0 3 1 1 1 1 1	0 3 0 0 0 0 0	4 1.5 1.5 0.5 1	2 1.5 0.5 1 1	2 1 1 1 1	0 0 1 1 1	0 0 1 1 1	0 0 1 1 1	0 0 1 1 1	0 0 1 1 1	0.73 0.46 0.68 0.52 0.80 0.60 0.54 0.77	0.79 0.67 0.66 0.62 0.76 0.71 0.76 0.78	C A B A C C A C C	C A B B C C A C C	
Santa Cruz Dr. (NS) at: • San Joaquin Hills Rd. (EW)	TS	2	1	0	1	1	1	1	3	0	1	3	0	1	3	0	0.36	0.34	A	A	

TABLE 4-7 (Page 5 of 6)

INTERSECTION ANALYSIS SUMMARY FOR GENERAL PLAN BUILDOUT WITHOUT PROJECT

INTERSECTION	TRAFFIC CONTROL <sup>2</sup>	INTERSECTION APPROACH LANES <sup>1</sup>																		LEVEL OF SERVICE			FEASIBILITY/COMMENTS
		NORTH-BOUND			SOUTH-BOUND			EAST-BOUND			WEST-BOUND			ICU		AM	PM	PM					
		L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM						
Santa Rosa Dr. (NS) at:	TS	1	1	1>	1	1	1	1	3	0	2	3	0	0.39	0.69	A	B						
• San Joaquin Hills Rd. (EW)																							
Newport Center Dr. (NS) at:	TS	0	0	0	2	0	1>>	2	3	0	0	3	1>>	0.47	0.62	A	B						
• Coast Hw. (EW)																							
Avocado Av. (NS) at:	TS	1	1	1>	1	1	1>	1	2	0	2	2	0	0.35	0.79	A	C						
• San Miguel Dr. (EW)																							
• Coast Hw. (EW)	TS	1	1	1	1.5	0.5	1	1	3	d	1	3	1	0.73	0.79	C	C						
SR-73 NB Ramps (NS) at:	TS	1.5	0	1.5	0	0	0	1	2	0	0	2	1	0.51	0.61	A	B						
• Bison Av. (EW)																							
SR-73 SB Ramps (NS) at:	TS	0	0	0	2	0	1>>	0	2	1	2	2	0	0.42	0.32	A	A						
• Bison Av. (EW)																							
MacArthur Bl. (NS) at:	TS	2	4	1>>	2	4	1>	2	2	1>>	2	2	1	0.77	0.79	C	C						
• Bison Av. (EW)																							
• Ford Rd./Bonita Canyon Dr. (EW)	TS	2	4	1>>	2	4	1>>	2	2	1	2	2	1>>	0.79	1.00	C	E						
-LOS D Improvements	TS	2	4	1	3	4	1>>	2	2	1	2	2	1>>	0.79	0.89	C	D						
• San Joaquin Hills Rd. (EW)	TS	2	3	1	2	3	1>>	2	3	0	1	2	1>>	0.78	1.11	C	F						
-LOS E Alternative 1	TS	2	4	0	3	3	1>>	2	3	0	1	2	1>>	0.66	0.92	B	E						
-LOS E Alternative 2	TS	2	4	0	2	3	1>>	3	3	0	1	2	1>>	0.68	0.91	B	E						
-LOS D Improvements	TS	2	3	1	3	3	1>>	3	3	0	1	2	1>>	0.70	0.90	B	D	May require narrow lanes and lead / lag LT operations. (Results for LOS E for With Project)					
• San Miguel Dr. (EW)	TS	2	3	1	2	3	1>	2	2	0	2	2	d	0.64	0.75	B	C						
• Coast Hw. (EW)	TS	0	0	0	2	0	1>>	2	3	0	0	3	1>>	0.73	0.77	C	C						
SR-73 NB Ramps (NS) at:	TS	2	0	1	0	0	0	0	2	1	1	2	0	1.08	0.75	F	C						
• Bonita Canyon Dr. (EW)																							
-LOS D Improvements	TS	2	0	1	0	0	0	0	2	1	2	2	0	0.86	0.63	D	B						
SR-73 SB Ramps (NS) at:	TS	2	0	1	0	0	0	0	2	1	2	3	0	0.46	0.67	A	B						
• Bonita Canyon Dr. (EW)																							
Spyglass Hill Rd. (NS) at:	TS	0	1	d	0	1	1	1	2	d	1	2	d	0.30	0.37	A	A						
• San Miguel Dr. (EW)																							
San Miguel Dr. (NS) at:	TS	1	2	0	1	2	1>	2	3	0	1	3	0	0.56	0.74	A	C						
• San Joaquin Hills Rd. (EW)																							

TABLE 4-7 (Page 6 of 6)

INTERSECTION ANALYSIS SUMMARY FOR GENERAL PLAN BUILDOUT WITHOUT PROJECT

INTERSECTION	TRAFFIC CONTROL <sup>2</sup>	INTERSECTION APPROACH LANES <sup>1</sup>												LEVEL OF SERVICE			FEASIBILITY/COMMENTS
		NORTH-BOUND		SOUTH-BOUND		EAST-BOUND		WEST-BOUND		AM		PM		AM	PM	PM	
		L	T	R	L	T	R	L	T	R	L	T	R				
Goldenrod Av. (NS) at: • Coast Hw. (EW)	TS	1	1	0	0	1	0	1	2	d	1	2	d	0.99	0.69	E	B
Marguerite Av. (NS) at: • San Joaquin Hills Rd. (EW) • Coast Hw. (EW)	TS TS TS	1.5	0.5	1	1	1	0	1	2	1>	1	3	d	0.43	0.52	A	A
-LOS D Improvements	TS	1	1	0	1	1	0	1	3	0	1	3	0	0.76	0.82	E	D
Spyglass Hill Rd. (NS) at: • San Joaquin Hills Rd. (EW) Poppy Av. (NS) at: • Coast Hw. (EW)	TS TS	1	1	0	1	1	d	1	2	1	1	2	d	0.61	0.51	A	A
Newport Coast Dr. (NS) at: • SR-73 NB Ramps (EW) • San Joaquin Hills Rd. (EW) • Coast Hw. (EW)	TS TS TS	0	2	1>>	0	2	0	0	0	0	1.5	0	0.5	0.64	0.39	B	A
-LOS D Improvements	TS	2	3	0	0	3	1	1	0	2>	0	0	0	0.62	0.48	B	A
	TS	1	1	1	2	1	1>>	1	3	1	1	3	1>>	0.70	0.73	B	C
	TS	1	1	0	0	1	0	1	2	d	1	3	0	0.71	0.69	C	B

<sup>1</sup> When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; > = Overlap; >> = Free Right; \_ = Improvement

<sup>2</sup> TS = Traffic Signal

TABLE 4-8 (Page 1 of 2)

GENERAL PLAN BUILDOUT WITHOUT PROJECT  
SUMMARY OF IMPROVEMENT NEEDS BEYOND 2005 EXISTING LANES

INTERSECTION	ADDITIONAL INTERSECTION IMPROVEMENTS
Bluff Rd. (NS) at: • Coast Hw. (EW)	Provide two SB left turn lanes and two SB right turn lanes (2nd with overlap phase). Provide two EB left turn lanes. Provide one WB right turn lane. Multiple additional through lanes required to achieve LOS "D".
15th St. (NS) at: • Coast Hw. (EW)	Provide 2nd SB right turn lane with overlap phase. Provide 2nd EB left turn lane.
Newport Bl. (NS) at: • Hospital Rd. (EW)	Provide 2nd NB left turn lane.
Riverside Av. (NS) at: • Coast Hw. (EW)	Provide 3rd EB through lane.
Tustin Av. (NS) at: • Coast Hw. (EW)	Provide 3rd EB through lane.
MacArthur Bl. (NS) at: • Campus Dr. (EW)	Provide 2nd NB left turn lane. Restripe SB to provide 3.5 through lanes and 1.5 right turn lanes.
Von Karman Av. (NS) at: • Campus Dr. (EW)	Provide 2nd EB left turn lane.
Jamboree Rd. (NS) at: • Campus Dr. (EW)  • Birch St. (EW)	Provide NB 1st right turn lane with overlap phase. Provide 4th SB through lane. Provide WB right turn overlap phase for current right turn lane. Additionally, to achieve LOS "D", provide 3rd WB through lane. Provide 4th SB through lane.
Campus Dr. (NS) at: • Bristol St. N (EW)	Provide 5th WB through lane.
Birch St. (NS) at: • Bristol St. N (EW)	Reconstruct WB approach to provide 1 left turn lane, 2.5 through lanes, and 1.5 right turn lanes.
Campus Dr. (NS) at: • Bristol St. S (EW)	h Reconstruct EB approach to provide 2 left turn lanes, 2.5 through lanes, and 1.5 right turn lanes.
Irvine Av. (NS) at: • Mesa Dr. (EW)  -Funded Improvements  Additional Improvements • University Dr. (EW)	Provide 3rd NB through lane. Provide 3rd SB through lane. Provide 1st EB right turn lane. Provide 2nd WB left turn lane. Construct funded improvements, but EB right turn lane is not necessary.  Provide 3rd NB through lane. Provide 3rd SB through lane. Restripe EB to include 1.5 left turn lanes, 0.5 through lanes, and 1 right turn lane.

TABLE 4-8 (Page 2 of 2)

**GENERAL PLAN BUILDOUT WITHOUT PROJECT  
SUMMARY OF IMPROVEMENT NEEDS BEYOND 2005 EXISTING LANES**

INTERSECTION	ADDITIONAL INTERSECTION IMPROVEMENTS
MacArthur Bl. (NS) at: • Jamboree Rd. (EW)	Provide 3rd WB left turn lane.
Jamboree Rd. (NS) at: • Bristol St. S (EW)	Provide 6th NB through lane. Provide 4th SB through lane. To achieve LOS "D", provide additional EB left turn lane (making EB movement 2.5 left turn lanes, 1.5 through lanes, and 2 right turn lanes).
MacArthur Bl. (NS) at: • Ford Rd./Bonita Canyon Dr. (EW)  • San Joaquin Hills Rd. (EW)	Provide 3rd SB left turn lane.  Provide 3rd SB left turn lane. Provide 3rd EB left turn lane.
SR-73 NB Ramps (NS) at: • Bonita Canyon Dr. (EW)	Provide 2nd WB left turn lane.

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TABLE 4-9

BUILDOUT WITHOUT PROJECT SR-73 FREEWAY/TOLL WAY MAINLINE ANALYSIS

AM SEGMENT	ADT	NORTHBOUND			SOUTHBOUND		
		LANES	VOLUME	LOS	LANES	VOLUME	LOS
405 Fw. to Bear St.	135,000	3	10,718	F	3	3,457	C
-with anticipated regional improvements <sup>2</sup>		5		F	4		B
-with additional improvements		6		D	6		A
Bear St. to 55 Fw.	158,000	3	12,544	F	3	4,046	C
-with anticipated regional improvements <sup>2</sup>		5		F	5		B
-with additional improvements		6		F	6		B
55 Fw. to Jamboree Rd.	135,000	3	10,718	F	3	3,457	C
-with anticipated regional improvements <sup>2</sup>		5		F	5		B
-with additional improvements		6		D	6		A
Jamboree Rd. to Bonita Canyon Dr.	97,000	3	7,701	F	3	2,484	B
-with anticipated regional improvements <sup>2</sup>		5		D	5		A
Bonita Canyon Dr. to Newport Coast Dr.	136,000	4	10,797	F	4	3,483	B
-with anticipated regional improvements <sup>2</sup>		6		E	6		A
-with additional improvements		7		D	6		A
Newport Coast Dr. to Toll Plaza	127,000	3	10,083	F	3	3,252	C
-with anticipated regional improvements <sup>2</sup>		5		F	6		A
-with additional improvements		6		B	6		A

PM SEGMENT	ADT	NORTHBOUND			SOUTHBOUND		
		LANES	VOLUME	LOS	LANES	VOLUME	LOS
405 Fw. to Bear St.	135,000	3	5,646	E	3	9,137	F
-with anticipated regional improvements <sup>2</sup>		5		C	4		F
-with additional improvements		6		B	6		D
Bear St. to 55 Fw.	158,000	3	6,607	F	3	10,694	F
-with anticipated regional improvements <sup>2</sup>		5		C	5		F
-with additional improvements		6		C	6		D
55 Fw. to Jamboree Rd.	135,000	3	5,646	E	3	9,137	F
-with anticipated regional improvements <sup>2</sup>		5		C	5		E
-with additional improvements		6		B	6		D
Jamboree Rd. to Bonita Canyon Dr.	97,000	3	4,057	C	3	6,565	F
-with anticipated regional improvements <sup>2</sup>		5		B	5		C
Bonita Canyon Dr. to Newport Coast Dr.	136,000	4	5,687	C	4	9,205	F
-with anticipated regional improvements <sup>2</sup>		6		B	6		D
-with additional improvements		7		B	6		D
Newport Coast Dr. to Toll Plaza	127,000	3	5,311	D	3	8,596	F
-with anticipated regional improvements <sup>2</sup>		5		C	6		C
-with additional improvements		6		D	6		C

1 = Improvement

2 - Anticipated regional improvements taken from OCTAM

are contained in Appendix “CC.” Even with these improvements, the following segments operate at a deficient level of service and require further improvements:

#### SR-73 Freeway Northbound

- I-405 Freeway to Bear Street (AM)
- Bear Street to SR-55 Freeway (AM)
- SR-55 Freeway to Jamboree Rd. (AM)
- Bonita Canyon Drive to Newport Coast Drive (AM)
- Newport Coast Drive to Toll Plaza (AM)

#### SR-73 Freeway Southbound

- I-405 Freeway to Bear Street (PM)
- Bear Street to SR-55 Freeway (PM)
- SR-55 Freeway to Jamboree Rd. (PM)

Mainline operations can also be negatively affected by ramp operational problems. The ramp analysis for the General Plan buildout Without Project scenario was analyzed with freeway lanes that are consistent with the anticipated regional improvements. Appendix “DD” contains the calculation worksheets. Ramp failure could be due to a number of factors. Insufficient freeway lanes could cause ramp failure if the volume on the freeway exceeded capacity. Ramp volumes exceeding ramp capacity also cause a deficient level of service. Dependent on the situation, excess or insufficient length in the acceleration or deceleration could cause deficient operations. The summary of the analysis is shown on Table 4-10. The following locations operate at a deficient level of service:

- Bristol Street Northbound Off
- Jamboree Road Southbound On
- MacArthur Boulevard Northbound On

TABLE 4-10

GENERAL PLAN BUILDOUT WITHOUT PROJECT SR-73 FREEWAY PEAK HOUR RAMP ANALYSIS

RAMP	MOVE	LANES ON FWY.	FREEWAY VOLUME		RAMP LANES	LENGTH OF ACCELERATION DECELERATION LANE (ft)	PEAK HOUR VOLUME		DENSITY		LOS	
			AM	PM			AM	PM	AM	PM	AM	PM
Bristol St.	NB Off	5	10,718	5,646	1	0	2,360	900	55.2	30.4	F	D
-with improvements	NB Off	<u>6</u>	10,718	5,646	<u>2</u>	<u>310</u>	2,360	900	34.9	16.4	D	B
Bristol St.	SB Off	5	3,457	9,137	2	2,725	1,430	660	NOM	NOM	A	A
Jamboree Rd.	NB On	5	7,701	4,057	1	120	460	860	20.8	17.3	C	B
Jamboree Rd.	SB On	5	3,457	9,137	1	1,700	620	1,650	14.9	37.7	B	F
-with improvements	SB On	<u>6</u>	3,457	9,137	<u>1</u>	<u>1,580</u>	620	1,650	12.5	30.5	B	D
MacArthur Bl.	NB Off	5	7,701	4,057	2	1,480	960	490	0.8	NOM	A	A
MacArthur Bl.	NB On	5	7,701	4,057	1	340	2,520	2,200	-- <sup>1</sup>	-- <sup>1</sup>	F	F
-with improvements	NB On	<u>6</u>	7,701	4,057	<u>2</u>	340	2,520	2,200	31.8	25.1	D	C
MacArthur Bl.	SB Off	5	2,484	6,565	1	1,340	2,200	2,240	15.5	27.9	F <sup>1</sup>	F <sup>1</sup>
-with improvements	SB Off	5	2,484	6,565	<u>2</u>	1,340	2,200	2,240	3.0	10.5	A	B
University Dr.	NB On	5	7,701	4,057	1	200	1,300	1,430	22.4	20.0	C	B
University Dr.	SB Off	5	2,484	6,565	1	1,400	810	840	7.1	19.4	A	B
Bison Av.	NB Off	5	7,701	4,057	1	0	520	320	34.2	22.1	D	C
Bison Av.	NB On	5	7,701	4,057	1	250	280	860	18.8	16.0	B	B
Bison Av.	SB Off	5	2,484	6,565	1	0	990	380	20.7	29.4	C	D
Bison Av.	SB On	5	2,484	6,565	1	740	120	320	9.6	21.0	A	C
Bonita Canyon Dr.	NB Off	6	10,797	5,687	1	1,250	1,010	220	30.3	11.9	D	B
Bonita Canyon Dr.	NB On	5	7,701	4,057	1	2,440	720	400	47.0	22.4	F	C
-with improvements	NB On	5	7,701	4,057	<u>1</u>	<u>1,040</u>	720	400	34.3	20.4	D	C
Bonita Canyon Dr.	SB Off	5	2,484	6,565	1	0	410	520	17.5	30.2	B	D
Bonita Canyon Dr.	SB On	5	2,484	6,565	1	400	300	830	10.9	19.7	B	B
Newport Coast Dr.	NB Off	5	10,083	5,311	1	0	530	280	42.6	25.6	F	C
-with improvements	NB Off	<u>6</u>	10,083	5,311	<u>1</u>	<u>190</u>	530	280	35.0	21.6	D	C
Newport Coast Dr.	NB On	5	10,083	5,311	1	1,250	490	330	52.8	27.2	F	C
-with improvements	NB On	<u>6</u>	10,083	5,311	<u>1</u>	<u>880</u>	490	330	34.9	20.5	D	C
Newport Coast Dr.	SB Off	6	3,483	9,205	1	0	680	1,060	20.8	37.1	C	E
-with improvements	SB Off	6	3,483	9,205	<u>1</u>	<u>240</u>	680	1,060	18.7	35.0	B	D
Newport Coast Dr.	SB On	6	3,483	9,205	1	360	440	580	13.4	21.6	B	C

<sup>1</sup> Ramp failure due to ramp volumes over capacity.

1 = Improvement

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- MacArthur Boulevard Southbound Off
- Bonita Canyon Drive Northbound Off
- Newport Coast Drive Northbound Off
- Newport Coast Drive Northbound On
- Newport Coast Drive Southbound Off

## **5.0 GENERAL PLAN BUILDOUT WITH PROJECT (POST-2030) LAND USE WITH PROJECT NETWORK SCENARIO**

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This chapter presents General Plan buildout (Post-2030) With Project conditions. General Plan buildout model inputs are discussed and refined forecast volumes are presented. Data are compared to Existing conditions and the Without Project (currently adopted General Plan) conditions (as defined in Chapter 4 of this report) scenario. The roadway system has remained unchanged (the project network) from the General Plan buildout Without Project scenario.

### **5.1 Land Use and Socioeconomic Data (SED)**

This section discusses the land use and socioeconomic data inputs.

#### **5.1.1 General Plan Buildout With Project Land Use Data**

The General Plan buildout with project land use data was provided to Urban Crossroads, Inc. staff by City staff and the City's General Plan consultant, EIP Associates. Appendix "EE" of this report documents the explicit land use data included in NBTM 3.1 for General Plan buildout With Project conditions in this analysis. Table 5-1 summarizes the overall General Plan buildout with project land uses for the City of Newport Beach. Appendix "FF" contains the land use changes by TAZ compared to the Without Project (currently adopted General Plan) scenario. Land uses have changed based on data provided by the City. Large land use changes occur in the Airport Area (to incorporate residential uses in an area dominated by employment uses), in Newport Center (where additional residential and commercial uses are included) and in places like Mariners Mile and Old Newport Boulevard (where a mixed use component has been added).

Table 5-2 shows General Plan buildout With Project land use growth from Existing conditions. There is an increase in apartments of almost

TABLE 5-1

CITY OF NEWPORT BEACH GENERAL PLAN BUILDOUT  
WITH PROJECT LAND USE COMPARISON

NBTM CODE <sup>1</sup>	DESCRIPTION	UNITS <sup>2</sup>	BUILDOUT WITHOUT PROJECT QUANTITY <sup>3</sup>	BUILDOUT WITH PROJECT QUANTITY <sup>3</sup>	DIFFERENCE	% DIFFERENCE
1	Low Density Residential	DU	19,570	20,402	832	4.25%
2	Medium Density Residential	DU	15,077	14,223	(854)	-5.66%
3	Apartment	DU	14,427	19,114	4,687	32.49%
4	Elderly Residential	DU	200	200	-	0.00%
5	Mobile Home	DU	455	455	-	0.00%
	<b>TOTAL DWELLING UNITS</b>	<b>DU</b>	<b>49,729</b>	<b>54,394</b>	<b>4,666</b>	<b>9.38%</b>
6	Motel	ROOM	139	136	(3)	-2.16%
7	Hotel	ROOM	5,537	6,413	876	15.82%
9	Regional Commercial	TSF	1,559.000	1,684.000	125.000	8.02%
10	General Commercial	TSF	5,120.942	5,268.840	147.898	2.89%
11	Commercial/Recreation	ACRE	5.100	5.100	-	0.00%
13	Restaurant	TSF	198.860	198.860	0.000	0.00%
15	Fast Food Restaurant	TSF	15.640	15.640	-	0.00%
16	Auto Dealer/Sales	TSF	386.050	386.050	-	0.00%
17	Yacht Club	TSF	70.310	70.310	-	0.00%
18	Health Club	TSF	61.330	61.330	0.000	0.00%
19	Tennis Club	CRT	59	59	-	0.00%
20	Marina	SLIP	1,055	1,055	-	0.00%
21	Theater	SEAT	5,475	5,475	-	0.00%
22	Newport Dunes	ACRE	64.00	64.00	-	0.00%
23	General Office	TSF	13,492.354	11,209.939	(2,282.415)	-16.92%
24	Medical/Government Office	TSF	1,084.576	1,657.561	572.985	52.83%
25	Research & Development	TSF	81.730	81.730	-	0.00%
26	Industrial	TSF	1,956.092	885.310	(1,070.782)	-54.74%
27	Mini-Storage/Warehouse	TSF	196.420	196.420	-	0.00%
28	Pre-school/Day Care	TSF	49.000	40.600	(8.400)	-17.14%
29	Elementary/Private School	STU	5,055	5,555	500	9.89%
30	Junior/High School	STU	5,215	5,215	-	0.00%
31	Cultural/Learning Center	TSF	40.000	40.000	-	0.00%
32	Library	TSF	84.600	84.600	-	0.00%
33	Post Office	TSF	73.700	73.700	-	0.00%
34	Hospital	BED	2,001	2,001	-	0.00%
35	Nursing/Conv. Home	BEDS	566	566	-	0.00%
36	Church	TSF	511.704	465.904	(45.800)	-8.95%
37	Youth Ctr./Service	TSF	183.209	189.209	6.000	3.27%
38	Park	ACRE	127.780	183.680	55.900	43.75%
39	Regional Park	ACRE	45.910	65.910	20.000	43.56%
40	Golf Course	ACRE	298.290	298.290	-	0.00%

<sup>1</sup> Uses 8, 12, and 14 are part of the old NBTAM model structure and are not currently utilized in the City land use datasets.

<sup>2</sup> Units Abbreviations:  
DU = Dwelling Units  
TSF = Thousand Square Feet  
CRT = Court  
STU = Students

<sup>3</sup> Includes Newport Coast and recent annexation areas.

TABLE 5-2

CITY OF NEWPORT BEACH GENERAL PLAN BUILDOUT WITH  
PROJECT LAND USE GROWTH FROM EXISTING

NBTM CODE <sup>1</sup>	DESCRIPTION	UNITS <sup>2</sup>	EXISTING QUANTITY <sup>3</sup>	BUILDOUT WITH PROJECT QUANTITY <sup>3</sup>	GROWTH	% GROWTH
1	Low Density Residential	DU	18,702	20,402	1,700	9.09%
2	Medium Density Residential	DU	10,974	14,223	3,249	29.61%
3	Apartment	DU	9,703	19,114	9,411	96.99%
4	Elderly Residential	DU	200	200	-	0.00%
5	Mobile Home	DU	600	455	-145	-24.17%
	<b>TOTAL DWELLING UNITS</b>	<b>DU</b>	<b>40,179</b>	<b>54,394</b>	<b>14,215</b>	<b>35.38%</b>
6	Motel	ROOM	134	136	2	1.49%
7	Hotel	ROOM	3,231	6,413	3,182	98.48%
9	Regional Commercial	TSF	1,331.000	1,684.000	353.000	26.52%
10	General Commercial	TSF	3,823.398	5,268.840	1,445.442	37.81%
11	Commercial/Recreation	ACRE	5.100	5.100	-	0.00%
13	Restaurant	TSF	99.450	198.860	99.410	99.96%
15	Fast Food Restaurant	TSF	15.640	15.640	-	0.00%
16	Auto Dealer/Sales	TSF	201.300	386.050	184.750	91.78%
17	Yacht Club	TSF	51.830	70.310	18.480	35.66%
18	Health Club	TSF	16.770	61.330	44.560	265.71%
19	Tennis Club	CRT	60	59	(1)	-1.67%
20	Marina	SLIP	1,055	1,055	-	0.00%
21	Theater	SEAT	5,489	5,475	-14	-0.26%
22	Newport Dunes	ACRE	64.00	64.00	-	0.00%
23	General Office	TSF	11,657.109	11,209.939	(447.170)	-3.84%
24	Medical/Government Office	TSF	959.718	1,657.561	697.843	72.71%
25	Research & Development	TSF	81.730	81.730	-	0.00%
26	Industrial	TSF	1,291.079	885.310	(405.769)	-31.43%
27	Mini-Storage/Warehouse	TSF	196.420	196.420	-	0.00%
28	Pre-school/Day Care	TSF	48.050	40.600	(7.450)	-15.50%
29	Elementary/Private School	STU	4,999	5,555	556	11.13%
30	Junior/High School	STU	5,215	5,215	-	0.00%
31	Cultural/Learning Center	TSF	35.000	40.000	5.000	14.29%
32	Library	TSF	78.800	84.600	5.800	7.36%
33	Post Office	TSF	53.700	73.700	20.000	37.24%
34	Hospital	BED	1,031	2,001	970	94.08%
35	Nursing/Conv. Home	BEDS	661	566	(95)	-14.37%
36	Church	TSF	377.780	465.904	88.124	23.33%
37	Youth Ctr./Service	TSF	149.540	189.209	39.669	26.53%
38	Park	ACRE	128.360	183.680	55.320	43.10%
39	Regional Park	ACRE		65.910	65.910	N/A
40	Golf Course	ACRE	305.330	298.290	-7.040	-2.31%

<sup>1</sup> Uses 8, 12, and 14 are part of the old NBTAM model structure and are not currently utilized in the City land use datasets.

<sup>2</sup> Units Abbreviations:  
DU = Dwelling Units  
TSF = Thousand Square Feet  
CRT = Court  
STU = Students

<sup>3</sup> Includes Newport Coast and recent annexation areas.

10,000 dwelling units. Non-residential categories that grow by more than 500,000 square feet include general commercial and medical/government office. At the same time, the quantity of general office and industrial use are projected to decrease by approximately 450,000 and 400,000 square feet, respectively.

#### 5.1.2 General Plan Buildout With Project Socioeconomic Data (SED)

General Plan buildout SED that has been calculated from land use is summarized in Table 5-3. Appendix "GG" contains the supporting data, along with supplemental and final SED summaries. Table 5-3 also contains a comparison of General Plan buildout With Project SED to Existing SED for the City of Newport Beach. The total number of dwelling units is projected to increase by 13,295 units (35 %) from Existing conditions. For total employment, an increase of 15,454 employees (21%) is anticipated.

### 5.2 Trip Generation

Table 5-4 summarizes the overall trip generation for the General Plan buildout With Project conditions for the City of Newport Beach and compares it to Existing conditions trip generation. Appendix "HH" contains a report of trip generation by NBTM TAZ for the City of Newport Beach. Most of these trips have been calculated from the final General Plan buildout SED presented previously. Some additional trips result from supplemental SED or represent special generator trips.

The overall trip generation for the City of Newport Beach With Project scenario is an estimated 981,997 daily vehicle trips. Table 5-5 compares General Plan buildout With Project trip generation to General Plan buildout Without Project trip generation. Total trip generation increases by approximately 29,748 daily trips (2.91%). Appendix "II" shows the zone by zone trip generation comparison.



TABLE 5-3

CITY OF NEWPORT BEACH GENERAL PLAN BUILDOUT WITH PROJECT  
LAND USE BASED SOCIOECONOMIC DATA GROWTH FROM EXISTING

VARIABLE	EXISTING <sup>1</sup> QUANTITY	BUILDOUT WITH PROJECT QUANTITY <sup>1</sup>	GROWTH	% GROWTH
Occupied Single Family Dwelling Units	17,467	19,105	1,638	9%
Occupied Multi-Family Dwelling Units	20,136	31,793	11,657	58%
<b>TOTAL OCCUPIED DWELLING UNITS</b>	<b>37,603</b>	<b>50,898</b>	<b>13,295</b>	<b>35%</b>
Group Quarters Population	661	566	-95	-14%
Population	83,007	108,421	25,414	31%
Employed Residents	49,632	66,581	16,949	34%
Retail Employees	11,525	15,480	3,955	34%
Service Employees	19,681	27,336	7,655	39%
Other Employees	41,468	45,312	3,844	9%
<b>TOTAL EMPLOYEES</b>	<b>72,674</b>	<b>88,128</b>	<b>15,454</b>	<b>21%</b>
Elem/High School Students	10,214	10,770	556	5%

<sup>1</sup> Includes Newport Coast and recent annexation areas.

**TABLE 5-4**

**CITY OF NEWPORT BEACH GENERAL PLAN BUILDOUT  
WITH PROJECT TRIP GENERATION SUMMARY**

TRIP PURPOSE	DAILY TRIP ENDS		GROWTH	PERCENT GROWTH
	EXISTING <sup>3</sup>	BUILDOUT WITH PROJECT <sup>3</sup>		
Home Based Work Productions <sup>1</sup>	61,128	81,761	20,633	33.75%
Home Based Work Attractions	88,446	107,577	19,131	21.63%
Home Based School Productions	11,756	15,332	3,576	30.42%
Home Based School Attractions	8,990	9,481	491	5.46%
Home Based Other Productions <sup>2</sup>	165,256	212,617	47,361	28.66%
Home Based Other Attractions	115,052	153,163	38,111	33.13%
Work Based Other Productions	55,488	69,271	13,783	24.84%
Work Based Other Attractions	60,741	76,428	15,687	25.83%
Other - Other Productions	98,005	129,081	31,076	31.71%
Other - Other Attractions	96,363	127,286	30,923	32.09%
<b>TOTAL PRODUCTIONS</b>	<b>391,633</b>	<b>508,062</b>	<b>116,429</b>	<b>29.73%</b>
<b>TOTAL ATTRACTIONS</b>	<b>369,592</b>	<b>473,935</b>	<b>104,343</b>	<b>28.23%</b>
<b>OVERALL TOTAL</b>	<b>761,225</b>	<b>981,997</b>	<b>220,772</b>	<b>29.00%</b>

<sup>1</sup> Home-Work includes Home-Work and Home-University trips, consistent with OCTAM mode choice output.

<sup>2</sup> Home-Other includes Home-Shop and Home-Other trips, consistent with OCTAM mode choice output.

<sup>3</sup> Includes Newport Coast and recent annexation areas.

**TABLE 5-5**

**CITY OF NEWPORT BEACH GENERAL PLAN BUILDOUT  
WITH PROJECT TRIP GENERATION COMPARISON**

TRIP PURPOSE	DAILY TRIP ENDS		GROWTH	PERCENT GROWTH
	BUILDOUT WITHOUT PROJECT <sup>3</sup>	BUILDOUT WITH PROJECT <sup>3</sup>		
Home Based Work Productions <sup>1</sup>	74,938	81,761	6,823	9.10%
Home Based Work Attractions	112,693	107,577	-5,116	-4.54%
Home Based School Productions	14,241	15,332	1,091	7.66%
Home Based School Attractions	9,041	9,481	440	4.87%
Home Based Other Productions <sup>2</sup>	195,168	212,617	17,449	8.94%
Home Based Other Attractions	148,526	153,163	4,637	3.12%
Work Based Other Productions	71,257	69,271	-1,986	-2.79%
Work Based Other Attractions	77,664	76,428	-1,236	-1.59%
Other - Other Productions	125,391	129,081	3,690	2.94%
Other - Other Attractions	123,330	127,286	3,956	3.21%
<b>TOTAL PRODUCTIONS</b>	<b>480,995</b>	<b>508,062</b>	<b>27,067</b>	<b>5.63%</b>
<b>TOTAL ATTRACTIONS</b>	<b>471,254</b>	<b>473,935</b>	<b>2,681</b>	<b>0.57%</b>
<b>OVERALL TOTAL</b>	<b>952,249</b>	<b>981,997</b>	<b>29,748</b>	<b>3.12%</b>

<sup>1</sup> Home-Work includes Home-Work and Home-University trips, consistent with OCTAM mode choice output.

<sup>2</sup> Home-Other includes Home-Shop and Home-Other trips, consistent with OCTAM mode choice output.

<sup>3</sup> Includes Newport Coast and recent annexation areas.

### 5.3 Traffic Assignment

The roadway system for the General Plan buildout With Project alternative is identical to the roadway system presented in Chapter 4 of this report.

Exhibit 5-A summarizes the NBTM 3.1 refined General Plan buildout With Project scenario daily traffic volumes throughout the City of Newport Beach. Changes from the General Plan buildout without project forecasts are shown on Table 5-6. Volume changes occur primarily because of land use changes in the Airport Area. Roadways that experience the largest increases include Birch Street, Coast Highway, Jamboree Road, and MacArthur Boulevard.

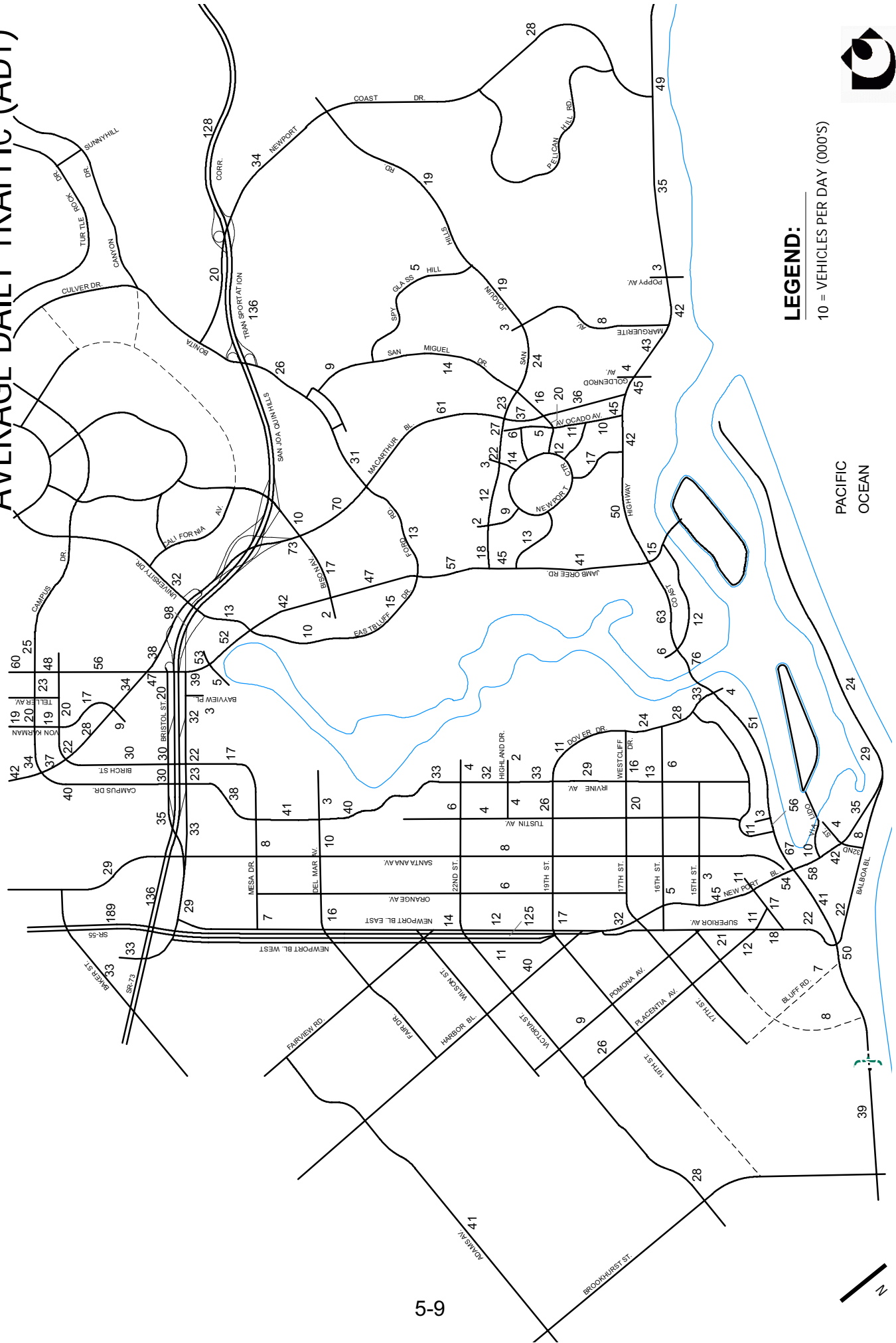
Table 5-7 compares these refined forecasts to existing counted volumes. The highest daily traffic volume increases occur on Campus Drive/Irvine Avenue, Coast Highway, Jamboree Road, MacArthur Boulevard, Newport Boulevard, and Newport Coast Drive. Each of these facilities experiences an increase in excess of 10,000 vehicles per day. The traffic volumes are very similar to the traffic volumes previously presented for the Without Project (currently adopted General Plan) scenario.

### 5.4 Daily Capacity Analysis

Daily roadway segment capacity analysis has been performed at study area roadways, and is shown on Exhibit 5-B. The following roadway segments are expected to operate with daily V/C ratios greater than 0.90:

- Newport Boulevard north of Via Lido
- Jamboree Road north of Campus Drive
- Jamboree Road north of Birch Street
- Irvine Avenue north of University Drive
- Irvine Avenue north of Santiago Drive

# EXHIBIT 5-A GENERAL PLAN BUILDOUT WITH PROJECT AVERAGE DAILY TRAFFIC (ADT)



**LEGEND:**  
10 = VEHICLES PER DAY (000'S)



TABLE 5-6 (Page 1 of 4)

**CITY OF NEWPORT BEACH GENERAL PLAN BUILDOUT  
WITH PROJECT AVERAGE DAILY TRAFFIC COMPARISON**

<b>LOCATION</b>	<b>BUILDOUT WITHOUT PROJECT FORECAST</b>	<b>BUILDOUT WITH PROJECT FORECAST</b>	<b>CHANGE</b>	<b>% CHANGE</b>
15th St. (Coast Hwy. to Bluff Rd.)	9,000	8,000	-1,000	-8.3%
16th St. (Irvine Ave. to Dover Dr.)	6,000	6,000	0	0.0%
32nd St. (west of Newport Blvd.)	9,000	8,000	-1,000	-11.1%
32nd St. (east of Newport Blvd.)	5,000	4,000	-1,000	-20.0%
Avocado Ave. (north of San Miguel Dr.)	5,000	5,000	0	0.0%
Avocado Ave. (south of San Miguel Dr.)	11,000	11,000	0	0.0%
Avocado Ave. (north of Coast Hwy.)	10,000	10,000	0	0.0%
Balboa Blvd. (south of Coast Hwy.)	22,000	22,000	0	0.0%
Bayside Dr. (south of Coast Hwy.)	12,000	12,000	0	0.0%
Birch St. (Jamboree Rd. to Von Karman Ave.)	19,000	20,000	1,000	5.3%
Birch St. (Von Karman Ave. to MacArthur Blvd.)	21,000	22,000	1,000	4.8%
Birch St. (west of MacArthur Blvd.)	21,000	24,000	3,000	14.3%
Birch St. (north of Bristol St. North)	29,000	30,000	1,000	3.4%
Birch St. (Bristol St. North to Bristol St. South)	22,000	23,000	1,000	4.5%
Birch St. (south of Bristol St. South)	17,000	17,000	0	0.0%
Bison Ave. (Jamboree Rd. to MacArthur Blvd.)	17,000	18,000	1,000	5.9%
Bison Ave. (MacArthur Blvd. to SR-73 Fwy.)	10,000	10,000	0	0.0%
Bluff Rd. (Coast Hwy. to 15th St.)	8,000	7,000	-1,000	-20%
Bluff Rd. (15th St. to 17th St.)	9,000	6,000	-3,000	-33%
Bonita Canyon Dr. (east of MacArthur Blvd.)	32,000	31,000	-1,000	-3.1%
Bonita Canyon Dr. (west of SR-73 Fwy.)	26,000	26,000	0	0.0%
Bristol St. North (west of Campus Dr.)	34,000	35,000	1,000	2.9%
Bristol St. North (Campus Dr. to Birch St.)	29,000	30,000	1,000	3.4%
Bristol St. North (east of Birch St.)	29,000	30,000	1,000	3.4%
Bristol St. North (west of Jamboree Rd.)	19,000	20,000	1,000	5.3%
Bristol St. South (west of Campus Dr./Irvine Ave.)	33,000	33,000	0	0.0%
Bristol St. South (Campus Dr. to Birch St.)	22,000	23,000	1,000	4.5%
Bristol St. South (east of Birch St.)	22,000	22,000	0	0.0%
Bristol St. South (west of Jamboree Rd.)	38,000	39,000	1,000	2.6%
Campus Dr. (Jamboree Rd. to Von Karman Ave.)	23,000	23,000	0	0.0%
Campus Dr. (Von Karman Ave. to MacArthur Blvd.)	35,000	34,000	-1,000	-2.9%
Campus Dr. (west of MacArthur Blvd.)	39,000	40,000	1,000	2.6%
Campus Dr. (north of Bristol St. North)	39,000	40,000	1,000	2.6%
Campus Dr. (Bristol St. North to Bristol St. South)	41,000	41,000	0	0.0%
Coast Hwy. (west of 15th St.)	45,000	46,000	1,000	2.2%
Coast Hwy. (Superior Ave. to Newport Blvd.)	40,000	41,000	1,000	2.5%
Coast Hwy. (Newport Blvd. to Riverside Ave.)	64,000	67,000	3,000	4.7%
Coast Hwy. (Riverside Ave. to Tustin Ave.)	56,000	58,000	2,000	3.6%
Coast Hwy. (Tustin Ave. to Dover Dr.)	51,000	53,000	2,000	3.9%
Coast Hwy. (Dover Dr. to Bayside Dr.)	74,000	76,000	2,000	2.7%
Coast Hwy. (Bayside Dr. to Jamboree Rd.)	62,000	63,000	1,000	1.6%

TABLE 5-6 (Page 2 of 4)

CITY OF NEWPORT BEACH GENERAL PLAN BUILDOUT  
WITH PROJECT AVERAGE DAILY TRAFFIC COMPARISON

LOCATION	BUILDOUT WITHOUT PROJECT FORECAST	BUILDOUT WITH PROJECT FORECAST	CHANGE	% CHANGE
Coast Hwy. (Jamboree Rd. to Newport Center Dr.)	49,000	50,000	1,000	2.0%
Coast Hwy. (Newport Center Dr. to Avocado Ave.)	42,000	42,000	0	0.0%
Coast Hwy. (Avocado Ave. to MacArthur Blvd.)	45,000	45,000	0	0.0%
Coast Hwy. (MacArthur Blvd. to Goldenrod Ave.)	45,000	45,000	0	0.0%
Coast Hwy. (Goldenrod Ave. to Marguerite Ave.)	43,000	43,000	0	0.0%
Coast Hwy. (Marguerite Ave. to Poppy Ave.)	42,000	42,000	0	0.0%
Coast Hwy. (Poppy Ave. to Newport Coast Dr.)	38,000	38,000	0	0.0%
Coast Hwy (east of Newport Coast Dr.)	49,000	49,000	0	0.0%
Dover Dr. (Irvine Ave. to Westcliff Dr.)	11,000	11,000	0	0.0%
Dover Dr. (Westcliff Dr. to 16th St.)	24,000	24,000	0	0.0%
Dover Dr. (16th St. to Cliff Dr.)	28,000	28,000	0	0.0%
Dover Dr. (Cliff Dr. to Coast Hwy.)	33,000	33,000	0	0.0%
Eastbluff Dr. (west of Jamboree Rd. at University Dr.)	11,000	10,000	-1,000	-9.1%
Eastbluff Dr. (west of Jamboree Rd. at Ford Rd.)	15,000	15,000	0	0.0%
Ford Rd. (Jamboree Rd. to MacArthur Blvd.)	13,000	13,000	0	0.0%
Goldenrod Ave. (north of Coast Hwy.)	4,000	4,000	0	0.0%
Highland Dr. (east of Irvine Ave.)	2,000	2,000	0	0.0%
Hospital Rd. (Placentia Ave. to Newport Blvd.)	15,000	17,000	2,000	13.3%
Hospital Rd. (east of Newport Blvd.)	9,000	11,000	2,000	22.2%
Irvine Ave. (Bristol St. South to Mesa Dr.)	38,000	38,000	0	0.0%
Irvine Ave. (Mesa Dr. to University Dr.)	41,000	42,000	1,000	2.4%
Irvine Ave. (University Dr. to Santa Isabel Ave.)	40,000	40,000	0	0.0%
Irvine Ave. (Santa Isabel Ave. to Santiago Dr.)	33,000	33,000	0	0.0%
Irvine Ave. (Santiago Dr. to Highland Dr.)	32,000	32,000	0	0.0%
Irvine Ave. (Highland Dr. to Dover Dr.)	32,000	33,000	1,000	3.1%
Irvine Ave. (Dover Dr. to Westcliff Dr.)	29,000	29,000	0	0.0%
Irvine Ave. (Westcliff Dr. to 16th St.)	12,000	13,000	1,000	8.3%
Jamboree Rd. (Campus Dr. to Birch St.)	47,000	48,000	1,000	2.1%
Jamboree Rd. (Birch St. to MacArthur Blvd.)	55,000	56,000	1,000	1.8%
Jamboree Rd. (MacArthur Blvd. to Bristol St. North)	44,000	47,000	3,000	6.8%
Jamboree Rd. (Bristol St. North to Bristol St. South)	51,000	53,000	2,000	3.9%
Jamboree Rd. (Bristol St. South to Bayview Wy.)	52,000	53,000	1,000	1.9%
Jamboree Rd. (Bayview Wy. to University Dr.)	52,000	52,000	0	0.0%
Jamboree Rd. (University Dr. to Bison Ave.)	42,000	43,000	1,000	2.4%
Jamboree Rd. (Bison Ave. to Ford Rd.)	46,000	47,000	1,000	2.2%
Jamboree Rd. (Ford Rd. to San Joaquin Hills Rd.)	55,000	57,000	2,000	3.6%
Jamboree Rd. (San Joaquin Hills Rd. to Santa Barbara Dr.)	44,000	45,000	1,000	2.3%
Jamboree Rd. (Santa Barbara Dr. to Coast Hwy.)	42,000	42,000	0	0.0%
Jamboree Rd. (Coast Hwy. to Bayside Dr.)	15,000	15,000	0	0.0%
MacArthur Blvd. (Campus Dr. to Birch St.)	34,000	37,000	3,000	8.8%
MacArthur Blvd. (Birch St. to Von Karman Ave.)	27,000	28,000	1,000	3.7%
MacArthur Blvd. (Von Karman Ave. to Jamboree Rd.)	33,000	34,000	1,000	3.0%

TABLE 5-6 (Page 3 of 4)

CITY OF NEWPORT BEACH GENERAL PLAN BUILDOUT  
WITH PROJECT AVERAGE DAILY TRAFFIC COMPARISON

LOCATION	BUILDOUT WITHOUT PROJECT FORECAST	BUILDOUT WITH PROJECT FORECAST	CHANGE	% CHANGE
MacArthur Blvd. (south of Jamboree Rd.)	36,000	38,000	2,000	5.6%
MacArthur Blvd. (north of Bison Ave.)	73,000	73,000	0	0.0%
MacArthur Blvd. (Bison Ave. to Ford Rd.)	70,000	70,000	0	0.0%
MacArthur Blvd. (Ford Rd. to San Joaquin Hills Rd.)	60,000	61,000	1,000	1.7%
MacArthur Blvd. (San Joaquin Hills Rd. to San Miguel Rd.)	37,000	37,000	0	0.0%
MacArthur Blvd. (San Miguel Rd. to Coast Hwy.)	36,000	36,000	0	0.0%
Marguerite Ave. (south of San Joaquin Hills Rd.)	9,000	9,000	0	0.0%
Marguerite Ave. (north of Coast Hwy.)	9,000	8,000	-1,000	-11.1%
Mesa Dr. (east of Irvine Ave.)	13,000	13,000	0	0.0%
Newport Blvd. (north of Hospital Rd.)	43,000	45,000	2,000	4.7%
Newport Blvd. (Hospital Rd. to Coast Hwy.)	52,000	54,000	2,000	3.8%
Newport Blvd. (Coast Hwy. to Via Lido)	57,000	58,000	1,000	1.8%
Newport Blvd. (Via Lido to 32nd St.)	40,000	42,000	2,000	5.0%
Newport Blvd. (south of 32nd St.)	33,000	35,000	2,000	6.1%
Newport Center Dr. (north of Coast Hwy.)	16,000	17,000	1,000	6.3%
Newport Coast Dr. (SR-73 Fwy. to San Joaquin Hills Rd.)	34,000	34,000	0	0.0%
Newport Coast Dr. (south of San Joaquin Hills Rd.)	32,000	32,000	0	0.0%
Newport Coast Dr. (north of Coast Hwy.)	27,000	28,000	1,000	3.7%
Placentia Ave. (north of Superior Ave.)	12,000	12,000	0	0.0%
Placentia Ave. (Superior Ave. to Hospital Rd.)	11,000	11,000	0	0.0%
Poppy Ave. (north of Coast Hwy.)	3,000	3,000	0	0.0%
Riverside Ave. (north of Coast Hwy.)	10,000	11,000	1,000	10.0%
San Joaquin Hills Rd. (Jamboree Rd. to Santa Cruz Rd.)	17,000	18,000	1,000	5.9%
San Joaquin Hills Rd. (Santa Cruz Rd. to Santa Rosa Rd.)	12,000	12,000	0	0.0%
San Joaquin Hills Rd. (Santa Rosa Rd. to MacArthur Blvd.)	26,000	27,000	1,000	3.8%
San Joaquin Hills Rd. (MacArthur Blvd. to San Miguel Rd.)	23,000	23,000	0	0.0%
San Joaquin Hills Rd. (San Miguel Rd. to Marguerite Ave.)	25,000	24,000	-1,000	-4.0%
San Joaquin Hills Rd. (Marguerite Ave. to Spyglass Hill Rd.)	19,000	19,000	0	0.0%
San Joaquin Hills Rd. (Spyglass Hill Rd. to Newport Coast Dr.)	19,000	19,000	0	0.0%
San Miguel Dr. (north of Spyglass Hill Rd.)	9,000	9,000	0	0.0%
San Miguel Dr. (south of Spyglass Hill Rd.)	9,000	9,000	0	0.0%
San Miguel Dr. (north of San Joaquin Hills Rd.)	14,000	14,000	0	0.0%
San Miguel Dr. (San Joaquin Hills Rd. to MacArthur Blvd.)	15,000	16,000	1,000	6.7%
San Miguel Dr. (MacArthur Blvd. to Avocado Ave.)	20,000	20,000	0	0.0%
San Miguel Dr. (west of Avocado Ave.)	11,000	12,000	1,000	9.1%
Santa Barbara Dr. (east of Jamboree Rd.)	11,000	13,000	2,000	18.2%
Santa Cruz Dr. (south of San Joaquin Hills Rd.)	9,000	9,000	0	0.0%
Santa Rosa Dr. (south of San Joaquin Hills Rd.)	14,000	14,000	0	0.0%
Santiago Dr. (Tustin Ave. to Irvine Ave.)	6,000	6,000	0	0.0%
Santiago Dr. (east of Irvine Ave.)	3,000	4,000	1,000	33.3%
Spyglass Hill Rd. (San Miguel Dr. to San Joaquin Hills Rd.)	5,000	5,000	0	0.0%
SR-55 Freeway (north of SR-73 Fwy.)	188,000	189,000	1,000	0.5%



TABLE 5-6 (Page 4 of 4)

**CITY OF NEWPORT BEACH GENERAL PLAN BUILDOUT  
WITH PROJECT AVERAGE DAILY TRAFFIC COMPARISON**

<b>LOCATION</b>	<b>BUILDOUT WITHOUT PROJECT FORECAST</b>	<b>BUILDOUT WITH PROJECT FORECAST</b>	<b>CHANGE</b>	<b>% CHANGE</b>
SR-55 Freeway (22nd St. to 19th St.)	125,000	125,000	0	0.0%
SR-73 Freeway (SR-55 Fwy. to Campus Dr.)	135,000	136,000	1,000	0.7%
SR-73 Freeway (Jamboree Rd. to University Dr.)	97,000	98,000	1,000	1.0%
SR-73 Freeway (Bonita Canyon Rd. to Newport Coast Dr.)	136,000	136,000	0	0.0%
SR-73 Freeway (east of Newport Coast Dr.)	127,000	128,000	1,000	0.8%
Superior Ave. (north of Placentia Ave.)	20,000	21,000	1,000	5.0%
Superior Ave. (Placentia Ave. to Hospital Rd.)	18,000	18,000	0	0.0%
Superior Ave. (Hospital Rd. to Coast Hwy.)	20,000	22,000	2,000	10.0%
Tustin Ave. (north of Coast Hwy.)	3,000	3,000	0	0.0%
University Dr. (east of Irvine Ave.)	3,000	3,000	0	0.0%
University Dr. (east of Jamboree Rd.)	13,000	13,000	0	0.0%
Via Lido (east of Newport Blvd.)	10,000	10,000	0	0.0%
Von Karman Ave. (Campus Dr. to Birch St.)	19,000	19,000	0	0.0%
Von Karman Ave. (Birch St. to MacArthur Blvd.)	16,000	17,000	1,000	6.3%
Westcliff Dr. (Irvine Ave. to Dover Dr.)	16,000	16,000	0	0.0%

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TABLE 5-7 (Page 1 of 4)

**CITY OF NEWPORT BEACH GENERAL PLAN BUILDOUT  
WITH PROJECT AVERAGE DAILY TRAFFIC GROWTH**

<b>LOCATION</b>	<b>EXISTING (2001/2002) COUNT</b>	<b>WITH PROJECT FORECAST</b>	<b>GROWTH</b>	<b>% GROWTH</b>
15th St. (Coast Hwy. to Bluff Rd.)	0	8,000	8,000	--
16th St. (Irvine Ave. to Dover Dr.)	5,000	6,000	1,000	20.0%
32nd St. (west of Newport Blvd.)	8,000	8,000	0	0
32nd St. (east of Newport Blvd.)	3,000	4,000	1,000	33.3%
Avocado Ave. (north of San Miguel Dr.)	5,000	5,000	0	0.0%
Avocado Ave. (south of San Miguel Dr.)	12,000	11,000	-1,000	-8.3%
Avocado Ave. (north of Coast Hwy.)	11,000	10,000	-1,000	-9.1%
Balboa Blvd. (south of Coast Hwy.)	18,000	22,000	4,000	22.2%
Bayside Dr. (south of Coast Hwy.)	10,000	12,000	2,000	20.0%
Birch St. (Jamboree Rd. to Von Karman Ave.)	12,000	20,000	8,000	66.7%
Birch St. (Von Karman Ave. to MacArthur Blvd.)	15,000	22,000	7,000	46.7%
Birch St. (west of MacArthur Blvd.)	16,000	24,000	8,000	50.0%
Birch St. (north of Bristol St. North)	23,000	30,000	7,000	30.4%
Birch St. (Bristol St. North to Bristol St. South)	19,000	23,000	4,000	21.1%
Birch St. (south of Bristol St. South)	15,000	17,000	2,000	13.3%
Bison Ave. (Jamboree Rd. to MacArthur Blvd.)	13,000	18,000	5,000	38.5%
Bison Ave. (MacArthur Blvd. to SR-73 Fwy.)	7,000	10,000	3,000	42.9%
Bluff Rd. (Coast Hwy. to 15th St.)	0	7,000	7,000	--
Bluff Rd. (15th St. to 17th St.)	0	6,000	6,000	--
Bonita Canyon Dr. (east of MacArthur Blvd.)	26,000	31,000	5,000	19.2%
Bonita Canyon Dr. (west of SR-73 Fwy.)	17,000	26,000	9,000	52.9%
Bristol St. North (west of Campus Dr.)	28,000	35,000	7,000	25.0%
Bristol St. North (Campus Dr. to Birch St.)	23,000	30,000	7,000	30.4%
Bristol St. North (east of Birch St.)	22,000	30,000	8,000	36.4%
Bristol St. North (west of Jamboree Rd.)	16,000	20,000	4,000	25.0%
Bristol St. South (west of Campus Dr./Irvine Ave.)	28,000	33,000	5,000	17.9%
Bristol St. South (Campus Dr. to Birch St.)	17,000	23,000	6,000	35.3%
Bristol St. South (east of Birch St.)	16,000	22,000	6,000	37.5%
Bristol St. South (west of Jamboree Rd.)	31,000	39,000	8,000	25.8%
Campus Dr. (Jamboree Rd. to Von Karman Ave.)	16,000	23,000	7,000	43.8%
Campus Dr. (Von Karman Ave. to MacArthur Blvd.)	20,000	34,000	14,000	70.0%
Campus Dr. (west of MacArthur Blvd.)	26,000	40,000	14,000	53.8%
Campus Dr. (north of Bristol St. North)	28,000	40,000	12,000	42.9%
Campus Dr. (Bristol St. North to Bristol St. South)	30,000	41,000	11,000	36.7%
Coast Hwy. (west of Bluff Rd.)	46,000	46,000	0	0.0%
Coast Hwy. (Superior Ave. to Newport Blvd.)	28,000	41,000	13,000	46.4%
Coast Hwy. (Newport Blvd. to Riverside Ave.)	53,000	67,000	14,000	26.4%
Coast Hwy. (Riverside Ave. to Tustin Ave.)	45,000	58,000	13,000	28.9%
Coast Hwy. (Tustin Ave. to Dover Dr.)	42,000	53,000	11,000	26.2%
Coast Hwy. (Dover Dr. to Bayside Dr.)	63,000	76,000	13,000	20.6%
Coast Hwy. (Bayside Dr. to Jamboree Rd.)	51,000	63,000	12,000	23.5%

TABLE 5-7 (Page 2 of 4)

CITY OF NEWPORT BEACH GENERAL PLAN BUILDOUT  
WITH PROJECT AVERAGE DAILY TRAFFIC GROWTH

LOCATION	EXISTING (2001/2002) COUNT	WITH PROJECT FORECAST	GROWTH	% GROWTH
Coast Hwy. (Jamboree Rd. to Newport Center Dr.)	42,000	50,000	8,000	19.0%
Coast Hwy. (Newport Center Dr. to Avocado Ave.)	35,000	42,000	7,000	20.0%
Coast Hwy. (Avocado Ave. to MacArthur Blvd.)	36,000	45,000	9,000	25.0%
Coast Hwy. (MacArthur Blvd. to Goldenrod Ave.)	40,000	45,000	5,000	12.5%
Coast Hwy. (Goldenrod Ave. to Marguerite Ave.)	39,000	43,000	4,000	10.3%
Coast Hwy. (Marguerite Ave. to Poppy Ave.)	35,000	42,000	7,000	20.0%
Coast Hwy. (Poppy Ave. to Newport Coast Dr.)	28,000	38,000	10,000	35.7%
Coast Hwy. (east of Newport Coast Dr.)	35,000	49,000	14,000	40.0%
Dover Dr. (Irvine Ave. to Westcliff Dr.)	9,000	11,000	2,000	22.2%
Dover Dr. (Westcliff Dr. to 16th St.)	22,000	24,000	2,000	9.1%
Dover Dr. (16th St. to Cliff Dr.)	25,000	28,000	3,000	12.0%
Dover Dr. (Cliff Dr. to Coast Hwy.)	29,000	33,000	4,000	13.8%
Eastbluff Dr. (west of Jamboree Rd. at University Dr.)	10,000	10,000	0	0.0%
Eastbluff Dr. (west of Jamboree Rd. at Ford Rd.)	15,000	15,000	0	0.0%
Ford Rd. (Jamboree Rd. to MacArthur Blvd.)	9,000	13,000	4,000	44.4%
Goldenrod Ave. (north of Coast Hwy.)	2,000	4,000	2,000	100.0%
Highland Dr. (east of Irvine Ave.)	2,000	2,000	0	0.0%
Hospital Rd. (Placentia Ave. to Newport Blvd.)	13,000	17,000	4,000	30.8%
Hospital Rd. (east of Newport Blvd.)	7,000	11,000	4,000	57.1%
Irvine Ave. (Bristol St. South to Mesa Dr.)	27,000	38,000	11,000	40.7%
Irvine Ave. (Mesa Dr. to University Dr.)	31,000	42,000	11,000	35.5%
Irvine Ave. (University Dr. to Santa Isabel Ave.)	33,000	40,000	7,000	21.2%
Irvine Ave. (Santa Isabel Ave. to Santiago Dr.)	29,000	33,000	4,000	13.8%
Irvine Ave. (Santiago Dr. to Highland Dr.)	27,000	32,000	5,000	18.5%
Irvine Ave. (Highland Dr. to Dover Dr.)	27,000	33,000	6,000	22.2%
Irvine Ave. (Dover Dr. to Westcliff Dr.)	22,000	29,000	7,000	31.8%
Irvine Ave. (Westcliff Dr. to 16th St.)	12,000	13,000	1,000	8.3%
Jamboree Rd. (Campus Dr. to Birch St.)	36,000	48,000	12,000	33.3%
Jamboree Rd. (Birch St. to MacArthur Blvd.)	42,000	56,000	14,000	33.3%
Jamboree Rd. (MacArthur Blvd. to Bristol St. North)	36,000	47,000	11,000	30.6%
Jamboree Rd. (Bristol St. North to Bristol St. South)	47,000	53,000	6,000	12.8%
Jamboree Rd. (Bristol St. South to Bayview Wy.)	47,000	53,000	6,000	12.8%
Jamboree Rd. (Bayview Wy. to University Dr.)	47,000	52,000	5,000	10.6%
Jamboree Rd. (University Dr. to Bison Ave.)	37,000	43,000	6,000	16.2%
Jamboree Rd. (Bison Ave. to Ford Rd.)	39,000	47,000	8,000	20.5%
Jamboree Rd. (Ford Rd. to San Joaquin Hills Rd.)	46,000	57,000	11,000	23.9%
Jamboree Rd. (San Joaquin Hills Rd. to Santa Barbara Dr.)	34,000	45,000	11,000	32.4%
Jamboree Rd. (Santa Barbara Dr. to Coast Hwy.)	32,000	42,000	10,000	31.3%
Jamboree Rd. (Coast Hwy. to Bayside Dr.)	12,000	15,000	3,000	25.0%
MacArthur Blvd. (Campus Dr. to Birch St.)	27,000	37,000	10,000	37.0%
MacArthur Blvd. (Birch St. to Von Karman Ave.)	22,000	28,000	6,000	27.3%
MacArthur Blvd. (Von Karman Ave. to Jamboree Rd.)	26,000	34,000	8,000	30.8%

TABLE 5-7 (Page 3 of 4)

**CITY OF NEWPORT BEACH GENERAL PLAN BUILDOUT  
WITH PROJECT AVERAGE DAILY TRAFFIC GROWTH**

<b>LOCATION</b>	<b>EXISTING (2001/2002) COUNT</b>	<b>WITH PROJECT FORECAST</b>	<b>GROWTH</b>	<b>% GROWTH</b>
MacArthur Blvd. (south of Jamboree Rd.)	27,000	38,000	11,000	40.7%
MacArthur Blvd. (north of Bison Ave.)	61,000	73,000	12,000	19.7%
MacArthur Blvd. (Bison Ave. to Ford Rd.)	63,000	70,000	7,000	11.1%
MacArthur Blvd. (Ford Rd. to San Joaquin Hills Rd.)	54,000	61,000	7,000	13.0%
MacArthur Blvd. (San Joaquin Hills Rd. to San Miguel Rd.)	35,000	37,000	2,000	5.7%
MacArthur Blvd. (San Miguel Rd. to Coast Hwy.)	31,000	36,000	5,000	16.1%
Marguerite Ave. (south of San Joaquin Hills Rd.)	7,000	9,000	2,000	28.6%
Marguerite Ave. (north of Coast Hwy.)	6,000	8,000	2,000	33.3%
Mesa Dr. (east of Irvine Ave.)	12,000	13,000	1,000	8.3%
Newport Blvd. (north of Hospital Rd.)	36,000	45,000	9,000	25.0%
Newport Blvd. (Hospital Rd. to Coast Hwy.)	43,000	54,000	11,000	25.6%
Newport Blvd. (Coast Hwy. to Via Lido)	48,000	58,000	10,000	20.8%
Newport Blvd. (Via Lido to 32nd St.)	36,000	42,000	6,000	16.7%
Newport Blvd. (south of 32nd St.)	29,000	35,000	6,000	20.7%
Newport Center Dr. (north of Coast Hwy.)	14,000	17,000	3,000	21.4%
Newport Coast Dr. (SR-73 Fwy. to San Joaquin Hills Rd.)	17,000	34,000	17,000	100.0%
Newport Coast Dr. (south of San Joaquin Hills Rd.)	15,000	32,000	17,000	113.3%
Newport Coast Dr. (north of Coast Hwy.)	12,000	28,000	16,000	133.3%
Placentia Ave. (north of Superior Ave.)	12,000	12,000	0	0.0%
Placentia Ave. (Superior Ave. to Hospital Rd.)	7,000	11,000	4,000	57.1%
Poppy Ave. (north of Coast Hwy.)	2,000	3,000	1,000	50.0%
Riverside Ave. (north of Coast Hwy.)	9,000	11,000	2,000	22.2%
San Joaquin Hills Rd. (Jamboree Rd. to Santa Cruz Rd.)	16,000	18,000	2,000	12.5%
San Joaquin Hills Rd. (Santa Cruz Rd. to Santa Rosa Rd.)	11,000	12,000	1,000	9.1%
San Joaquin Hills Rd. (Santa Rosa Rd. to MacArthur Blvd.)	21,000	27,000	6,000	28.6%
San Joaquin Hills Rd. (MacArthur Blvd. to San Miguel Rd.)	19,000	23,000	4,000	21.1%
San Joaquin Hills Rd. (San Miguel Rd. to Marguerite Ave.)	18,000	24,000	6,000	33.3%
San Joaquin Hills Rd. (Marguerite Ave. to Spyglass Hill Rd.)	12,000	19,000	7,000	58.3%
San Joaquin Hills Rd. (Spyglass Hill Rd. to Newport Coast Dr.)	12,000	19,000	7,000	58.3%
San Miguel Dr. (north of Spyglass Hill Rd.)	7,000	9,000	2,000	28.6%
San Miguel Dr. (south of Spyglass Hill Rd.)	7,000	9,000	2,000	28.6%
San Miguel Dr. (north of San Joaquin Hills Rd.)	12,000	14,000	2,000	16.7%
San Miguel Dr. (San Joaquin Hills Rd. to MacArthur Blvd.)	12,000	16,000	4,000	33.3%
San Miguel Dr. (MacArthur Blvd. to Avocado Ave.)	19,000	20,000	1,000	5.3%
San Miguel Dr. (west of Avocado Ave.)	10,000	12,000	2,000	20.0%
Santa Barbara Dr. (east of Jamboree Rd.)	10,000	13,000	3,000	30.0%
Santa Cruz Dr. (south of San Joaquin Hills Rd.)	8,000	9,000	1,000	12.5%
Santa Rosa Dr. (south of San Joaquin Hills Rd.)	11,000	14,000	3,000	27.3%
Santiago Dr. (Tustin Ave. to Irvine Ave.)	5,000	6,000	1,000	20.0%
Santiago Dr. (east of Irvine Ave.)	3,000	4,000	1,000	33.3%
Spyglass Hill Rd. (San Miguel Dr. to San Joaquin Hills Rd.)	4,000	5,000	1,000	25.0%
SR-55 Freeway (north of SR-73 Fwy.)	155,000	189,000	34,000	21.9%

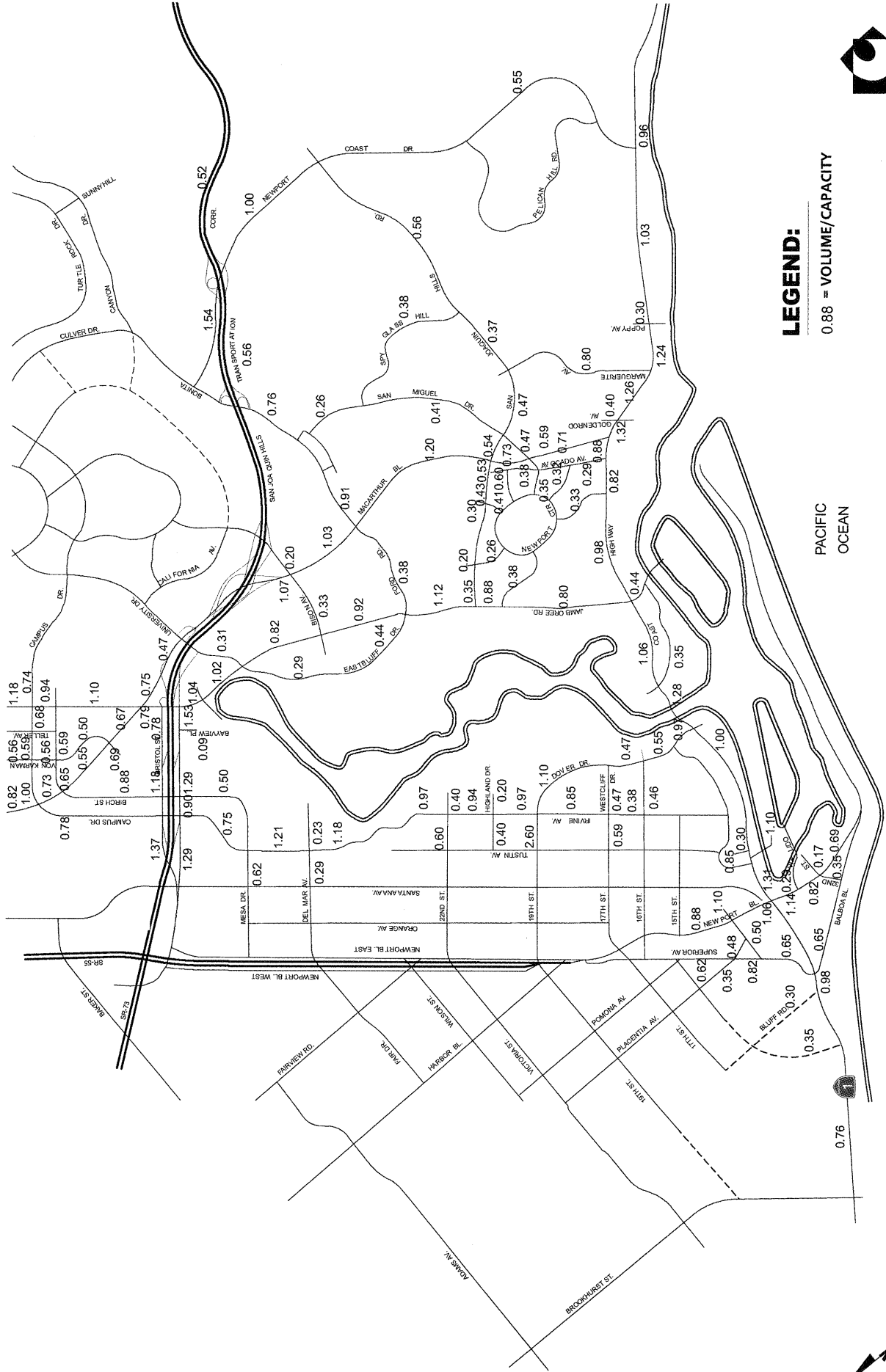
TABLE 5-7 (Page 4 of 4)

CITY OF NEWPORT BEACH GENERAL PLAN BUILDOUT  
WITH PROJECT AVERAGE DAILY TRAFFIC GROWTH

LOCATION	EXISTING (2001/2002) COUNT	WITH PROJECT FORECAST	GROWTH	% GROWTH
SR-55 Freeway (22nd St. to 19th St.)	94,000	125,000	31,000	33.0%
SR-73 Freeway (SR-55 Fwy. to Campus Dr.)	94,000	136,000	42,000	44.7%
SR-73 Freeway (Jamboree Rd. to University Dr.)	59,000	98,000	39,000	66.1%
SR-73 Freeway (Bonita Canyon Rd. to Newport Coast Dr.)	62,000	136,000	74,000	119.4%
SR-73 Freeway (east of Newport Coast Dr.)	56,000	128,000	72,000	128.6%
Superior Ave. (north of Placentia Ave.)	17,000	21,000	4,000	23.5%
Superior Ave. (Placentia Ave. to Hospital Rd.)	22,000	18,000	-4,000	-18.2%
Superior Ave. (Hospital Rd. to Coast Hwy.)	24,000	22,000	-2,000	-8.3%
Tustin Ave. (north of Coast Hwy.)	2,000	3,000	1,000	50.0%
University Dr. (east of Irvine Ave.)	3,000	3,000	0	0.0%
University Dr. (east of Jamboree Rd.)	11,000	13,000	2,000	18.2%
Via Lido (east of Newport Blvd.)	8,000	10,000	2,000	25.0%
Von Karman Ave. (Campus Dr. to Birch St.)	14,000	19,000	5,000	35.7%
Von Karman Ave. (Birch St. to MacArthur Blvd.)	12,000	17,000	5,000	41.7%
Westcliff Dr. (Irvine Ave. to Dover Dr.)	16,000	16,000	0	0.0%

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# EXHIBIT 5-B GENERAL PLAN BUILDOUT WITH PROJECT VOLUME/CAPACITY (V/C) RATIOS



- Irvine Avenue north of Highland Drive
- Irvine Avenue north of Dover Drive
- Dover Drive north of Westcliff Drive
- Dover Drive north of Coast Highway
- Jamboree Road north of Bayview Way
- Jamboree Road north of University Drive
- Jamboree Road north of Ford Road
- Jamboree Road north of San Joaquin Hills Road
- MacArthur Boulevard north of Bison Avenue
- MacArthur Boulevard north of Ford Road
- MacArthur Boulevard north of San Joaquin Hills Road
- Newport Coast Drive north of SR-73 Northbound Ramps
- Newport Coast Drive north of San Joaquin Hills Road
- Newport Boulevard south of Hospital Road
- Jamboree Road south of Birch Street
- Irvine Avenue south of University Drive
- Hospital Road east of Newport Boulevard
- Campus Drive east of MacArthur Boulevard
- Bristol Street North east of Birch Street
- Bristol Street South east of Birch Street
- Coast Highway east of Dover Drive
- Coast Highway east of Bayside Drive
- Coast Highway east of Jamboree Road
- Ford Road east of MacArthur Boulevard
- Coast Highway east of MacArthur Boulevard
- Coast Highway east of Goldenrod Avenue
- Coast Highway east of Marguerite Avenue
- Coast Highway east of Poppy Avenue
- Coast Highway east of Newport Coast Drive
- Coast Highway west of Superior Avenue/Balboa Boulevard

- Coast Highway west of Riverside Drive
- Bristol Street North west of Campus Drive
- Bristol Street South west of Campus Drive
- Dover Drive west of Irvine Avenue
- Bristol Street South west of Jamboree Road

The daily capacity of a roadway correlates to a number of widely varying factors, including traffic peaking characteristics, traffic turning volumes, and the volume of traffic on crossing streets. The daily capacities are therefore most appropriately used for long range General Plan analysis, or as a screening tool to determine the need for more detailed peak hour analysis. More detailed peak hour analysis has been conducted at key intersections in the vicinity of all these roadway segments to quantify actual peak hour operations and levels of service.

## 5.5 Peak Hour Forecasts

The final and most meaningful data evaluated for the General Plan Buildout With Project scenario was intersection volume and geometric data for the 64 intersections selected for analysis. The existing intersection configurations have been used for calculation of the initial General Plan Buildout With Project intersection capacity utilization values (ICUs). Table 5-8 summarizes the General Plan Buildout With Project ICUs based on the AM and PM peak hour intersection turning movement volumes and the existing intersection geometric data compared with General Plan buildout Without Project ICUs. Appendix "JJ" contains the detailed ICU calculation worksheets. The worksheets in Appendix "JJ" summarize the intersection geometric data and the AM and PM peak intersection turning movement volumes. The differences in Level of Service are generally less than 0.10 (a single letter grade level).

A comparison of General Plan Buildout With Project ICUs with existing (2005) lanes to existing (2002) ICUs is shown on Table 5-9. Intersections with ICU values



TABLE 5-8 (1 of 2)

GENERAL PLAN BUILDOUT WITH PROJECT INTERSECTION  
CAPACITY UTILIZATION (ICU) COMPARISON TO WITHOUT PROJECT

INTERSECTION (NS/EW)	AM PEAK HOUR			PM PEAK HOUR		
	BUILDOUT WITHOUT PROJECT	BUILDOUT WITH PROJECT	DELTA	BUILDOUT WITHOUT PROJECT	BUILDOUT WITH PROJECT	DELTA
1a. Bluff Rd. & Coast Hw.	0.65	0.61	-0.04	0.84	0.89	0.05
1b. 15th St. & Coast Hw.	0.74	0.72	-0.02	0.89	0.90	0.01
2. Superior Av. & Placentia Av.	0.65	0.67	0.02	0.55	0.57	0.02
3. Superior Av. & Coast Hw.	0.89	0.88	-0.01	0.75	0.76	0.01
4. Newport Bl. & Hospital Rd.	0.75	0.83	0.08	0.91	0.96	0.05
5. Newport Bl. & Via Lido	0.56	0.58	0.02	0.40	0.41	0.01
6. Newport Bl. & 32nd St.	0.82	0.86	0.04	0.88	0.91	0.03
7. Riverside Av. & Coast Hw.	0.98	0.97	-0.01	0.92	0.93	0.01
8. Tustin Av. & Coast Hw.	0.91	0.94	0.03	0.76	0.83	0.07
9. MacArthur Bl. & Campus Dr.	0.76	0.81	0.05	1.21	1.24	0.03
10. MacArthur Bl. & Birch St.	0.79	0.79	0.00	0.90	0.90	0.00
11. Von Karman Av. & Campus Dr.	0.70	0.73	0.03	0.93	0.97	0.04
12. MacArthur Bl. & Von Karman Av.	0.58	0.54	-0.04	0.66	0.65	-0.01
13. Jamboree Rd. & Campus Dr.	0.91	0.93	0.02	1.18	1.18	0.00
14. Jamboree Rd. & Birch St.	1.00	1.00	0.00	0.84	0.84	0.00
15. Campus Dr. & Bristol St. (N)	0.99	1.02	0.03	1.07	1.06	-0.01
16. Birch St. & Bristol St. (N)	0.94	0.90	-0.04	0.74	0.72	-0.02
17. Campus Dr./Irvine Av. & Bristol St. (S)	0.91	0.89	-0.02	0.75	0.78	0.03
18. Birch St. & Bristol St. (S)	0.52	0.51	-0.01	0.52	0.54	0.02
19. Irvine Av. & Mesa Dr.	0.99	0.98	-0.01	1.19	1.19	0.00
20. Irvine Av. & University Dr.	1.17	1.19	0.02	1.08	1.09	0.01
21. Irvine Av. & Santiago Dr.	0.68	0.69	0.01	0.76	0.77	0.01
22. Irvine Av. & Highland Dr.	0.60	0.60	0.00	0.65	0.65	0.00
23. Irvine Av. & Dover Dr.	0.77	0.78	0.01	0.68	0.69	0.01
24. Irvine Av. & Westcliff Dr.	0.64	0.66	0.02	0.80	0.82	0.02
25. Dover Dr. & Westcliff Dr.	0.38	0.38	0.00	0.53	0.54	0.01
26. Dover Dr. & 16th St.	0.60	0.60	0.00	0.60	0.60	0.00
27. Dover Dr. & Coast Hw.	0.80	0.81	0.01	0.93	0.94	0.01
28. Bayside Dr. & Coast Hw.	0.88	0.89	0.01	0.85	0.85	0.00
29. MacArthur Bl. & Jamboree Rd.	0.92	0.93	0.01	0.98	1.02	0.04
30. Jamboree Rd. & Bristol St. (N)	0.68	0.68	0.00	0.65	0.67	0.02
31. Bayview Pl. & Bristol St. (S)	0.60	0.60	0.00	0.62	0.63	0.01
32. Jamboree Rd. & Bristol St. (S)	0.96	0.94	-0.02	0.85	0.87	0.02
33. Jamboree Rd. & Bayview Wy.	0.46	0.45	-0.01	0.67	0.67	0.00
34. Jamboree Rd. & Eastbluff Dr./University Dr.	0.68	0.68	0.00	0.66	0.67	0.01
35. Jamboree Rd. & Bison Av.	0.52	0.52	0.00	0.62	0.62	0.00
36. Jamboree Rd. & Eastbluff Dr./Ford Rd.	0.80	0.80	0.00	0.76	0.77	0.01
37. Jamboree Rd. & San Joaquin Hills Rd.	0.60	0.61	0.01	0.71	0.72	0.01

TABLE 5-8 (1 of 2)

**GENERAL PLAN BUILDOUT WITH PROJECT INTERSECTION  
CAPACITY UTILIZATION (ICU) COMPARISON TO WITHOUT PROJECT**

INTERSECTION (NS/EW)	AM PEAK HOUR			PM PEAK HOUR		
	BUILDOUT WITHOUT PROJECT	BUILDOUT WITH PROJECT	DELTA	BUILDOUT WITHOUT PROJECT	BUILDOUT WITH PROJECT	DELTA
1a. Bluff Rd. & Coast Hw.	0.65	0.63	-0.02	0.84	0.82	-0.02
1b. 15th St. & Coast Hw.	0.74	0.72	-0.02	0.89	0.83	-0.06
2. Superior Av. & Placentia Av.	0.65	0.67	0.02	0.55	0.57	0.02
3. Superior Av. & Coast Hw.	0.89	0.88	-0.01	0.75	0.76	0.01
4. Newport Bl. & Hospital Rd.	0.75	0.83	0.08	0.91	0.96	0.05
5. Newport Bl. & Via Lido	0.56	0.58	0.02	0.40	0.41	0.01
6. Newport Bl. & 32nd St.	0.82	0.86	0.04	0.88	0.91	0.03
7. Riverside Av. & Coast Hw.	0.98	0.97	-0.01	0.92	0.93	0.01
8. Tustin Av. & Coast Hw.	0.91	0.94	0.03	0.76	0.83	0.07
9. MacArthur Bl. & Campus Dr.	0.76	0.81	0.05	1.21	1.24	0.03
10. MacArthur Bl. & Birch St.	0.79	0.79	0.00	0.90	0.90	0.00
11. Von Karman Av. & Campus Dr.	0.70	0.73	0.03	0.93	0.97	0.04
12. MacArthur Bl. & Von Karman Av.	0.58	0.54	-0.04	0.66	0.65	-0.01
13. Jamboree Rd. & Campus Dr.	0.91	0.93	0.02	1.18	1.18	0.00
14. Jamboree Rd. & Birch St.	1.00	1.00	0.00	0.84	0.84	0.00
15. Campus Dr. & Bristol St. (N)	0.99	1.02	0.03	1.07	1.06	-0.01
16. Birch St. & Bristol St. (N)	0.94	0.90	-0.04	0.74	0.72	-0.02
17. Campus Dr./Irvine Av. & Bristol St. (S)	0.91	0.89	-0.02	0.75	0.78	0.03
18. Birch St. & Bristol St. (S)	0.52	0.51	-0.01	0.52	0.54	0.02
19. Irvine Av. & Mesa Dr.	0.99	0.98	-0.01	1.19	1.19	0.00
20. Irvine Av. & University Dr.	1.17	1.19	0.02	1.08	1.09	0.01
21. Irvine Av. & Santiago Dr.	0.68	0.69	0.01	0.76	0.77	0.01
22. Irvine Av. & Highland Dr.	0.60	0.60	0.00	0.65	0.65	0.00
23. Irvine Av. & Dover Dr.	0.77	0.78	0.01	0.68	0.69	0.01
24. Irvine Av. & Westcliff Dr.	0.64	0.66	0.02	0.80	0.82	0.02
25. Dover Dr. & Westcliff Dr.	0.38	0.38	0.00	0.53	0.54	0.01
26. Dover Dr. & 16th St.	0.60	0.60	0.00	0.60	0.60	0.00
27. Dover Dr. & Coast Hw.	0.80	0.81	0.01	0.93	0.94	0.01
28. Bayside Dr. & Coast Hw.	0.88	0.89	0.01	0.85	0.85	0.00
29. MacArthur Bl. & Jamboree Rd.	0.92	0.93	0.01	0.98	1.02	0.04
30. Jamboree Rd. & Bristol St. (N)	0.68	0.68	0.00	0.65	0.67	0.02
31. Bayview Pl. & Bristol St. (S)	0.60	0.60	0.00	0.62	0.63	0.01
32. Jamboree Rd. & Bristol St. (S)	0.96	0.94	-0.02	0.85	0.87	0.02
33. Jamboree Rd. & Bayview Wy.	0.46	0.45	-0.01	0.67	0.67	0.00
34. Jamboree Rd. & Eastbluff Dr./University Dr.	0.68	0.68	0.00	0.66	0.67	0.01
35. Jamboree Rd. & Bison Av.	0.52	0.52	0.00	0.62	0.62	0.00
36. Jamboree Rd. & Eastbluff Dr./Ford Rd.	0.80	0.80	0.00	0.76	0.77	0.01
37. Jamboree Rd. & San Joaquin Hills Rd.	0.60	0.61	0.01	0.71	0.72	0.01

TABLE 5-9 (1 of 2)

GENERAL PLAN BUILDOUT WITH PROJECT INTERSECTION  
CAPACITY UTILIZATION (ICU) COMPARISON TO EXISTING

INTERSECTION (NS/EW)	AM PEAK HOUR			PM PEAK HOUR		
	EXISTING COUNT	WITH PROJECT	DELTA	EXISTING COUNT	WITH PROJECT	DELTA
1a. Bluff Rd. & Coast Hw.	N/A	0.63	N/A	N/A	0.82	N/A
1b. 15th St. & Coast Hw.	N/A	0.72	N/A	N/A	0.83	N/A
2. Superior Av. & Placentia Av.	0.66	0.67	0.01	0.67	0.57	-0.10
3. Superior Av. & Coast Hw.	0.84	0.88	0.04	0.90	0.76	-0.14
4. Newport Bl. & Hospital Rd.	0.54	0.83	0.29	0.70	0.96	0.26
5. Newport Bl. & Via Lido	0.41	0.58	0.17	0.37	0.41	0.04
6. Newport Bl. & 32nd St.	0.73	0.86	0.13	0.78	0.91	0.13
7. Riverside Av. & Coast Hw.	0.84	0.97	0.13	0.93	0.93	0.00
8. Tustin Av. & Coast Hw.	0.80	0.94	0.14	0.67	0.83	0.16
9. MacArthur Bl. & Campus Dr.	0.61	0.81	0.20	0.85	1.24	0.39
10. MacArthur Bl. & Birch St.	0.49	0.79	0.30	0.66	0.90	0.24
11. Von Karman Av. & Campus Dr.	0.55	0.73	0.18	0.79	0.97	0.18
12. MacArthur Bl. & Von Karman Av.	0.46	0.54	0.08	0.53	0.65	0.12
13. Jamboree Rd. & Campus Dr.	0.70	0.93	0.23	0.85	1.18	0.33
14. Jamboree Rd. & Birch St.	0.61	1.00	0.39	0.60	0.84	0.24
15. Campus Dr. & Bristol St. (N)	0.77	1.02	0.25	0.94	1.06	0.12
16. Birch St. & Bristol St. (N)	0.66	0.90	0.24	0.61	0.72	0.11
17. Campus Dr./Irvine Av. & Bristol St. (S)	0.72	0.89	0.17	0.58	0.78	0.20
18. Birch St. & Bristol St. (S)	0.46	0.51	0.05	0.44	0.54	0.10
19. Irvine Av. & Mesa Dr.	0.70	0.98	0.28	0.94	1.19	0.25
20. Irvine Av. & University Dr.	0.82	1.19	0.37	0.89	1.09	0.20
21. Irvine Av. & Santiago Dr.	0.66	0.69	0.03	0.72	0.77	0.05
22. Irvine Av. & Highland Dr.	0.57	0.60	0.03	0.60	0.65	0.05
23. Irvine Av. & Dover Dr.	0.72	0.78	0.06	0.64	0.69	0.05
24. Irvine Av. & Westcliff Dr.	0.57	0.66	0.09	0.77	0.82	0.05
25. Dover Dr. & Westcliff Dr.	0.38	0.38	0.00	0.48	0.54	0.06
26. Dover Dr. & 16th St.	0.55	0.60	0.05	0.57	0.60	0.03
27. Dover Dr. & Coast Hw.	0.70	0.81	0.11	0.74	0.94	0.20
28. Bayside Dr. & Coast Hw.	0.69	0.89	0.20	0.70	0.85	0.15
29. MacArthur Bl. & Jamboree Rd.	0.88	0.93	0.05	0.91	1.02	0.11
30. Jamboree Rd. & Bristol St. (N)	0.55	0.68	0.13	0.59	0.67	0.08
31. Bayview Pl. & Bristol St. (S)	0.48	0.60	0.12	0.56	0.63	0.07
32. Jamboree Rd. & Bristol St. (S)	0.75	0.94	0.19	0.72	0.87	0.15
33. Jamboree Rd. & Bayview Wy.	0.41	0.45	0.04	0.57	0.67	0.10
34. Jamboree Rd. & Eastbluff Dr. /University Dr.	0.60	0.68	0.08	0.64	0.67	0.03
35. Jamboree Rd. & Bison Av.	0.45	0.52	0.07	0.51	0.62	0.11
36. Jamboree Rd. & Eastbluff Dr./Ford Rd.	0.69	0.80	0.11	0.65	0.77	0.12
37. Jamboree Rd. & San Joaquin Hills Rd.	0.56	0.61	0.05	0.57	0.72	0.15

TABLE 5-9 (2 of 2)

GENERAL PLAN BUILDOUT WITH PROJECT INTERSECTION  
CAPACITY UTILIZATION (ICU) COMPARISON TO EXISTING

INTERSECTION (NS/EW)	AM PEAK HOUR			PM PEAK HOUR		
	EXISTING COUNT	WITH PROJECT	DELTA	EXISTING COUNT	WITH PROJECT	DELTA
38. Jamboree Rd. & Santa Barbara Dr.	0.47	0.58	0.11	0.63	0.79	0.16
39. Jamboree Rd. & Coast Hw.	0.68	0.77	0.09	0.74	0.80	0.06
40. Santa Cruz Dr. & San Joaquin Hills Rd.	0.36	0.38	0.02	0.36	0.34	-0.02
41. Santa Rosa Dr. & San Joaquin Hills Rd.	0.32	0.41	0.09	0.52	0.71	0.19
42. Newport Center Dr. & Coast Hw.	0.40	0.48	0.08	0.52	0.63	0.11
44. Avocado Av. & San Miguel Dr.	0.33	0.36	0.03	0.72	0.79	0.07
45. Avocado Av. & Coast Hw.	0.58	0.73	0.15	0.66	0.78	0.12
46. SR-73 NB Ramps & Bison Av.	0.31	0.52	0.21	0.37	0.61	0.24
47. SR-73 SB Ramps & Bison Av.	0.26	0.42	0.16	0.17	0.32	0.15
48. MacArthur Bl. & Bison Av.	0.63	0.78	0.15	0.60	0.79	0.19
49. MacArthur Bl. & Ford Rd./Bonita Canyon Dr.	0.71	0.80	0.09	0.90	1.00	0.10
50. MacArthur Bl. & San Joaquin Hills Rd.	0.64	0.79	0.15	0.93	1.12	0.19
51. MacArthur Bl. & San Miguel Dr.	0.56	0.64	0.08	0.65	0.75	0.10
52. MacArthur Bl. & Coast Hw.	0.60	0.72	0.12	0.71	0.78	0.07
53. SR-73 NB Ramps & Bonita Canyon Dr.	0.55	1.06	0.51	0.43	0.76	0.33
54. SR-73 SB Ramps & Bonita Canyon Dr.	0.30	0.46	0.16	0.41	0.66	0.25
55. Spyglass Hill Rd. & San Miguel Dr.	0.28	0.30	0.02	0.31	0.38	0.07
56. San Miguel Dr. & San Joaquin Hills Rd.	0.44	0.55	0.11	0.54	0.74	0.20
57. Goldenrod Av. & Coast Hw.	0.99	0.99	0.00	0.69	0.69	0.00
58. Marguerite Av. & San Joaquin Hills Rd.	0.31	0.42	0.11	0.35	0.51	0.16
59. Marguerite Av. & Coast Hw.	0.83	0.98	0.15	0.82	1.00	0.18
60. Spyglass Hill Rd. & San Joaquin Hills Rd.	0.44	0.60	0.16	0.30	0.49	0.19
61. Poppy Av. & Coast Hw.	0.61	0.70	0.09	0.65	0.76	0.11
62. Newport Coast Dr. & SR-73 NB Ramps	0.45	0.65	0.20	0.31	0.40	0.09
64. Newport Coast Dr. & San Joaquin Hills Rd.	0.37	0.62	0.25	0.29	0.49	0.20
65. Newport Coast Dr. & Coast Hw.	0.47	0.70	0.23	0.50	0.73	0.23

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greater than 0.90 (LOS "E" or worse) in either peak period without improvements beyond 2005 conditions are:

- Newport Boulevard (NS)/Hospital Road (EW) (PM)
- Newport Boulevard (NS)/32<sup>nd</sup> Street (EW) (PM)
- Riverside Drive (NS)/Coast Highway (EW) (AM/PM)
- Tustin Avenue (NS)/Coast Highway (EW) (AM)
- MacArthur Boulevard (NS)/Campus Drive (EW) (PM)
- Von Karman Avenue (NS)/Campus Drive (EW) (PM)
- Jamboree Road (NS)/Campus Drive (EW) (AM/PM)
- Jamboree Road (NS)/Birch Street (EW) (AM)
- Campus Drive (NS)/Bristol Street North (EW) (AM/PM)
- Irvine Avenue (NS)/Mesa Drive (EW) (AM/PM)
- Irvine Avenue (NS)/University Drive (EW) (AM/PM)
- Dover Drive (NS)/Coast Highway (EW) (PM)
- MacArthur Boulevard (NS)/Jamboree Road (EW) (AM/PM)
- Jamboree Road (NS)/Bristol Street South (EW) (AM)
- MacArthur Boulevard (NS)/Ford Road/Bonita Canyon Drive (EW) (PM)
- MacArthur Boulevard (NS)/San Joaquin Hills Road (EW) (PM)
- SR-73 NB Ramps (NS)/Bonita Canyon Drive (EW) (AM)
- Goldenrod Avenue (NS)/Coast Highway (EW) (AM)
- Marguerite Avenue (NS)/Coast Highway (EW) (AM/PM)

Table 5-10 summarizes intersection analysis for buildout conditions, including intersection lanes. Two intersections do not experience a deficiency With the Project, but did experience deficiencies Without the Project: Birch Street at Bristol Street North and Campus Drive at Bristol Street South.

Intersection analysis has been performed to determine improvements necessary to provide acceptable levels of service. ICU worksheets are included in Appendix "KK". Table 5-10 also compares the ICU results with and without

TABLE 5-10 (Page 1 of 6)

INTERSECTION ANALYSIS SUMMARY FOR GENERAL PLAN BUILDOUT WITH PROJECT

INTERSECTION	TRAFFIC CONTROL <sup>2</sup>	INTERSECTION APPROACH LANES <sup>1</sup>												LEVEL OF SERVICE		FEASIBILITY/COMMENTS		
		NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND			AM	PM			
		L	T	R	L	T	R	L	T	R	L	T	R					
Bluff Rd. (NS) at: • Coast Hw. (EW) <b>-LOS D Improvements</b> 15th St. (NS) at: • Coast Hw. (EW) <b>-LOS D Improvements</b>	TS	0	0	0	2	0	2>	2	3	0	0	3	1	0.63	0.82	B	D	Shares Southbound volume with 15th St.
Superior Av. (NS) at: • Placentia Av. (EW) • Coast Hw. (EW)	TS	0	0	0	2	0	2>	2	3	0	0	3	1	0.72	0.83	C	D	Shares Southbound volume with Bluff Rd.
• Hospital Rd. (EW) <b>-LOS D Improvements</b> • Via Lido (EW) • 32nd St. (EW) <b>-LOS D Improvements</b>	TS	1	2	1	1	2	d	1	1	1	0.5	1.5	0	0.67	0.57	B	A	
Riverside Av. (NS) at: • Coast Hw. (EW) <b>-LOS E Improvements</b> <b>-LOS D Improvements</b>	TS	1.5	1.5	0	1.5	1.5	2>	2	3	d	1	4	d	0.88	0.76	D	C	
• Placentia Av. (EW) • Coast Hw. (EW) • Hospital Rd. (EW) <b>-LOS D Improvements</b> • Via Lido (EW) • 32nd St. (EW) <b>-LOS D Improvements</b>	TS	1	3	1	1	3	d	2	1	1	1	2	0	0.83	0.96	D	E	Consistent with historic plan
• Placentia Av. (EW) • Coast Hw. (EW) • Hospital Rd. (EW) <b>-LOS D Improvements</b> • Via Lido (EW) • 32nd St. (EW) <b>-LOS D Improvements</b>	TS	2	3	1	1	3	d	2	1	1	1	2	0	0.83	0.89	D	D	
• Placentia Av. (EW) • Coast Hw. (EW) • Hospital Rd. (EW) <b>-LOS D Improvements</b> • Via Lido (EW) • 32nd St. (EW) <b>-LOS D Improvements</b>	TS	0	3	1	2	3	0	0	0	0	1	0	2>	0.58	0.41	A	A	
• Placentia Av. (EW) • Coast Hw. (EW) • Hospital Rd. (EW) <b>-LOS D Improvements</b> • Via Lido (EW) • 32nd St. (EW) <b>-LOS D Improvements</b>	TS	1	2	d	1	2	0	1.5	0.5	1	0.5	1.5	1>>	0.86	0.91	D	E	Restriping/Signal modification only
• Placentia Av. (EW) • Coast Hw. (EW) • Hospital Rd. (EW) <b>-LOS D Improvements</b> • Via Lido (EW) • 32nd St. (EW) <b>-LOS D Improvements</b>	TS	1	2	d	1	2	0	2	1	0	1	1	1>>	0.58	0.66	A	B	
• Placentia Av. (EW) • Coast Hw. (EW) • Hospital Rd. (EW) <b>-LOS E Improvements</b> <b>-LOS D Improvements</b>	TS	0	1	d	0.5	0.5	1>	1	2	0	1	3	1	0.97	0.93	E	E	Consistent with historic plan. Would remove parking and WB RT lane on north side of street. Severe ROW constraints.
• Placentia Av. (EW) • Coast Hw. (EW) • Hospital Rd. (EW) <b>-LOS E Improvements</b> <b>-LOS D Improvements</b>	TS	0	1	d	0.5	0.5	1>	1	3	0	1	3	0	0.68	0.95	B	E	
• Placentia Av. (EW) • Coast Hw. (EW) • Hospital Rd. (EW) <b>-LOS D Improvements</b> <b>-LOS E Improvements</b>	TS	0	1	d	0.5	0.5	1>	2	3	0	1	3	0	0.74	0.90	C	D	
• Placentia Av. (EW) • Coast Hw. (EW) • Hospital Rd. (EW) <b>-LOS D Improvements</b> <b>-LOS E Improvements</b>	TS	0	1	0	0	1	0	1	2	0	0	3	1	0.94	0.83	E	D	
• Placentia Av. (EW) • Coast Hw. (EW) • Hospital Rd. (EW) <b>-LOS D Improvements</b> <b>-LOS E Improvements</b>	TS	0	1	0	0	1	0	1	3	0	0	3	1	0.64	0.83	B	D	
• Placentia Av. (EW) • Coast Hw. (EW) • Hospital Rd. (EW) <b>-LOS D Improvements</b> <b>-LOS E Improvements</b>	TS	1	4	1	1	4	1	2	3	1	2	3	1>>	0.81	1.24	D	F	
• Placentia Av. (EW) • Coast Hw. (EW) • Hospital Rd. (EW) <b>-LOS D Improvements</b> <b>-LOS E Improvements</b>	TS	1	4	1	1	3.5	1.5	2	3	d	2	3	1>>	0.78	0.98	C	E	
• Placentia Av. (EW) • Coast Hw. (EW) • Hospital Rd. (EW) <b>-LOS D Improvements</b> <b>-LOS E Improvements</b>	TS	2	4	1	1	3.5	1.5	2	3	1	2	3	1>>	0.78	0.88	C	D	Would require narrow lanes or minor landscape area reductions.
• Placentia Av. (EW) • Coast Hw. (EW) • Hospital Rd. (EW) <b>-LOS D Improvements</b> <b>-LOS E Improvements</b>	TS	1	3	1	1	4	0	1.5	1.5	0	1	2	1>>	0.79	0.90	C	D	

TABLE 5-10 (Page 2 of 6)

INTERSECTION ANALYSIS SUMMARY FOR GENERAL PLAN BUILDOUT WITH PROJECT

INTERSECTION	TRAFFIC CONTROL <sup>2</sup>	INTERSECTION APPROACH LANES <sup>1</sup>												LEVEL OF SERVICE			FEASIBILITY/COMMENTS	
		NORTH-BOUND			SOUTH-BOUND			EAST-BOUND			WEST-BOUND			AM	PM	PM		
		L	T	R	L	T	R	L	T	R	L	T	R					
Von Karman Av. (NS) at: • Campus Dr. (EW)	TS	1	2	1>>	1	2	0	1	2	1	1	2	0	0.73	0.97	C	E	Can be accomplished within existing curb to curb section by eliminating NB and EB RT lanes. Logical (high demand movement) improvement. Would encroach on landscape area on north leg of intersection.
-LOS D Alternative 1	TS	1	2	0	1	2	0	2	2	0	1	2	0	0.63	0.90	B	D	
-LOS D Alternative 2	TS	1	2	0	1	2	0	1	2	0	1	3	0	0.68	0.85	B	D	
-LOS D Alternative 3	TS	1	2	1>>	1	2	1	1	2	1	1	2	0	0.73	0.89	C	D	
-LOS D Alternative 4	TS	1	2	1>>	1	3	0	1	2	1	1	2	0	0.73	0.83	C	D	Logical (high demand movement) improvement. Would encroach on landscape area on north leg and south leg of intersection.
MacArthur Bl. (NS) at: • Von Karman Av. (EW)	TS	1	3	1	1	3	1	1	2	1>>	2	1	1>>	0.54	0.65	A	B	
Jamboree Rd. (NS) at: • Campus Dr. (EW)	TS	2	4	0	2	3	0	2	2	1>>	2	2	1	0.93	1.18	E	F	Based on field reconnaissance, it appears this could be accomplished on inside (south side), involving improvements to SR-73 NB On-ramp. SB Free Right implies braided ramp to allow access to Freeway - Runway height limit issues impacts building on NW corner
-LOS E Improvements	TS	2	4	1	2	4	0	2	2	0	2	2	1>	0.88	0.99	D	E	
-LOS D Improvements	TS	2	4	1>	2	4	0	2	2	0	2	2	1>	0.88	0.90	D	D	
• Birch St. (EW)	TS	1	3	0	1	3	1>>	1.5	0.5	1>>	0	1	0	1.00	0.84	E	D	
-LOS D Alternative 1	TS	1	3	0	1	4	1>>	1.5	0.5	1>>	0	1	0	0.89	0.78	D	C	
-LOS D Alternative 2	TS	2	3	0	1	3	1>>	1.5	0.5	1>>	0	1	0	0.87	0.79	D	C	
Campus Dr. (NS) at: • Bristol St. N (EW)	TS	2	3	0	0	4	2	0	0	0	2	4	0	1.02	1.06	F	F	
-LOS E Improvements	TS	2	3	0	0	4	2	0	0	0	2	5	0	0.95	0.96	E	E	
-LOS D Alternative 1	TS	2	4	0	0	4	1>>	0	0	0	2	5	0	0.79	0.86	C	D	
-LOS D Alternative 2	TS	2	4	0	0	4	3	0	0	0	2	5	0	0.79	0.86	C	D	

TABLE 5-10 (Page 3 of 6)

INTERSECTION ANALYSIS SUMMARY FOR GENERAL PLAN BUILDOUT WITH PROJECT

INTERSECTION	TRAFFIC CONTROL <sup>2</sup>	INTERSECTION APPROACH LANES <sup>1</sup>												LEVEL OF SERVICE		FEASIBILITY/COMMENTS		
		NORTH-BOUND			SOUTH-BOUND			EAST-BOUND			WEST-BOUND			ICU				
		L	T	R	L	T	R	L	T	R	L	T	R	AM	PM			
Birch St. (NS) at:		2	2	0	0	1.5	2.5	0	0	0	1.5	3.5	0	0.90	0.72	D	C	
• Bristol St. N (EW)	TS																	
• Campus Dr. (NS) at:		0	5	0	1	3	0	1.5	2.5	2	0	0	0	0.89	0.78	D	C	
• Bristol St. S (EW)	TS																	
Birch St. (NS) at:		0	2.5	1.5	2	2	0	1.5	3.5	0	0	0	0	0.51	0.54	A	A	
• Bristol St. S (EW)	TS																	
Irvine Av. (NS) at:		1	2	d	1	2	d	1	1	0	1	1	1	0.98	1.19	E	F	Highly problematic ROW / topographic issues on the west leg of the intersection. Assumes reallocated PM WB LT / Thru Volume. ROW and potential environmental issues.
• Mesa Dr. (EW)	TS	1	3	1	1	3	1	1	1	1	2	1	0	0.68	0.94	B	E	
-Funded Improvements	TS	1	3	1	1	3	1	1	1	1	1	2	0	0.74	0.87	C	D	
-LOS D Alternative 1	TS	1	3	1	1	3	1	1	1	1	1	1	0	0.71	0.86	C	D	
-LOS D Alternative 2	TS	1	2	1	1	2	1	1	2	d	1	1	d	1.19	1.09	F	F	
• University Dr. (EW)	TS	1	3	0	1	3	1	1.5	0.5	1	1	1	d	0.81	0.84	D	D	
-LOS D Improvements	TS	1	2	0	1	2	d	0	1	d	0	1	d	0.69	0.77	B	C	
• Santiago Dr. (EW)	TS	1	2	d	1	2	d	0	1	d	0	1	d	0.60	0.65	A	B	
• Highland Dr. (EW)	TS	1	2	d	1	2	d	1	1	0	1	1	d	0.78	0.69	C	B	
• Dover Dr. (EW)	TS	2	2	d	2	2	d	2	2	0	1	2	0	0.66	0.82	B	D	
• Westcliff Dr. (EW)	TS																	
Dover Dr. (NS) at:		2	2	0	0	1	1	2	0	1->	0	0	0	0.38	0.54	A	A	
• Westcliff Dr. (EW)	TS	1	2	d	1	2	d	0.5	0.5	d	1	1	1	0.60	0.60	A	A	
• 16th St. (EW)	TS	1	1	1	3	1	1	2	3	0	1	3	1->	0.81	0.94	D	E	
• Coast Hw. (EW)	TS	1	1	1	3	1	1	2	3	0	1	4	1->	0.81	0.78	D	C	Highly problematic ROW issues.
-LOS D Improvements	TS																	
Bayside Dr. (NS) at:		2.5	0.5	0	1	1	d	1	3	1	1	4	0	0.89	0.85	D	D	
• Coast Hw. (EW)	TS																	



TABLE 5-10 (Page 4 of 6)

INTERSECTION ANALYSIS SUMMARY FOR GENERAL PLAN BUILDOUT WITH PROJECT

INTERSECTION	TRAFFIC CONTROL <sup>2</sup>	INTERSECTION APPROACH LANES <sup>1</sup>												LEVEL OF SERVICE			FEASIBILITY/COMMENTS			
		NORTH-BOUND			SOUTH-BOUND			EAST-BOUND			WEST-BOUND			AM	PM	PM				
		L	T	R	L	T	R	L	T	R	L	T	R							
MacArthur Bl. (NS) at: <ul style="list-style-type: none"> <li>• Jamboree Rd. (EW)</li> <li>-LOS E Improvements</li> <li>-LOS D Alternative 1</li> <li>-LOS D Alternative 2A</li> <li>-LOS D Alternative 2B</li> </ul>	TS	2	3	1>	2	3	1>>	2	3	1>>	2	3	1>>	3	3	1>>	0.93	1.02	F	Jamboree improvement only. Feasible at-grade improvements. Grade separated alternative. Grade separated alternative.
Jamboree Rd. (NS) at: <ul style="list-style-type: none"> <li>• Bristol St. N (EW)</li> </ul>	TS	2	3	0	0	2.5	1.5	0	0	0	0	0	0	0	0	0	0.68	0.67	B	
Bayview Pl. (NS) at: <ul style="list-style-type: none"> <li>• Bristol St. S (EW)</li> </ul>	TS	0	0	2	0	0	0	0	4	1	0	0	0	0	0	0	0.60	0.63	A	
Jamboree Rd. (NS) at: <ul style="list-style-type: none"> <li>• Bristol St. S (EW)</li> <li>-LOS D Alternative 1</li> <li>-LOS D Alternative 2</li> </ul>	TS	0	5	0	0	3	0	1.5	1.5	2	0	0	0	0	0	0	0.94	0.87	E	Improvements currently under study.
Bayview Wy. (EW) <ul style="list-style-type: none"> <li>• Eastbluff Dr./University Dr. (EW)</li> <li>• Bison Av. (EW)</li> <li>• Eastbluff Dr./Ford Rd. (EW)</li> <li>• San Joaquin Hills Rd. (EW)</li> <li>• Santa Barbara Dr. (EW)</li> <li>• Coast Hw. (EW)</li> </ul>	TS	1	4	0	1	4	1	2	1	1	1	1	1	1	1	1	0.45	0.67	A	Appears feasible, but might cause operational issues.
Santa Cruz Dr. (NS) at: <ul style="list-style-type: none"> <li>• San Joaquin Hills Rd. (EW)</li> </ul>	TS	2	1	0	1	1	1	1	3	0	1	3	0	1	3	0	0.38	0.34	A	

TABLE 5-10 (Page 5 of 6)

INTERSECTION ANALYSIS SUMMARY FOR GENERAL PLAN BUILDOUT WITH PROJECT

INTERSECTION	TRAFFIC CONTROL <sup>2</sup>	INTERSECTION APPROACH LANES <sup>1</sup>																		LEVEL OF SERVICE			FEASIBILITY/COMMENTS
		NORTH-BOUND			SOUTH-BOUND			EAST-BOUND			WEST-BOUND			ICU			AM	PM	PM				
		L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	PM				
Santa Rosa Dr. (NS) at: • San Joaquin Hills Rd. (EW) Newport Center Dr. (NS) at: • Coast Hw. (EW)	TS	1	1	1>	1	1	1	1	3	0	2	3	0	0.41	0.71	A	C						
Avocado Av. (NS) at: • San Miguel Dr. (EW) • Coast Hw. (EW)	TS	1	1	1>	1	1	1>	2	3	0	0	3	1>>	0.36	0.79	A	C						
SR-73 NB Ramps (NS) at: • Bison Av. (EW)	TS	1.5	0	1.5	0	0	0	1	2	0	0	2	1	0.52	0.61	A	B						
SR-73 SB Ramps (NS) at: • Bison Av. (EW)	TS	0	0	0	2	0	1>>	0	2	1	2	2	0	0.42	0.32	A	A						
MacArthur Bl. (NS) at: • Bison Av. (EW) • Ford Rd./Bonita Canyon Dr. (EW)	TS	2	4	1>>	2	4	1>	2	2	1>>	2	2	1	0.78	0.79	C	C						
-LOS D Improvements	TS	2	4	1>>	2	4	1>>	2	2	1	2	2	1>>	0.80	1.00	C	E						
• San Joaquin Hills Rd. (EW)	TS	2	3	1	2	3	1>>	2	2	1	2	2	1>>	0.79	0.89	C	D						
LOS E Alternative 1	TS	2	4	0	2	3	1>>	2	3	0	1	2	1>>	0.79	1.12	C	F						
LOS E Alternative 2	TS	2	4	0	2	3	1>>	2	3	0	1	2	1>>	0.68	0.94	B	E						
LOS E Alternative 3	TS	2	3	1	2	3	1>>	2	3	0	1	2	1>>	0.69	0.92	B	E						
-LOS D Improvements	TS	2	4	0	2	3	1>>	2	3	0	1	2	1>>	0.71	0.91	C	E						
• San Miguel Dr. (EW) • Coast Hw. (EW)	TS	2	3	1	2	3	1>	2	2	0	2	2	0	0.65	0.82	B	D		All 3 improvements req'd to achieve LOS "D". May require narrow lanes and lead / lag LT operations.				
SR-73 NB Ramps (NS) at: • Bonita Canyon Dr. (EW)	TS	2	0	1	0	0	0	0	2	1	1	2	0	1.06	0.76	F	C						
-LOS D Improvements	TS	2	0	1	0	0	0	0	2	1	2	2	0	0.84	0.63	D	B						
SR-73 SB Ramps (NS) at: • Bonita Canyon Dr. (EW)	TS	2	0	1	0	0	0	0	2	1	2	3	0	0.46	0.66	A	B						
Spyglass Hill Rd. (NS) at: • San Miguel Dr. (EW)	TS	0	1	d	0	1	1	1	2	d	1	2	d	0.30	0.38	A	A						
San Miguel Dr. (NS) at: • San Joaquin Hills Rd. (EW)	TS	1	2	0	1	2	1>	2	3	0	1	3	0	0.55	0.74	A	C						

TABLE 5-10 (Page 6 of 6)

INTERSECTION ANALYSIS SUMMARY FOR GENERAL PLAN BUILDOUT WITH PROJECT

INTERSECTION	TRAFFIC CONTROL <sup>2</sup>	INTERSECTION APPROACH LANES <sup>1</sup>												LEVEL OF SERVICE			FEASIBILITY/COMMENTS			
		NORTH-BOUND			SOUTH-BOUND			EAST-BOUND			WEST-BOUND			ICU						
		L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	PM				
Goldenrod Av. (NS) at: • Coast Hw. (EW) -LOS D Improvements	TS TS	1	1	0	0	1	0	1	2	d	1	2	d	1	2	d	0.99	0.69	E B	Highly problematic ROW issues. Inconsistent with Corona Del Mar character.
Marguerite Av. (NS) at: • San Joaquin Hills Rd. (EW) • Coast Hw. (EW) -LOS D Improvements	TS TS TS	1.5	0.5	1	1	1	0	1	2	1>	1	3	d	1	2	0	0.42	0.51	A A	
Spyglass Hill Rd. (NS) at: • San Joaquin Hills Rd. (EW) Poppy Av. (NS) at: • Coast Hw. (EW)	TS TS	1	1	0	1	1	d	1	2	1	1	2	d	1	2	d	0.60	0.49	A A	
Newport Coast Dr. (NS) at: • SR-73 NB Ramps (EW) • San Joaquin Hills Rd. (EW) • Coast Hw. (EW)	TS TS TS	0	2	1>>	0	2	0	0	0	0	1.5	0	0.5	0	0	0	0.65	0.40	B A	

<sup>1</sup> When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; > = Overlap; >> = Free Right; I = Improvement

<sup>2</sup> TS = Traffic Signal

improvements. Improvements necessary to provide acceptable levels of service are shown in Table 5-11. Improvements that require the least additional right-of-way or other environmental impacts have generally been recommended. Individual intersections improvements are discussed in Chapter 6 for each location requiring improvements.

## 5.6 Freeway/Tollway and Ramp Analysis

For the General Plan buildout With Project scenario, the volumes on four segments have slightly increased when compared to the General Plan buildout Without Project scenario. The analysis summary is shown on Table 5-12. With anticipated regional improvements, the same segments that operated deficiently in the General Plan buildout Without Project scenario also operate at a deficient level of service in the General Plan With Project scenario, including:

### SR-73 Freeway Northbound

- I-405 Freeway to Bear Street (AM)
- Bear Street to SR-55 Freeway (AM)
- SR-55 Freeway to Jamboree Rd. (AM)
- Bonita Canyon Drive to Newport Coast Drive (AM)
- Newport Coast Drive to Toll Plaza (AM)

### SR-73 Freeway Southbound

- I-405 Freeway to Bear Street (PM)
- Bear Street to SR-55 Freeway (PM)
- SR-55 Freeway to Jamboree Rd. (PM)

However, the following segments require additional lanes when compared with the General Plan Without Project scenario:

### SR-73 Freeway

- Bear Street to SR-55 Freeway (Northbound/Southbound)
- SR-55 Freeway to Jamboree Road (Northbound/Southbound)

TABLE 5-11 (Page 1 of 2)

GENERAL PLAN BUILDOUT WITH PROJECT SUMMARY  
OF IMPROVEMENT NEEDS BEYOND 2005 EXISTING LANES

INTERSECTION	ADDITIONAL INTERSECTION IMPROVEMENTS
	WITH PROJECT
Bluff Rd. (NS) at: • Coast Hw. (EW)	Provide two SB left turn lanes and two SB right turn lanes (2nd with overlap phase). Provide two EB left turn lanes. Provide one WB right turn lane.
15th St. (NS) at: • Coast Hw. (EW)	Provide two SB left turn lanes and two SB right turn lanes (2nd with overlap phase). Provide two EB left turn lanes. Provide one WB right turn lane.
Newport Bl. (NS) at: • Hospital Rd. (EW)  • 32nd St. (EW)	Provide 2nd NB left turn lane.  Restripe EB to provide 2 left turn lanes, and 1 shared through-right lane Restripe WB to provide 1 left turn lane, 1 through lane, and 1 free right turn lane.
Riverside Av. (NS) at: • Coast Hw. (EW)	Provide 3rd EB through lane.
Tustin Av. (NS) at: • Coast Hw. (EW)	Provide 3rd EB through lane.
MacArthur Bl. (NS) at: • Campus Dr. (EW)	Provide 2nd NB left turn lane. Restripe SB to provide 3.5 through lanes and 1.5 right turn lanes.
Von Karman Av. (NS) at: • Campus Dr. (EW)	Provide 2nd EB left turn lane.
Jamboree Rd. (NS) at: • Campus Dr. (EW)  • Birch St. (EW)	Provide 1st NB right turn lane with overlap phase. Provide 4th SB through lane. Provide WB right turn overlap phase for current right turn lane.  Provide 4th SB through lane.
Campus Dr. (NS) at: • Bristol St. N (EW)	Provide 5th WB through lane.
Irvine Av. (NS) at: • Mesa Dr. (EW)  -Funded Improvements Additional Improvements • University Dr. (EW)	Provide 3rd NB through lane. Provide 3rd SB through lane. Provide 1st EB right turn lane. Provide 2nd WB left turn lane. Construct funded improvements, but EB right turn lane not necessary.  Provide 3rd NB through lane. Provide 3rd SB through lane. Restripe EB to include 1.5 left turn lanes, 0.5 through lanes, and 1 right turn lane.

TABLE 5-11 (Page 2 of 2)

GENERAL PLAN BUILDOUT WITH PROJECT SUMMARY  
OF IMPROVEMENT NEEDS BEYOND 2005 EXISTING LANES

INTERSECTION	ADDITIONAL INTERSECTION IMPROVEMENTS
	WITH PROJECT
MacArthur Bl. (NS) at: • Jamboree Rd. (EW)	Provide 4th EB through lane. Provide 3rd WB left turn lane.
Jamboree Rd. (NS) at: • Bristol St. S (EW)	Provide 6th NB through lane. Provide 4th SB through lane.
MacArthur Bl. (NS) at: • Ford Rd./Bonita Canyon Dr. (EW)  • San Joaquin Hills Rd. (EW)	Provide 3rd SB left turn lane.  Provide 4th NB through lane. Provide 3rd SB left turn lane. Provide 3rd EB left turn lane.
SR-73 NB Ramps (NS) at: • Bonita Canyon Dr. (EW)	Provide 2nd WB left turn lane.

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TABLE 5-12

BUILDOUT WITH PROJECT SR-73 FREEWAY/TOLL WAY MAINLINE ANALYSIS

AM SEGMENT	ADT	NORTHBOUND			SOUTHBOUND		
		LANES	VOLUME	LOS	LANES	VOLUME	LOS
405 Fw. to Bear St.	135,000	3	10,718	F	3	3,457	C
-with anticipated regional improvements <sup>2</sup>		5		F	4		B
-with additional improvements		6		D	6		A
Bear St. to 55 Fw.	159,000	3	12,623	F	3	4,072	C
-with anticipated regional improvements <sup>2</sup>		5		F	5		B
-with additional improvements		8		D	7		A
55 Fw. to Jamboree Rd.	136,000	3	10,797	F	3	3,483	C
-with anticipated regional improvements <sup>2</sup>		5		F	5		B
-with additional improvements		7		D	6		A
Jamboree Rd. to Bonita Canyon Dr.	98,000	3	7,780	F	3	2,510	B
-with anticipated regional improvements <sup>2</sup>		5		D	5		A
Bonita Canyon Dr. to Newport Coast Dr.	136,000	4	10,797	F	4	3,483	B
-with anticipated regional improvements <sup>2</sup>		6		E	6		A
-with additional improvements		7		D	6		A
Newport Coast Dr. to Toll Plaza	128,000	3	10,162	F	3	3,278	C
-with anticipated regional improvements <sup>2</sup>		5		F	6		A
-with additional improvements		6		D	6		A

PM SEGMENT	ADT	NORTHBOUND			SOUTHBOUND		
		LANES	VOLUME	LOS	LANES	VOLUME	LOS
405 Fw. to Bear St.	135,000	3	5,646	E	3	9,137	F
-with anticipated regional improvements <sup>2</sup>		5		C	4		F
-with additional improvements		6		B	6		D
Bear St. to 55 Fw.	159,000	3	6,650	F	3	10,761	F
-with anticipated regional improvements <sup>2</sup>		5		C	5		F
-with additional improvements		8		B	7		D
55 Fw. to Jamboree Rd.	136,000	3	5,687	E	3	9,205	F
-with anticipated regional improvements <sup>2</sup>		5		C	5		E
-with additional improvements		7		B	6		D
Jamboree Rd. to Bonita Canyon Dr.	98,000	3	4,098	C	3	6,633	F
-with anticipated regional improvements <sup>2</sup>		5		B	5		C
Bonita Canyon Dr. to Newport Coast Dr.	136,000	4	5,687	C	4	9,205	F
-with anticipated regional improvements <sup>2</sup>		6		B	6		D
-with additional improvements		7		B	6		D
Newport Coast Dr. to Toll Plaza	128,000	3	5,353	D	3	8,663	F
-with anticipated regional improvements <sup>2</sup>		5		C	6		D
-with additional improvements		6		B	6		D

1 = Improvement

<sup>2</sup> - Anticipated regional improvements taken from OCTAM

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Because the needed improvements to serve cumulative future traffic volumes on the freeway exceed the planned system improvements, a potentially significant cumulative impact to the freeway system may occur. The ramp volumes for the General Plan With Project scenario are similar to the ramp volumes for the General Plan Without Project scenario, which resulted in the same operational deficiencies. Table 5-13 summarizes the analysis. The deficient ramps are:

- Bristol Street Northbound Off
- Jamboree Road Southbound On
- MacArthur Boulevard Northbound On
- MacArthur Boulevard Southbound Off
- Bonita Canyon Drive Northbound Off
- Newport Coast Drive Northbound Off
- Newport Coast Drive Northbound On
- Newport Coast Drive Southbound Off



TABLE 5-13

GENERAL PLAN BUILDOUT WITH PROJECT SR-73 FREEWAY PEAK HOUR RAMP ANALYSIS

RAMP	MOVE	LANES ON FWY.	FREEWAY VOLUME		RAMP LANES	LENGTH OF ACCELERATION DECELERATION LANE (ft)	PEAK HOUR VOLUME		DENSITY		LOS	
			AM	PM			AM	PM	AM	PM	AM	PM
Bristol St.	NB Off	5	10,718	5,646	1	0	2,280	920	54.7	30.5	F	D
-with improvements	NB Off	<b>6</b>	10,718	5,646	<b>2</b>	<b>280</b>	2,280	920	34.8	17.1	D	B
Bristol St.	SB Off	5	3,457	9,137	2	2,725	1,370	690	NOM	NOM	A	A
Jamboree Rd.	NB On	5	7,780	4,098	1	120	480	850	21.0	17.3	C	B
Jamboree Rd.	SB On	5	3,483	9,205	1	1,700	630	1,610	15.1	38.0	B	F
-with improvements	SB On	<b>6</b>	3,483	9,205	1	<b>1,570</b>	630	1,610	12.7	30.6	B	D
MacArthur Bl.	NB Off	5	7,780	4,098	2	1,480	930	490	0.8	NOM	A	A
MacArthur Bl.	NB On	5	7,780	4,098	1	340	2,570	2,210	-- <sup>1</sup>	-- <sup>1</sup>	F	F
-with improvements	NB On	<b>6</b>	7,780	4,098	<b>2</b>	340	2,570	2,210	32.1	25.2	D	C
MacArthur Bl.	SB Off	5	2,510	6,633	1	1,340	2,220	2,310	15.8	28.5	F <sup>1</sup>	F <sup>1</sup>
-with improvements	SB Off	<b>6</b>	2,510	6,633	<b>2</b>	1,340	2,220	2,310	3.2	11.2	A	B
University Dr.	NB On	5	7,780	4,098	1	200	1,310	1,470	22.5	20.2	C	C
University Dr.	SB Off	5	2,510	6,633	1	1,400	800	840	7.2	19.7	A	B
Bison Av.	NB Off	5	7,780	4,098	1	0	520	330	34.5	22.3	D	C
Bison Av.	NB On	5	7,780	4,098	1	250	280	860	19.0	16.0	B	B
Bison Av.	SB Off	5	2,510	6,633	1	0	1,000	380	20.9	29.7	C	D
Bison Av.	SB On	5	2,510	6,633	1	740	120	440	9.6	21.4	A	C
Bonita Canyon Dr.	NB Off	6	10,797	5,687	1	1,250	980	220	30.1	12.8	D	B
Bonita Canyon Dr.	NB On	5	7,780	4,098	1	2,440	720	420	47.8	22.9	F	C
-with improvements	NB On	5	7,780	4,098	1	<b>1,020</b>	720	420	34.4	20.5	D	C
Bonita Canyon Dr.	SB Off	5	2,510	6,633	1	0	410	500	17.6	30.3	B	D
Bonita Canyon Dr.	SB On	5	2,510	6,633	1	400	300	820	10.9	19.7	B	B
Newport Coast Dr.	NB Off	5	10,162	5,353	1	0	560	290	43.0	25.8	F	C
-with improvements	NB Off	<b>6</b>	10,162	5,353	1	<b>240</b>	560	290	34.9	21.3	D	C
Newport Coast Dr.	NB On	5	10,162	5,353	1	1,250	480	330	53.3	27.4	F	C
-with improvements	NB On	<b>6</b>	10,162	5,353	1	<b>860</b>	480	330	34.8	20.5	D	C
Newport Coast Dr.	SB Off	6	3,483	9,205	1	0	680	1,050	20.8	37.1	C	E
-with improvements	SB Off	6	3,483	9,205	1	<b>240</b>	680	1,050	18.7	34.9	B	D
Newport Coast Dr.	SB On	6	3,483	9,205	1	360	460	600	13.0	21.7	B	C

<sup>1</sup> Ramp failure due to ramp volumes over capacity.

**1** = Improvement

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## **6.0 SPECIAL ISSUES**

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Several special issues have been evaluated in this Traffic Study. The following sections discuss the special issues that have been addressed. This chapter also provides a summary comparison of the results of intersection analysis.

### **6.1 Nineteenth Street Bridge**

There are two additional crossings of the Santa Ana River south of the I-405 freeway on the Orange County Master Plan of Arterial Highways (Gisler Avenue / Garfield Avenue and 19th Street / Banning Avenue). Of particular interest in evaluating traffic issues in the City of Newport Beach is the 19th Street bridge. Without the potential 19<sup>th</sup> Street bridge over the Santa Ana River, Superior Avenue at Coast Highway experiences deficient operations requiring substantial additional improvements and additional potential intersections at Bluff Road and 15th Street need to be constructed with additional lanes beyond what is necessary with the bridge. The bridge would provide relief to Coast Highway, resulting in the need for at least one fewer additional through lane in each direction. Therefore, it is recommended that Newport Beach continue to be an advocate for the 19<sup>th</sup> Street bridge.

### **6.2 SR-55 Freeway Extension**

A possible extension of the SR-55 Freeway south from its current terminus to 17th Street has been discussed. While this extension may provide some relief to Newport Boulevard, it is projected to draw additional through traffic to Coast Highway. The potential extension of the SR-55 Freeway would result in additional through traffic on Coast Highway.

### 6.3 Banning Ranch

The City Council has identified open space as the preferred use of Banning Ranch, but the analysis contained in this Traffic Study has assumed worst case conditions, including alternate residential and commercial development on the Banning Ranch property. If the open space preservation occurs, roadway segments through the property (Bluff Road and 15<sup>th</sup> Street) will not be constructed, the relief to Superior Avenue at Coast Highway will not be provided by the new connections, and Superior Avenue at Coast Highway will experience Level of Service "E" conditions. If the Banning Ranch property is acquired for open space, Superior Avenue at Coast Highway is expected to operate at LOS "E" in both the AM and PM peak hours without improvements. Previous analysis has indicated that necessary improvements to achieve acceptable LOS are expected to include one northbound right turn lane, a fourth eastbound through lane, and a fifth westbound through. These improvements exceed the existing / planned roadway cross-section substantially. Therefore, a roadway crossing the Banning Ranch open space would still be required.

With development on Banning Ranch, Bluff Road at Coast Highway would experience unacceptable levels of service unless the 15<sup>th</sup> Street extension is constructed. Without this improvement, an additional westbound through lane would be required on Coast Highway to provide LOS "D" conditions at the intersection of Bluff Road at Coast Highway. Based on this analysis it is recommended that two new roadways provide access to Coast Highway through the Banning Ranch property, should the alternate land use be constructed.

### 6.4 Coast Highway through Mariners Mile

The widening of Coast Highway through Mariners Mile is recommended, as it would alleviate congestion (which is caused by high volumes of traffic in the peak direction along this segment of Coast Highway) through this key stretch of

roadway, and the City has already begun reserving right-of-way for this improvement. To implement this widening, it is recommended that the City pursue obtaining control of Coast Highway from the California Department of Transportation (Caltrans), so that the widening may be constructed to City of Newport Beach standards.

## 6.5 Individual Intersection Summaries

Individual intersections requiring improvements in any scenario are documented below.

### Bluff Road (NS) at Coast Highway (EW)

Bluff Road is a new roadway facility that will connect from 17th Street through the Banning Ranch property to Coast Highway. An alternate alignment may be acceptable at the discretion of City staff. In order to provide LOS "D" operations in the Without or With Project scenario, it is recommended that two southbound left-turn lanes and two southbound right-turn lanes (with overlap phase) be constructed at Coast Highway. In addition, two eastbound left-turn lanes and one westbound right-turn lane should be provided.

### 15<sup>th</sup> Street (NS) at Coast Highway (EW)

15th Street is projected to extend west (from its current terminus) through the Banning Ranch site to Coast Highway. An alternate alignment may be acceptable at the discretion of City staff. It is recommended that two southbound left-turn lanes and two southbound right-turn lanes with overlap phase (i.e. right turn arrow) be provided at Coast Highway. In addition, two eastbound left-turn lanes and one westbound right-turn lane should be provided. With this intersection configuration, the intersection is projected to operate at acceptable LOS during both the AM and PM peak hours in the Without or With Project scenarios.

#### Newport Boulevard (NS) at Hospital Road (EW)

Under Without Project conditions, this intersection is expected to operate at LOS “C” during the AM peak hour and at LOS “E” during the PM peak hour. For With Project conditions, the intersection is projected to operate at LOS “D” during the AM peak hour and LOS “E” during the PM peak hour. In order to improve operating conditions, it is recommended that a second northbound left-turn lane be provided. With this improvement in place, the intersection is projected to operate at LOS “C” or “D” during all peak hours. The City of Newport Beach previous Circulation Element recommended that this left-turn lane be added. The previous Circulation Element projected the improved intersection to operate at LOS “D” during the AM peak hour and at LOS “E” during the PM peak hour.

#### Newport Boulevard (NS) at 32<sup>nd</sup> Street (EW)

Newport Boulevard at 32nd Street is projected to operate at acceptable Levels of Service for Without Project conditions. For With Project conditions, the PM peak hour is projected to experience LOS “E” operations. Acceptable LOS can be achieved by restriping the eastbound approach to have two left turn lanes and one shared through-right lane; the westbound approach to have one left turn lane, one through lane, and one free right turn lane; signal modification would also be necessary. The previous Circulation Element projected acceptable LOS at this location.

#### Riverside Avenue (NS) at Coast Highway (EW)

Under Without Project and With Project conditions, this intersection is expected to operate at LOS “E” during both the AM and PM peak hours. In order to improve operating conditions, it is recommended that a third eastbound through travel lane be provided (consistent with the planned widening of Coast Highway through Mariners Mile). To accomplish this, the westbound right-turn lane can be

eliminated. With these improvements in place, the intersection is projected to operate at LOS “B” during the AM peak hour and at LOS “E” during the PM peak hour for Without Project or With Project conditions.

The City of Newport Beach previous Circulation Element recommended that an optional southbound left-turn lane, a separate southbound right-turn lane, and one eastbound left-turn lane be added. These improvements are not consistent with the current recommendations. The previous Circulation Element projected the improved intersection to operate at LOS “B” during the AM peak hour and at LOS “C” during the PM peak hour. Adding a second eastbound left turn lane would provide LOS “D” or better operations, but would impact/eliminate the existing improvements that have been built to serve pedestrians and bicyclists.

#### Tustin Avenue (NS) at Coast Highway (EW)

With the existing configuration for the Without Project scenario, Tustin Avenue at Coast Highway is expected to operate at LOS “E” conditions in the AM peak hour and LOS “C” in the PM peak hour. For the With Project scenario, it is projected to experience LOS “E” in the AM peak hour and LOS “D” in the PM peak hour. To improve operations to LOS “D” or better in all peak hours, an additional eastbound through lane on Coast Highway is recommended, consistent with the planned widening of Coast Highway through Mariners Mile.

#### MacArthur Boulevard (NS) at Campus Drive (EW)

Under Without Project conditions, this intersection is expected to operate at LOS “C” during the AM peak hour and at LOS “F” during the PM peak hour (without improvements). For the With Project scenario, it is expected to operate at LOS “D” during the AM peak hour and LOS “F” during the PM peak hour. In order to improve operating conditions, it is recommended that a second northbound left turn lane be provided and the southbound approach be restriped to provide three (3) through travel lanes, one (1) shared through-right lane, and one (1) right turn

lane. With these improvements in place, the intersection is projected to operate at LOS “C” during the AM peak hour and at LOS “D” during the PM peak hour for Without Project and With Project conditions. The City of Newport Beach previous Circulation Element recommended that a southbound left-turn lane, a westbound left-turn lane, a northbound right-turn lane, and a separate eastbound right-turn lane be added. These improvements are not consistent with the current recommendations. The previous Circulation Element projected the improved intersection to operate at LOS “B” during the AM peak hour and at LOS “F” during the PM peak hour.

#### Von Karman Avenue (NS) at Campus Drive (EW)

Under Without Project conditions, this intersection is expected to operate at LOS “B” during the AM peak hour and at LOS “E” during the PM peak hour. For With Project conditions, it is projected to operate at LOS “C” during the AM peak hour and LOS “E” during the PM peak hour. In order to provide acceptable operating conditions, it is recommended that a second eastbound left turn lane be provided. To implement this improvement, both the eastbound right turn lane and northbound free right turn lane can be eliminated. With these improvements in place, the intersection is projected to operate at LOS “A” during the AM peak hour for Without Project conditions and LOS “B” for With Project conditions, and at LOS “D” during the PM peak hour for either case. The City of Newport Beach previous Circulation Element provided no recommendations for improving this intersection. The previous Circulation Element projected the intersection to operate at LOS “C” during the AM peak hour and at LOS “E” during the PM peak hour.

#### Jamboree Road (NS) at Campus Drive (EW)

Under Without Project or With Project conditions, this intersection is expected to operate at LOS “E” during the AM peak hour and at LOS “F” during the PM peak hour (without improvements). In order to improve operating conditions, it is



recommended that a northbound right turn lane (with overlap phase), a fourth southbound through travel lane, and a right-turn overlap phase for the current westbound right turn lane be provided. To implement these improvements, the eastbound free right-turn lane can be eliminated. With these improvements in place, the intersection is projected to operate at LOS “D” during the AM and LOS “E” during the PM peak hours. These same improvements provide acceptable operations (LOS “D”) for With Project conditions. To achieve LOS “D” conditions for the Without Project scenario, a third westbound through lane is also necessary. The City of Newport Beach previous Circulation Element provided no recommendations for improving this intersection. The previous Circulation Element projected the intersection to operate at LOS “F” during both the AM and PM peak hours.

#### Jamboree Road (NS) at Birch Street (EW)

Jamboree Road at Birch Street is projected to experience LOS “E” conditions in the AM peak hour and LOS “D” conditions in the PM peak hour without improvements. To achieve acceptable operations, an additional (4<sup>th</sup>) southbound through lane or a second (2<sup>nd</sup>) northbound left turn lane is necessary at this location. The previous Circulation Element projected intersection operations of LOS “C” in both the AM and PM peak hours.

#### Campus Drive (NS) at Bristol Street North (EW)

Under Without Project conditions, this intersection is expected to operate at LOS “E” in the AM peak hour and LOS “F” in the PM peak hour. For With Project conditions, both peak hours experience LOS “F” conditions. In order to improve operating conditions, it is recommended that a fifth westbound through travel lane be provided. With this improvement in place, the intersection is projected to operate at LOS “E” during both the AM and PM peak hours. The City of Newport Beach previous Circulation Element recommended that one westbound left turn

lane be added. This improvement is not consistent with the current recommendation. The previous Circulation Element projected the improved intersection to operate at LOS “D” during the AM peak hour and at LOS “F” during the PM peak hour. Any additional improvements would impact the existing building on the northwest corner of the intersection and would also require widening of the bridge over the freeway to achieve an acceptable (LOS “D”) level of service.

#### Birch Street (NS) at Bristol Street North (EW)

The intersection of Birch Street at Bristol Street North is projected to experience LOS “E” conditions in the AM peak hour and LOS “C” conditions in the PM peak hour without improvements for the Without Project scenario. For the With Project scenario, the intersection experiences acceptable operations. To achieve acceptable operations, it is recommended that the westbound approach be restriped to provide one left turn lane, two through lanes, a shared through-right lane and a right turn lane. These improvements are not necessary for the With Project condition. In the previous Circulation Element, Birch Street at Bristol Street North was projected to experience LOS “B” conditions for the AM peak hour and LOS “E” conditions for the PM peak hour.

#### Campus Drive (NS) at Bristol Street South (EW)

The intersection of Campus Drive at Bristol Street South is projected to experience LOS “E” conditions in the AM peak hour and LOS “C” conditions in the PM peak hour for Without Project conditions. For With Project conditions, it experiences acceptable Levels of Service. To achieve acceptable levels of service for the Without Project scenario, it would be necessary to restripe the eastbound approach to include two left turn lanes, two through lanes, a shared through-right lane, and a right turn lane. These improvements are not necessary for the With Project condition.

### Irvine Avenue (NS) at Mesa Drive (EW)

Under Without Project or With Project conditions, this intersection is expected to operate at LOS “E” during the AM peak hour and at LOS “F” during the PM peak hour without improvements. Funded improvements include a third northbound through travel lane, a third southbound through travel lane, an eastbound right turn lane and a second westbound left-turn lane. It is projected that acceptable operations can be achieved without westbound or eastbound right turn lanes. Because of the available westbound left turn lanes, it is expected that drivers desiring to travel southwest on Irvine Avenue will turn left, rather than proceeding through the intersection and turning left at the next available route. The funded improvements will achieve an acceptable level of service with such a shift in future traffic volumes.

The City of Newport Beach previous Circulation Element recommended that a separate southbound right turn lane, a northbound right turn lane, a westbound left turn lane, and an eastbound through travel lane be added. These improvements are not consistent with the current recommendation. The previous Circulation Element projected the improved intersection to operate at LOS “E” during both the AM and PM peak hours.

### Irvine Avenue (NS) at University Drive (EW)

Under Without Project or With Project conditions, this intersection is expected to operate at LOS “F” during both the AM and PM peak hours. In order to improve operating conditions, it is recommended that a third northbound through travel lane and a third southbound through travel lane be provided. In addition, the eastbound approach should be restriped to provide one left turn lane, one shared left-through lane, and one right-turn lane. With these improvements in place, the intersection is projected to operate at acceptable LOS during both peak hours. The City of Newport Beach previous Circulation Element recommended that an

eastbound through travel lane be added. This improvement is not consistent with the current recommendations. The previous Circulation Element projected the improved intersection to operate at LOS "F" during the AM peak hour and at LOS "E" during the PM peak hour.

#### Dover Drive (NS) at Coast Highway (EW)

This intersection is expected to operate at LOS "E" during the PM peak hour under Without Project or With Project conditions. In order to improve operating conditions, a fourth westbound through travel lane would need to be provided. This would require right-of-way that is unavailable.

The City of Newport Beach previous Circulation Element recommended that an eastbound through travel lane and a westbound through travel lane be added. The previous Circulation Element projected the improved intersection to operate at LOS "D" during the AM peak hour and at LOS "C" during the PM peak hour.

#### MacArthur Boulevard (NS) at Jamboree Road (EW)

Under Without Project conditions, this intersection is expected to operate at LOS "E" during the AM and PM peak hours. For the With Project conditions, the intersection experiences LOS "E" in the AM peak hour and LOS "F" in the PM peak hour. In order to improve operating conditions for Without Project, a third westbound left-turn lane should be provided. With this improvement in place, the intersection is projected to operate at LOS "D" during both the AM and PM peak hours. It should be noted that a triple left turn works best when four receiving lanes are available. A triple left turn lane into three receiving lanes may not operate as efficiently. For With Project conditions, a fourth eastbound through lane is necessary, in addition to the third westbound left turn lane, to achieve acceptable LOS. The City of Newport Beach previous Circulation Element provided no recommendations for improving this intersection. The previous Circulation Element projected the intersection to operate at LOS "F" during both the AM and PM peak hours.

### Jamboree Road (NS) at Bristol Street South (EW)

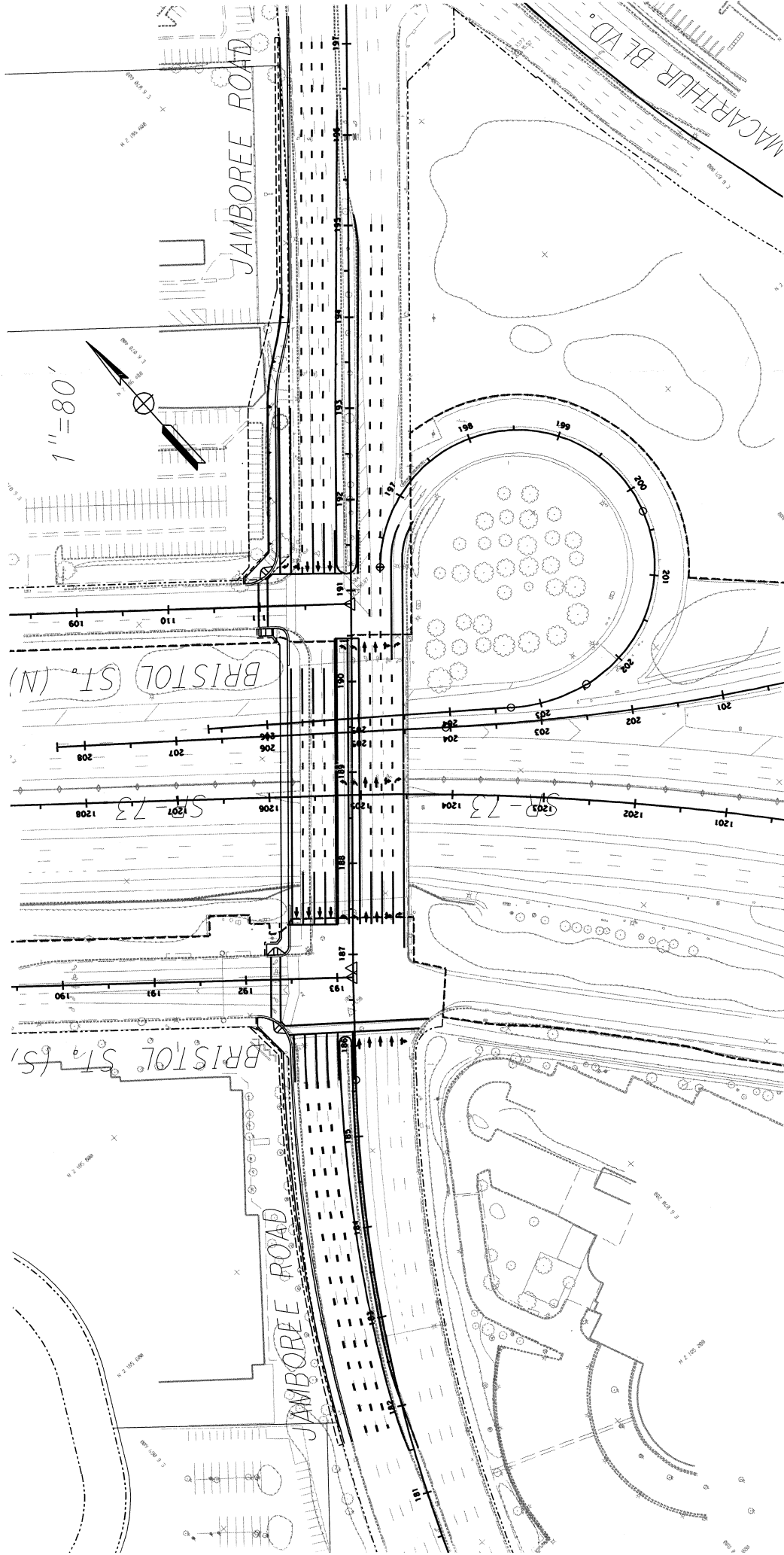
Under Without Project or With Project conditions, this intersection is expected to operate at LOS “E” during the AM peak hour and at LOS “D” during the PM peak hour. In order to improve operating conditions, it is recommended that a sixth northbound through travel lane and a fourth southbound through travel lane be provided. The City is currently evaluating the feasibility of these improvements. A conceptual striping plan is shown on Exhibit 6-A. With these improvements in place, the intersection is projected to operate at LOS “E” during the AM peak hour and LOS “D” during the PM peak hour for Without Project conditions. These improvements achieve LOS “D” for With Project conditions. Without the project, an additional eastbound left turn lane is also required to achieve LOS “D” in the AM peak hour. The City of Newport Beach previous Circulation Element recommended that an eastbound through travel lane and a northbound ramp onto SR-73 freeway be added. These improvements are not consistent with the current recommendations. The previous Circulation Element projected the improved intersection to operate at LOS “C” during the AM peak hour and at LOS “D” during the PM peak hour.

### MacArthur Boulevard (NS) at Ford Road/Bonita Canyon Drive (EW)

Under Without Project and With Project conditions, this intersection is expected to operate at LOS “C” during the AM peak hour and at LOS “E” during the PM peak hour. In order to improve operating conditions, it is recommended that a third southbound left turn lane be provided. The northbound free right turn lane can be converted to a right turn lane to accommodate this improvement. With this improvement in place, the intersection is projected to operate at LOS “C” in the AM peak hour and LOS “D” during the PM peak hour. The City of Newport Beach previous Circulation Element provided no recommendations for improving this intersection. The previous Circulation Element projected the intersection to operate at LOS “D” during both the AM and PM peak hours.

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EXHIBIT 6-A  
**JAMBOREE ROAD AT BRISTOL STREET CONCEPTUAL STRIPING PLAN**



SOURCE: RBF CONSULTING



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#### MacArthur Boulevard (NS) at San Joaquin Hills Road (EW)

Under Without Project or With Project conditions, this intersection is expected to operate at LOS "C" during the AM peak hour and at LOS "F" during the PM peak hour. In order to improve operating conditions, it is recommended that a third southbound left turn lane and a third eastbound left turn lane be provided. With these improvements in place, the intersection is projected to operate at LOS "B" during the AM peak hour and at LOS "D" during the PM peak hour for Without Project conditions. For With Project conditions, a fourth northbound through lane is required to achieve acceptable LOS. The City of Newport Beach previous Circulation Element provided no recommendations for improving this intersection. The previous Circulation Element projected the intersection to operate at LOS "B" during the AM peak hour and at LOS "D" during the PM peak hour.

#### SR-73 NB Ramps (NS) at Bonita Canyon Drive (EW)

For Without Project or With Project conditions, LOS "F" is projected to occur in the AM peak hour and LOS "C" in the PM peak hour for the SR-73 northbound ramps at Bonita Canyon Drive. An additional (2nd) westbound left turn lane is necessary to provide acceptable (LOS "D") operations.

#### Goldenrod Avenue (NS) at Coast Highway (EW)

Under Without Project or With Project conditions, this intersection is expected to operate at LOS "E" during the AM peak hour and at LOS "B" during the PM peak hour. While additional through lanes on Coast Highway would provide acceptable operations, no improvements are recommended at this location. The widening of Coast Highway is inconsistent with the community character of Corona Del Mar. The City of Newport Beach previous Circulation Element provided no recommendations for improving this intersection. The previous Circulation Element projected the intersection to operate at LOS "D" during both the AM and PM peak hours, most likely because the SR-73 was assumed to be untolled at City buildout.

### Marquerite Avenue (NS) at Coast Highway (EW)

Under Without Project or With Project conditions, this intersection is expected to operate at LOS "E" during both the AM and PM peak hours. While additional through lanes on Coast Highway would provide acceptable operations, no improvements are recommended at this location. The widening of Coast Highway is inconsistent with the community character of Corona Del Mar. The City of Newport Beach previous Circulation Element provided no recommendations for improving this intersection. The previous Circulation Element projected the intersection to operate at LOS "D" during the AM peak hour and at LOS "B" during the PM peak hour, most likely because the SR-73 was assumed to be untolled at City buildout.

### 6.6 MacArthur Boulevard at Jamboree Road

As shown in Table 5-10, grade separation for the intersection of MacArthur Boulevard at Jamboree Road is one improvement that was considered to maintain LOS "D" at this location. During the Visioning Process, citizens indicated a desire to not incorporate additional grade separated intersections in the roadway system. Acceptable operations can be achieved with at-grade improvements (a 4<sup>th</sup> eastbound through lane and a 3<sup>rd</sup> westbound left turn lane), and those improvements are recommended.

