WESTSIDE LOFTS
Traffic Study

August 2007

AUSTIN-FOUST ASSOCIATES, INC.

DRAFT

WESTSIDE LOFTS
TRAFFIC STUDY

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Chapter 1.0
INTRODUCTION

1.1 INTRODUCTION

This traffic study addresses the traffic impacts of the proposed Westside Lofts residential and office development in the City of Costa Mesa. The project requires a General Plan Amendment, and this study has been prepared to provide the traffic and circulation material for the project environmental review process.

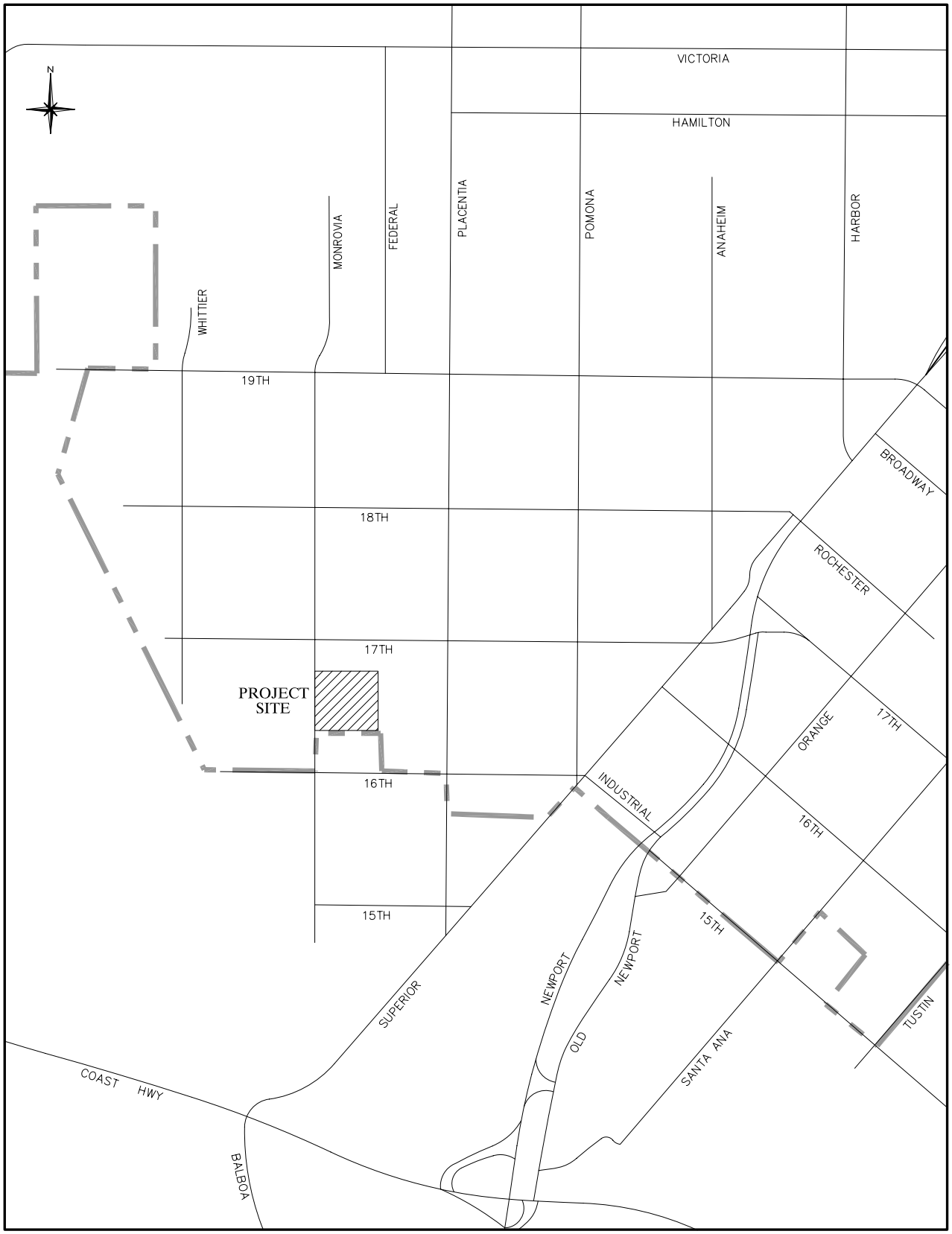
1.2 BACKGROUND AND SCOPE

The proposed Westside Lofts residential and office development consists of 151 condominium dwelling units, five live/work units, 41,000 square feet of office space, and a 1,000 square foot cafe on an approximately 6.8 acre site on the east side of Monrovia Avenue between 17th Street and 16th Street in the City of Costa Mesa. Figure 1-1 illustrates the location of the project site. The project site is currently occupied by approximately 126,200 square feet of vacant light industrial uses. Access to the project site will be provided on Monrovia Avenue with emergency access only provided on Babcock Street.

The scope of work for this traffic study is intended to satisfy the traffic impact requirements of development plan approval. The overall approach can be summarized as follows:

1. Short-Range Analysis: This part of the analysis identifies project impacts under year 2008 conditions.
2. Long-Range/Cumulative Impact Analysis: This part of the analysis addresses long-range cumulative impacts of the project using a long-range (year 2025) time frame.

Chapter 2.0 of this report provides the transportation setting for the impact analysis, and Chapter 3.0 provides a detailed project description. Chapter 4.0 of this traffic report then focuses on the potential traffic impacts of full implementation of the project under short-range (year 2008) and long-range (year 2025) time frames.



Legend

City of Costa Mesa boundary

Figure 1-1

PROJECT LOCATION

1.3 STUDY AREA

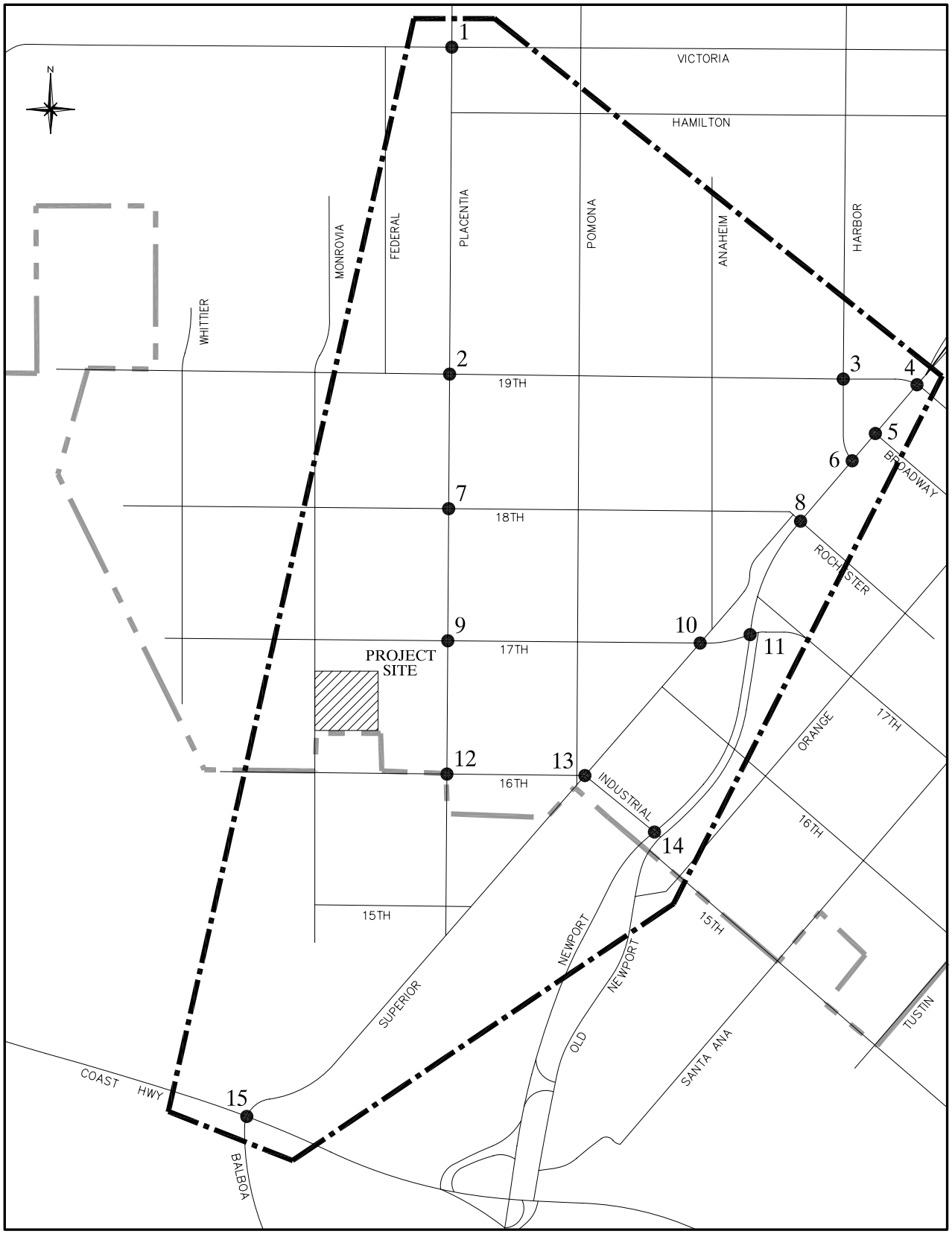
The study area includes all intersections where the project might contribute "measurable traffic." Measurable traffic is defined as the project traffic volume resulting in a one percent increase in the sum of critical movements at an intersection. The study area is shown in Figure 1-2. Traffic forecasts were obtained for this area, and a peak hour intersection analysis carried out for each of the intersections shown here. The study area encompasses intersections within the cities of Costa Mesa and Newport Beach. The study area was defined based on peak hour intersection criteria so that major intersections within the City of Costa Mesa that might have a one percent impact or more from the project are analyzed. No intersections within the study area are identified on the Orange County Congestion Management Program (CMP) network.

1.4 PROJECT IMPACT CRITERIA

For environmental impact report (EIR) purposes, impact criteria are defined which determine whether a project causes a significant impact. These criteria include "performance standards" and "thresholds of significance," both of which are used for identifying project impacts. The impact criteria used here are based on two primary measures. The first is capacity which establishes the vehicle carrying ability of a roadway and the second is volume. The volume measure is either a traffic count (in the case of existing volumes) or a forecast for a future point in time. The ratio between the volume and the capacity is determined, and based on that volume/capacity (V/C) ratio, a corresponding level of service (LOS) is defined. The methodology used in this analysis, including lane capacity and clearance intervals, is consistent with the Orange County CMP requirements. The end of this chapter contains level of service descriptions for arterial roadways and freeways as contained in the 2000 Highway Capacity Manual (HCM 2000) (Reference 1).

Both the V/C ratio and the LOS are used in determining impact significance. Certain LOS values are deemed acceptable by the jurisdictions within the traffic analysis study area (City of Costa Mesa and City of Newport Beach) and increases in the V/C ratio which cause or contribute to the LOS being unacceptable are defined as a significant impact.

Peak hour data (AM and PM) is used in all cases to establish V/C and LOS measures and to define what constitutes a significant impact. The peak hour is the accepted time period used for impact evaluation and a number of techniques are available to establish suitable V/C ratios and define the corresponding LOS.



Legend

XX Study intersection
Study area boundary
City of Costa Meas boundary

Figure 1-2

PROJECT STUDY AREA

These definitions and procedures are established by local and regional programs such as the CMP and Growth Management Plan (GMP). The GMP is used throughout Orange County as a consistent basis for analyzing project traffic impacts and is part of the General Plan of every jurisdiction in the County. The CMP is a Statewide program and applies to selected intersections in the County. There are no intersections defined as CMP locations in the study area.

The analysis of the arterial road system is based on intersection capacity since this is the defining capacity limitation on an arterial highway system. Levels of service for arterial roadway intersections are determined based on operating conditions during the AM and PM peak hours. The intersection capacity utilization (ICU) methodology is applied using peak hour volumes and the geometric configuration of the intersection. This methodology sums the V/C ratios for the critical movements of an intersection and is generally compatible with the intersection capacity analysis methodology outlined in the HCM 2000.

The ICU calculation methodology and associated impact criteria used for the study area arterial system are summarized in Table 1-1. The City of Costa Mesa utilizes LOS "D" (ICU not to exceed .90) as the accepted standard for arterial intersections. The City of Newport Beach also utilizes LOS "D" for their intersections. The performance criteria utilized in this analysis is consistent with CMP analysis guidelines since the criteria used is more constrictive than the LOS "E" (ICU not to exceed 1.00) allowed by the CMP.

1.5 LEVEL OF SERVICE DESCRIPTIONS

Tables 1-2 and 1-3 summarize the level of service descriptions for arterial highways and intersections, respectively. These descriptions are taken from material contained in HCM 2000.

1.6 DEFINITIONS

Certain terms used throughout this report are defined below to clarify their intended meaning:

ADT	Average Daily Traffic. Generally used to measure the total two-directional traffic volumes passing a given point on a roadway.
DU	Dwelling Unit. Used in quantifying residential land use.
ICU	Intersection Capacity Utilization. A measure of the volume to capacity ratio for an intersection. Typically used to determine the peak hour level of service for a given set of intersection volumes.

Table 1-1

ARTERIAL INTERSECTION PERFORMANCE CRITERIA

V/C Calculation Methodology

Level of service to be based on peak hour intersection capacity utilization (ICU) values calculated using the following assumptions:

Saturation Flow Rate: 1,600 vehicles/hour/lane.

Clearance Interval: .00

Performance Standard

Level of Service D (peak hour ICU less than or equal to 0.90) for intersections in the City of Costa Mesa.

Level of Service D (peak hour ICU less than or equal to 0.90) for intersections in the City of Newport Beach.

Threshold of Significance

City of Costa Mesa
For an intersection that is forecast to operate worse than the performance standard (LOS "D") the impact of the project is considered to be significant if the project increases the ICU by .01 or more. An ICU increase of .01 or more does not cause the threshold of significance to be exceeded if the with-project ICU does not exceed the performance standard.

City of Newport Beach
For an intersection that is forecast to operate worse that the performance standard (LOS "D") the impact of the project is considered to be significant if the project increases the ICU by .02 or more. An ICU increase of .02 or more does not cause the threshold of significance to be exceeded if the with-project ICU does not exceed the performance standard.

Level of Service

Level of service ranges are as follows:

ICU	LEVEL OF SERVICE (LOS)
0.00 – 0.60	A
0.61 – 0.70	B
0.71 – 0.80	C
0.81 – 0.90	D
0.91 – 1.00	E
Above 1.00	F

Table 1-2

LEVEL OF SERVICE DESCRIPTIONS – URBAN STREETS

The average travel speed along an urban street is the determinant of the operating level of service (LOS). The travel speed along a segment, section, or entire length of an urban street is dependent on the running speed between signalized intersections and the amount of control delay incurred at signalized intersections. The following general statements characterize LOS along urban streets and show the relationship to free flow speed (FFS).

LOS	DESCRIPTION	PERCENT OF FFS
A	LOS A describes primarily free-flow operations at average travel speeds, usually about 90 percent of the FFS for the given street class. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Control delay at signalized intersections is normal.	90
B	LOS B describes reasonably unimpeded operations at average travel speeds, usually about 70 percent of the FFS for the street class. Vehicles are completely unimpeded in their ability to maneuver with the traffic stream. Control delay at signalized intersections is minimal.	70
C	LOS C describes stable operations; however, ability to maneuver and change lanes in midblock locations may be more restricted than at LOS B, and longer queues, adverse signal coordination, or both may contribute to lower average travel speeds of about 50 percent of the FFS for the street class.	50
D	LOS D borders on a range in which small increases in flow may cause substantial increases in delay and decreases in travel speed. LOS D may be due to adverse signal progression, inappropriate signal timing, high volumes, or a combination of these factors. Average travel speeds are about 40 percent of FFS.	40
E	LOS E is characterized by significant delays and average travel speeds of 33 percent or less of the FFS. Such operations are caused by a combination of adverse progression, high signal density, high volumes, extensive delays at critical intersections, and inappropriate signal timing.	33
F	LOS F is characterized by urban street flow at extremely low speeds, typically one-third to one-fourth of the FFS. Intersection congestion is likely at critical signalized locations, with high delays, high volumes, and extensive queuing.	25

Source: Highway Capacity Manual 2000, Transportation Research Board, National Research Council.

Table 1-3

LEVEL OF SERVICE DESCRIPTIONS – SIGNALIZED INTERSECTIONS

Levels of service (LOS) for signalized intersections are defined in terms of control delay as follows:

LOS	DESCRIPTION	DELAY PER VEHICLE (sec)
A	LOS A describes operations with low control delay, up to 10 seconds per vehicle. This LOS occurs when progression is extremely favorable and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values.	< 10
B	LOS B describes operations with control delay greater than 10 and up to 20 seconds per vehicle. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than LOS A, causing higher levels of delay.	10 - 20
C	LOS C describes operations with control delay greater than 20 and up to 35 seconds per vehicle. These higher delays may result from only fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. Cycle failure occurs when a given green phase does not serve queued vehicles, and overflows occur. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.	20 - 35
D	LOS D describes operations with control delay greater than 35 and up to 55 seconds per vehicle. At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, and high V/C ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	35 - 55
E	LOS E describes operations with control delay greater than 55 and up to 80 seconds per vehicle. These high delay values generally indicate poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent.	55 - 80
F	LOS F describes operations with control delay in excess of 80 seconds per vehicle. This level, considered unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of lane groups. It may also occur at high V/C ratios with many individual cycle failures. Poor progression and long cycle lengths may also contribute significantly to high delay levels.	> 80

Source: Highway Capacity Manual 2000, Transportation Research Board, National Research Council.

LOS	Level of Service. A scale used to evaluate circulation system performance based on intersection ICU values or volume/capacity ratios of arterial segments.
Peak Hour	This refers to the hour during the AM peak period (typically 7 AM - 9 AM) or the PM peak period (typically 3 PM - 6 PM) in which the greatest number of vehicle trips are generated by a given land use or are traveling on a given roadway.
TSF	Thousand Square Feet. Used in quantifying non-residential land uses, and refers to building floor area.
V/C	Volume to Capacity Ratio. This is typically used to describe the percentage of capacity utilized by existing or projected traffic on a segment of an arterial or intersection.

1.7 REFERENCES

1. "Highway Capacity Manual 2000," Transportation Research Board, National Research Council, 2000.

2. "Costa Mesa Traffic Model (CMTM) Traffic Model Description and Validation," Austin-Foust Associates, Inc., August 2003.

3. "Trip Generation, 7th Edition", Institute of Transportation Engineers, 2003.

4. "Costa Mesa SOBECA/Westside GPA Traffic Analysis", Austin-Foust Associates, Inc., January 2006.

Chapter 2.0
PROJECT SETTING

2.1 INTRODUCTION

This chapter describes the project site in relation to the transportation setting. The existing roadway system and present day traffic volumes and levels of service are summarized first, followed by a discussion of future traffic volumes against which the impacts of the proposed project will be evaluated.

2.2 EXISTING CIRCULATION SYSTEM

The SR-55 Freeway is a north-south route through central Orange County which ends northeast of the project site in the study area. Newport Boulevard is a six-lane arterial which extends from the south end of SR-55 into Newport Beach. Newport Boulevard is classified as a Major Arterial on the Orange County Master Plan of Arterial Highways (MPAH). Harbor Boulevard, located northeast of the project site, is classified as a Major Arterial in the project vicinity, and Placentia Avenue is classified as a Primary Arterial. North of the project site, 19th Street and 17th Street are Primary Arterials which provide access to Newport Boulevard and the SR-55 Freeway east of the project site.

2.3 EXISTING TRAFFIC CONDITIONS

Existing volumes at locations in Costa Mesa were obtained from the SOBECA/Westside General Plan Amendment Traffic Analysis (Reference 4). Existing average daily traffic (ADT) volumes on the study area street system, based on counts collected in 2002 and 2003 by Traffic Data Services, Inc. (TDS) are illustrated in Figure 2-1. Existing AM and PM peak hour intersection volumes at the intersections along Newport Boulevard were counted by TDS in 2005. The remaining intersections in Costa Mesa were counted in 2002 and 2003. The peak hour counts for the intersection of Superior Avenue/Balboa Boulevard and Coast Highway in Newport Beach were obtained from 2004 counts collected by the City of Newport Beach. These existing AM and PM peak hour intersection volumes are illustrated in Appendix A.

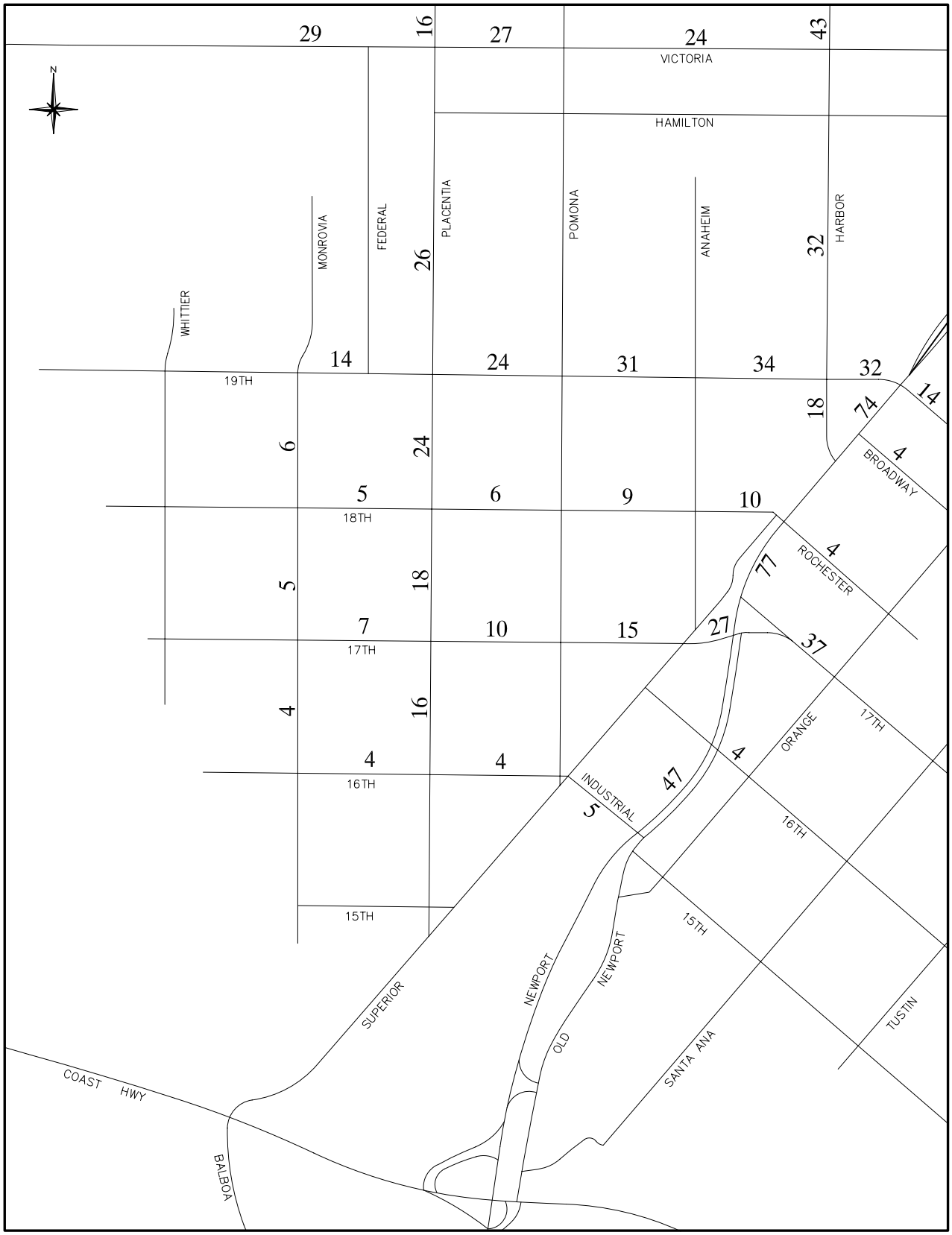


Figure 2-1

EXISTING ADT VOLUMES (000s)

As discussed in the impact criteria section in Chapter 1.0, operating conditions for the study area signalized intersections are evaluated using the intersection capacity utilization (ICU) method of analysis. This estimates the peak hour volume/capacity (V/C) relationship for an intersection and translates the V/C ratio into a level of service (LOS) measure of the intersection performance. The calculation methodology used in the ICU analysis was noted in the impact criteria discussion and is also summarized in Appendix B.

Table 2-1 summarizes the existing peak hour ICUs and levels of service for the study area intersections based on existing traffic volumes and street geometry (actual ICU calculation sheets are included in Appendix B). As mentioned in Chapter 1.0, the cities of Costa Mesa's and Newport Beach's intersection performance standard is level of service "D" which correlates to an ICU value of .90 or less. As the ICU table indicates, the intersections of Newport Boulevard at 19th Street and Newport Boulevard at 18th Street/Rochester Street in the City of Costa Mesa are currently operating at LOS "E" during the AM and PM peak hours. All other study intersections currently operate at LOS "D" or better during the peak hours.

2.4 FUTURE TRAFFIC VOLUMES

Future traffic forecasts were prepared for short-range (year 2008) and long-range (year 2025) time frames. The short-range forecasts are based on existing traffic counts and adjusted for regional growth and approved projects in the project vicinity. A one percent growth rate per year was applied to the existing volumes to account for regional growth. Three approved projects were identified by City Staff to be included in the short-range background conditions. Table 2-2 summarizes the approved projects included in the background conditions. Traffic that would be generated by the vacant light industrial uses on the project site were also added to the 2008 background volumes.

Figure 2-2 illustrates the year 2008 no-project ADT volumes. Year 2008 peak hour intersection volumes are included in Appendix A.

The City of Costa Mesa currently has plans to widen Newport Boulevard between 19th Street and 17th Street to provide additional through lanes. The project impacts are evaluated assuming the completion of the City widening project along Newport Boulevard.

The analysis of long-range impacts uses 2025 demographic data as the basis for the cumulative setting traffic forecasts. The information source is the OCP-2000 demographic data forecasts for Orange

Table 2-1

EXISTING ICU SUMMARY

INTERSECTION	AM	PM	CITY
1. Placentia & Victoria	.631/B	.658/B	CM
2. Placentia & 19th St	.496/A	.562/A	CM
3. Harbor & 19th St	.408/A	.608/A	CM
4. Newport & 19th St	.941/E	.934/E	CM
5. Newport & Broadway	.753/C	.756/C	CM
6. Newport & Harbor	.729/C	.864/D	CM
7. Placentia & 18th St	.486/A	.563/A	CM
8. Newport & 18th St/Rochester	.801/C	.916/E	CM
9. Placentia & 17th St	.462/A	.569/A	CM
10. Superior & 17th St	.581/A	.822/D	CM
11. Newport & 17th St	.810/D	.824/D	CM
12. Placentia & 16th St	.342/A	.340/A	CM
13. Superior & 16th St	.381/A	.366/A	CM
14. Newport & Industrial	.496/A	.581/A	CM
15. Superior/Balboa & Coast Hwy	.739/C	.775/C	NB

Level of service ranges: .000 - .609 A
.610 - .709 B
.710 - .809 C
.810 - .909 D
.910 - 1.009 E
Above 1.009 F

CM – Costa Mesa
NB – Newport Beach

Table 2-2

SHORT-RANGE APPROVED PROJECTS SUMMARY

PROJECT	AMOUNT
1901 Newport Boulevard	
Condominiums	174 DU
Pacific Medical Plaza	
Medical Office	76,650 SF
Ocean Lofts	
Condominiums	218 DU
Commercial	12,975 SF
Retail Shops	5,561 SF

Abbreviations: DU – Dwelling units
SF – Square feet

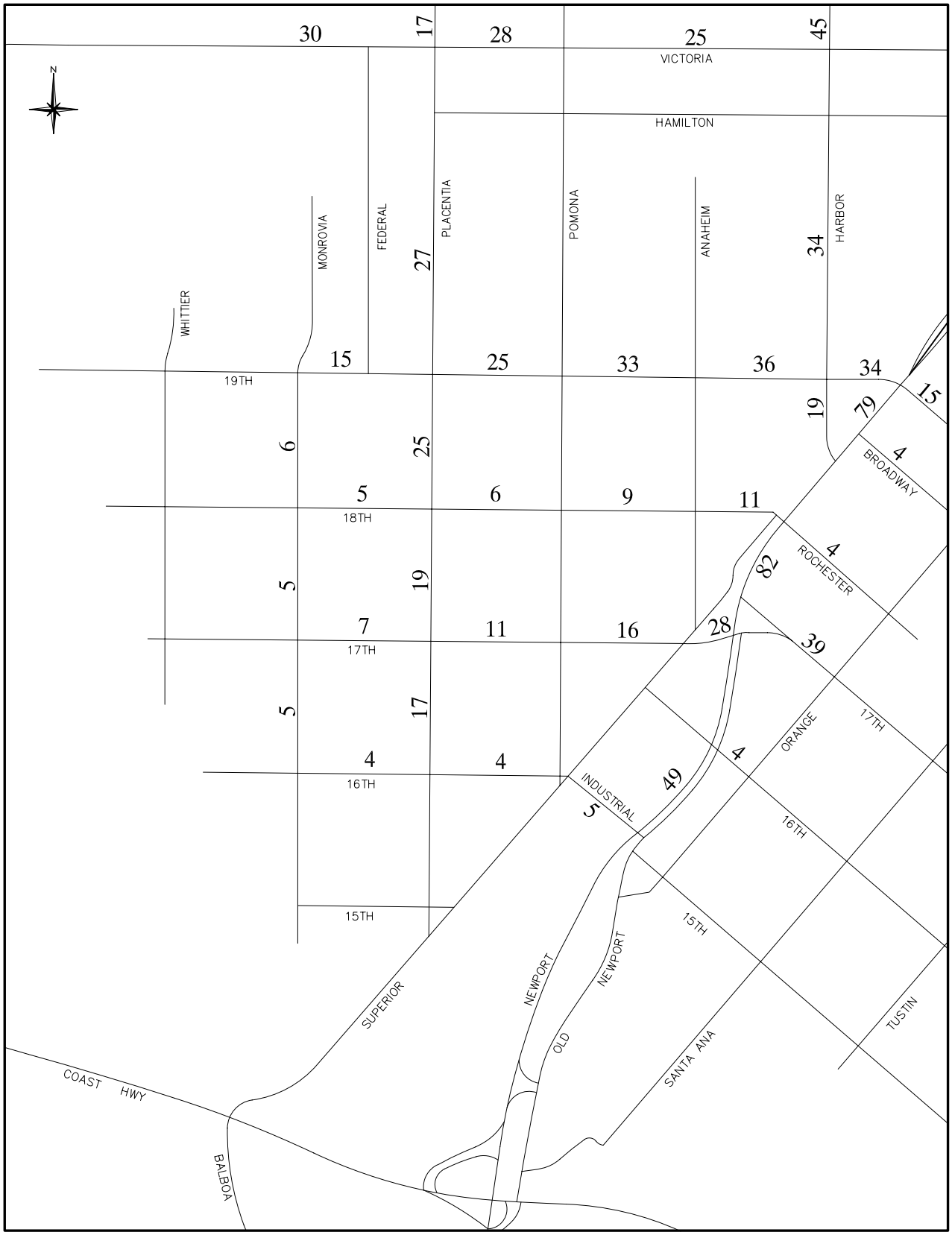


Figure 2-2

YEAR 2008 NO-PROJECT
ADT VOLUMES (000s)

County adopted by the Board of Supervisors in year 2000. These projections are prepared for five year intervals up to year 2025 and are the basis for long-range transportation planning in Orange County. Hence, they provide an appropriate cumulative database for long-range analysis purposes.

The traffic forecast data presented here has been derived from the Costa Mesa Traffic Model (CMTM), a sub-area derivation of the Orange County Transportation Analysis Model Version 3.1 (OCTAM 3.1) regional model. This model is the City of Costa Mesa's primary tool for estimating buildout traffic conditions in the City. The model has the capability of forecasting average daily traffic (ADT) and peak hour turning movement volumes on the circulation system in this area. The CMTM was updated in 2003 and this updated version has been used in planning efforts in the City of Costa Mesa. A discussion of the CMTM can be found in Reference 2 at the end of Chapter 1.0.

The City Circulation Element and County MPAH include the extension of the SR-55 Freeway south and the extension of 19th Street west over the Santa Ana River. The feasibility of the SR-55 Freeway extension and the 19th Street bridge over the Santa Ana River is in doubt; therefore, the traffic model was run with a constrained network which does not assume the SR-55 Freeway extension or the 19th Street bridge to determine the project's impacts under worst-case conditions. Lane configurations under the future conditions assume lane configurations as provided in the Costa Mesa General Plan. Figure 2-3 illustrates the 2025 Constrained Network no-project ADT volumes, and the corresponding peak hour volumes at the study area intersections are presented in Appendix A. These volumes represent a baseline no-project scenario for cumulative analysis purposes.

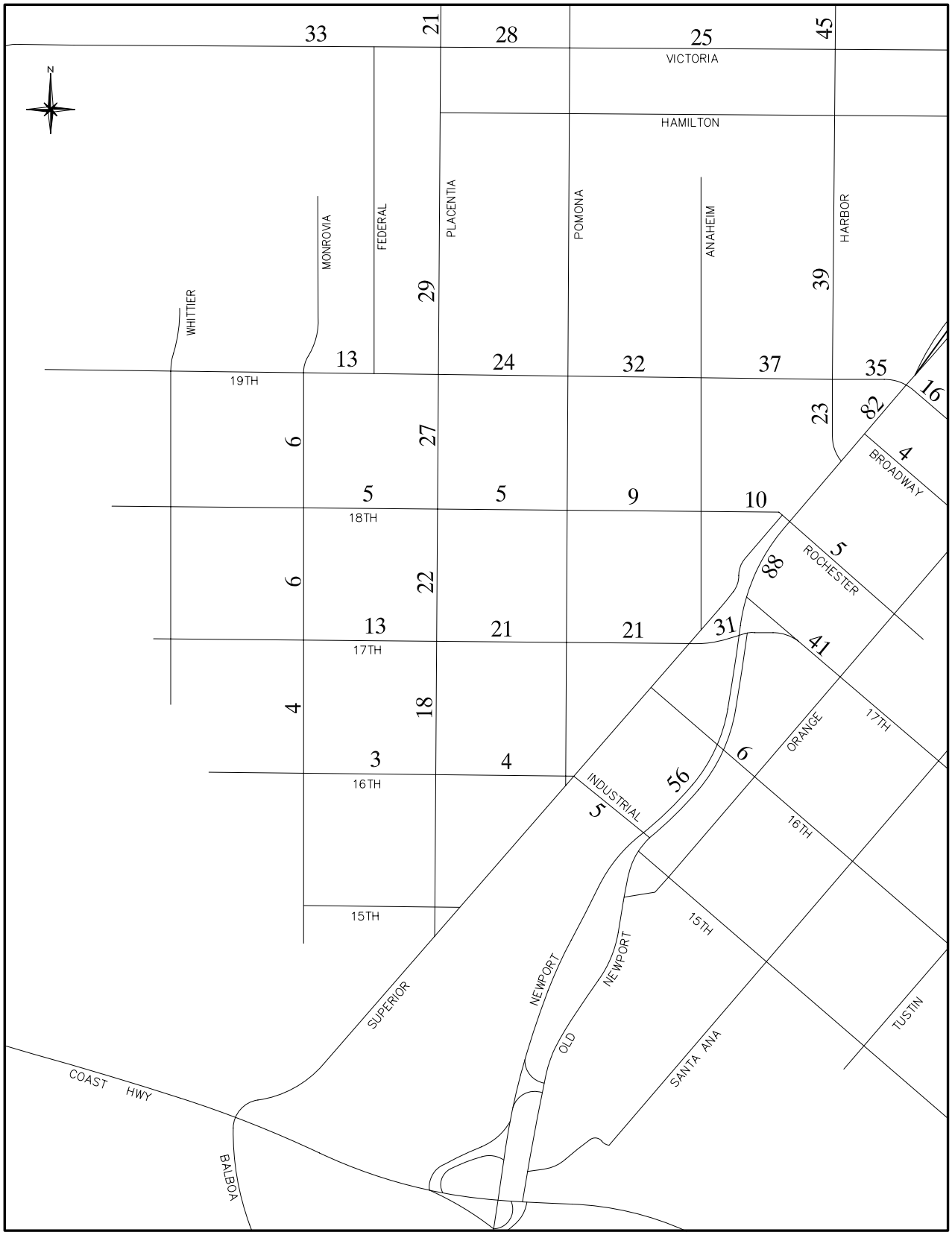


Figure 2-3

2025 CONSTRAINED NETWORK
ADT VOLUMES (000s)

Chapter 3.0
PROJECT DESCRIPTION

3.1 INTRODUCTION

This chapter describes the traffic characteristics of the proposed project. Trip generation is summarized, and the distribution of project trips on the study area roadway network is presented.

3.2 PROJECT OVERVIEW

The proposed project is located in the Westside area of the City of Costa Mesa. The project site is located on the east side of Monrovia Avenue between 17th Street and 16th Street. The 6.8-acre site consists of vacant light industrial uses. The General Plan square footage for the project site is 126,174 square feet. Based on information provided by City Staff, the project could develop 86 dwelling units to replace the existing light industrial uses.

The proposed project consists of 151 condominium dwelling units, five live/work units, 41,000 square feet of office space, and 1,000 square foot cafe. Access to the project site will be provided by Monrovia Avenue.

3.3 TRIP GENERATION

Traffic generation is expressed in vehicle tripends, defined as one-way vehicular movements, either entering or exiting the generating land use. Generation factors used in the traffic analysis are from the Seventh Edition of "Trip Generation", published by the Institute of Transportation Engineers (ITE) (Reference 3). The ITE trip rates for Apartments were applied to the residential portion of the project. The ITE trip rates for Apartments are considered more representative of trip generation in Costa Mesa than the ITE Condominium trip rates, and were applied to the residential units even though the units are planned as "for sale" condominiums. The trip generation rates for the live/work units were derived to include a residential component and an office component assuming 200 square feet of office space per unit. A 10 percent reduction was applied to the residential trips due to the mixed use nature of the proposed project.

Table 3-1

PROJECT TRIP GENERATION SUMMARY

LAND USE CATEGORY	AMOUNT		AM PEAK HOUR IN	AM PEAK HOUR OUT	AM PEAK HOUR TOTAL	PM PEAK HOUR IN	PM PEAK HOUR OUT	PM PEAK HOUR TOTAL	ADT
TRIP RATES									
Apartment	DU		.10	.41	.51	.40	.22	.62	6.72
Live/Work Unit	DU		.37	.45	.82	.45	.47	.92	8.92
Office	TSF		1.36	.19	1.55	.25	1.24	1.49	11.01
High-Turnover Restaurant	TSF		5.99	5.53	11.52	6.66	4.26	10.92	127.15
Light Industrial	TSF		.80	.12	.92	.12	.86	.98	6.97
TRIP GENERATION									
Existing Uses On Site									
Light Industrial	126.2	TSF	101	15	116	15	109	124	879
Proposed Project									
Residential	151	DU	15	62	77	60	33	93	1,015
Live/Work Units	5	DU	2	2	4	2	2	4	45
Mixed Use Reduction (10%)			*-2*	*-6*	*-8*	*-6*	*-4*	*-10*	*-106*
Office	41.0	TSF	56	8	64	10	51	61	451
Cafe	1.0	TSF	6	6	12	7	4	11	127
TOTAL			77	72	149	73	86	159	1,532

Source: "Trip Generation, 7th Edition", Institute of Transportation Engineers, 2003.

Abbreviations: ADT – Average Daily Trips
DU – Dwelling Units
TSF – Thousand Square Feet

Table 3-1 summarizes the ITE trip generation rates and resulting trip generation for the project. This table also summarizes the trips generated by the General Plan land use for the project site. As shown, the project is estimated to generate 1,532 daily trips, with 149 trips (77 inbound, 72 outbound) in the AM peak hour and 159 trips (73 inbound, 86 outbound) in the PM peak hour. The project will generate approximately 33 more AM peak hour trips and 35 more PM peak hour trips than the existing light industrial uses on the site.

In addition to the existing light industrial uses on the site, the applicant owns a parcel of land on Whittier Avenue that is developed with a mini storage facility which generates less traffic than the light industrial uses allowed under the General Plan as summarized in Table 3-2. The additional available trips result in a total decrease of three trips in the area during the AM peak hour under General Plan conditions, and a total increase of 10 trips in the area during the PM peak hour.

Table 3-2

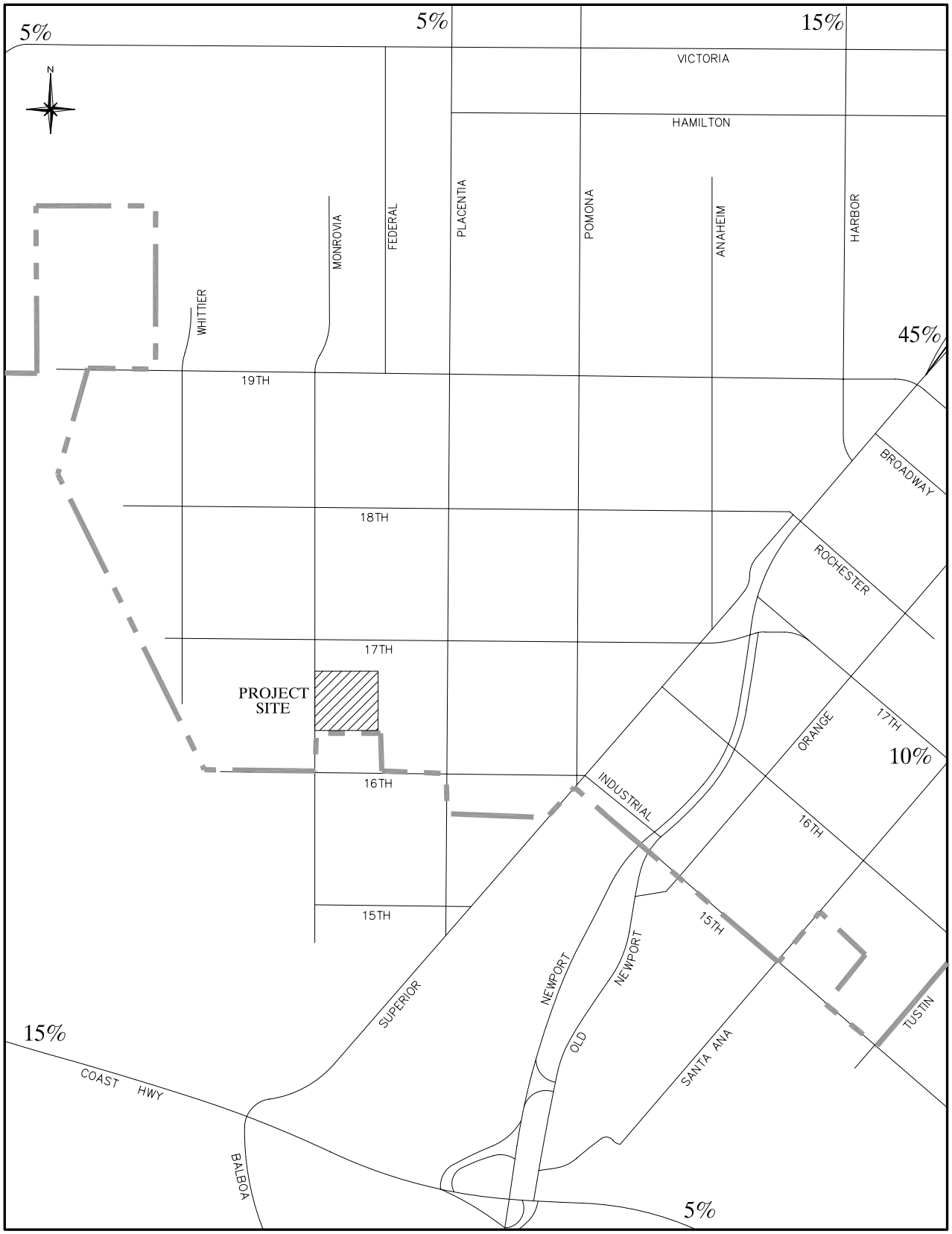
1741 WHITTIER AVENUE TRIP GENERATION SUMMARY

			AM PEAK HOUR			PM PEAK HOUR			
LAND USE CATEGORY	AMOUNT		IN	OUT	TOTAL	IN	OUT	TOTAL	ADT
TRIP GENERATION									
Existing Uses 1741 Whittier Avenue									
Mini Warehouse	127.4	TSF	11	8	19	20	14	33	319
General Plan Uses 1741 Whittier Avenue									
Light Industrial	59.5	TSF	48	7	55	7	51	58	414
TRIPS AVAILABLE			37	-1	36	-13	38	25	96

Abbreviations: ADT – Average Daily Trips
TSF – Thousand Square Feet

3.4 PROJECT TRIP DISTRIBUTION

The trip distribution patterns and the resulting ADT volumes for the proposed project are presented in Figure 3-1. The distribution pattern is based on the site's proximity to major developments and surrounding land use patterns. The project-generated increase in trips over existing light industrial uses on-site was assigned to the surrounding arterial network based on these distribution patterns, and the resulting peak hour project-generated trips are illustrated in Appendix A.



Legend

City of Costa Mesa boundary

Figure 3-1

GENERAL PROJECT DISTRIBUTION

Chapter 4.0
PROJECT IMPACT ANALYSIS

4.1 INTRODUCTION

This chapter analyzes the impacts of the proposed project on the roadway system in the study area under future conditions.

4.2 SHORT-RANGE CONDITIONS

The project trips presented in Chapter 3.0 were added to the year 2008 volumes presented in Chapter 2.0 to produce year 2008 with-project volumes, and the impacts of the project were then identified by comparing conditions at each intersection for the without and with-project traffic volumes. Figure 4-1 illustrates year 2008 with-project ADT volumes on the study area arterial network, and the peak hour volumes at the study area intersections are presented in Appendix A.

The year 2008 with-project ICU values are summarized in Table 4-1 along with no-project ICU values for comparison (actual ICU calculation sheets are included in Appendix B). The first and second columns list year 2008 no-project traffic conditions and these are followed by the corresponding year 2008 with-project ICU values. The last two columns show the increase in ICU values due to the project and indicates whether the project has a significant impact.

A significant project impact is defined as an increase of .01 or more in the ICU value as a result of the proposed project at a location which does not maintain an acceptable level of service in the City of Costa Mesa and an increase of .02 or more at a location which does not maintain an acceptable level of service in the City of Newport Beach. The cities of Costa Mesa and Newport Beach utilize LOS “D” as the accepted standard for arterial intersections. As the ICU table shows, two study intersections in the City of Costa Mesa operate at level of service “E”; however, the project causes less than .01 increase in the ICU value at both of these intersections, and the project has no significant impact under year 2008 conditions. The remaining intersections operate at an acceptable level of service under year 2008 with-project conditions, and the project has no significant impact on the study intersections.

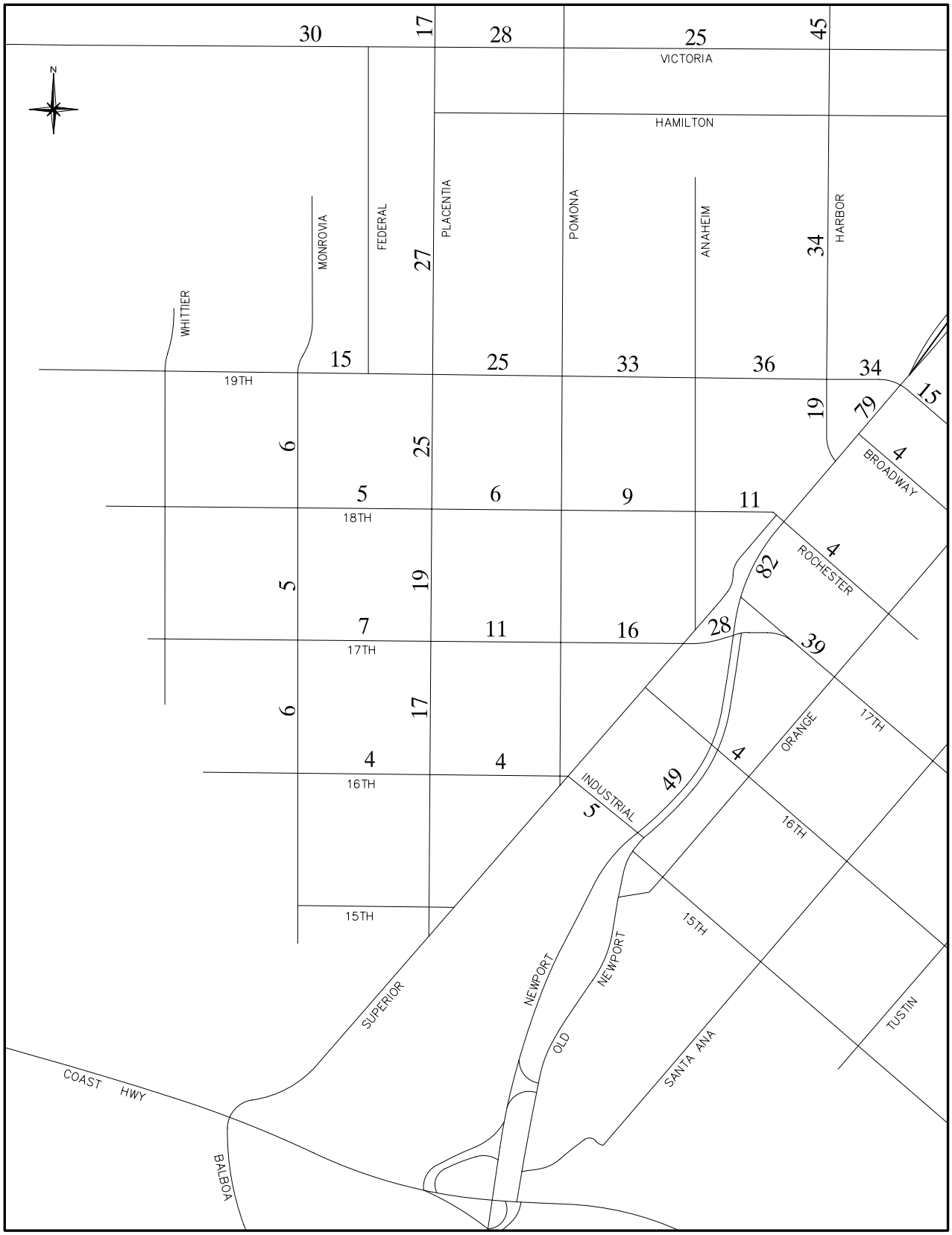


Figure 4-1

YEAR 2008 WITH-PROJECT
ADT VOLUMES (000s)

Table 4-1

SHORT-RANGE ICU SUMMARY

INTERSECTION	YEAR 2008 NO-PROJECT AM	YEAR 2008 NO-PROJECT PM	YEAR 2008 WITH PROJECT AM	YEAR 2008 WITH PROJECT PM	PROJECT CONTRIBUTION AM	PROJECT CONTRIBUTION PM	CITY
1. Placentia & Victoria	.662/B	.693/B	.663/B	.694/B	.001	.001	CM
2. Placentia & 19th St	.535/A	.596/A	.537/A	.596/A	.002	.000	CM
3. Harbor & 19th St	.441/A	.665/B	.439/A	.664/B	-.002	-.001	CM
4. Newport & 19th St	.808/D	.839/D	.812/D	.838/D	.004	-.001	CM
5. Newport & Broadway	.702/B	.673/B	.700/B	.679/B	-.002	.006	CM
6. Newport & Harbor	.787/C	.929/E	.785/C	.935/E	-.002	.006	CM
7. Placentia & 18th St	.516/A	.593/A	.517/A	.593/A	.001	.000	CM
8. Newport & 18th St/Rochester	.815/D	.948/E	.813/D	.953/E	-.002	.005	CM
9. Placentia & 17th St	.508/A	.613/B	.505/A	.626/B	-.003	.013	CM
10. Superior & 17th St	.626/B	.879/D	.634/B	.883/D	.008	.004	CM
11. Newport & 17th St	.852/D	.876/D	.857/D	.874/D	.005	.002	CM
12. Placentia & 16th St	.373/A	.384/A	.385/A	.378/A	.012	-.006	CM
13. Superior & 16th St	.401/A	.398/A	.401/A	.396/A	.000	-.002	CM
14. Newport & Industrial	.525/A	.614/B	.525/A	.615/B	.000	.001	CM
15. Superior/Balboa & Coast Hwy	.776/C	.819/D	.777/C	.819/D	.001	.000	NB

Level of service ranges: .000 - .609 A
.610 - .709 B
.710 - .809 C
.810 - .909 D
.910 - 1.009 E
Above 1.009 F

CM – Costa Mesa
NB – Newport Beach

4.3 LONG-RANGE PROJECT IMPACTS

The existing zoning for the project site consists of light industrial uses. In addition, as discussed in Chapter 3.0, there are trips available from a nearby site that has surplus General Plan trips. The proposed project generates slightly less AM peak hour traffic and an equivalent amount of PM peak hour traffic than the current zoning and will have no significant impact on the future circulation system. Table 4-2 lists the 2025 ICU values assuming buildout of the City's General Plan land uses. This table shows the ICU values with the constrained network for the study area intersections (actual ICU calculation worksheets are included in Appendix B). As this table shows, the study intersections will operate at an acceptable level of service. The project has no significant impact on the buildout circulation system, and no mitigation is necessary.

4.4 CONCLUSIONS

In summary, it is concluded that the proposed change from industrial uses to residential and office mixed use, consisting of the construction of 151 condominium units, five live/work units, 41,000 square feet of office space, and 1,000 square foot cafe in place of the existing vacant industrial uses, does not create a significant traffic impact under short-range or long-range conditions. No mitigation measures are required at the study intersections.

Table 4-2

2025 ICU SUMMARY

INTERSECTION	2025 CONSTRAINED AM	PM	CITY
1. Placentia & Victoria	.74/C	.81/D	CM
2. Placentia & 19th St	.56/A	.73/C	CM
3. Harbor & 19th St	.60/A	.79/C	CM
4. Newport & 19th St	.90/D	.80/C	CM
5. Newport & Broadway	.60/A	.56/A	CM
6. Newport & Harbor	.61/B	.76/C	CM
7. Placentia & 18th St	.50/A	.56/A	CM
8. Newport & 18th St/Rochester	.80/C	.78/C	CM
9. Placentia & 17th St	.55/A	.77/C	CM
10. Superior & 17th St	.72/C	.69/B	CM
11. Newport & 17th St	.89/D	.82/D	CM
12. Placentia & 16th St	.38/A	.44/A	CM
13. Superior & 16th St	.53/A	.44/A	CM
14. Newport & Industrial	.66/B	.70/B	CM

Level of service ranges: .00 - .60 A
.61 - .70 B
.71 - .80 C
.81 - .90 D
.91 - 1.00 E
Above 1.00 F

CM – Costa Mesa

APPENDIX A

PEAK HOUR INTERSECTION VOLUMES DIAGRAMS

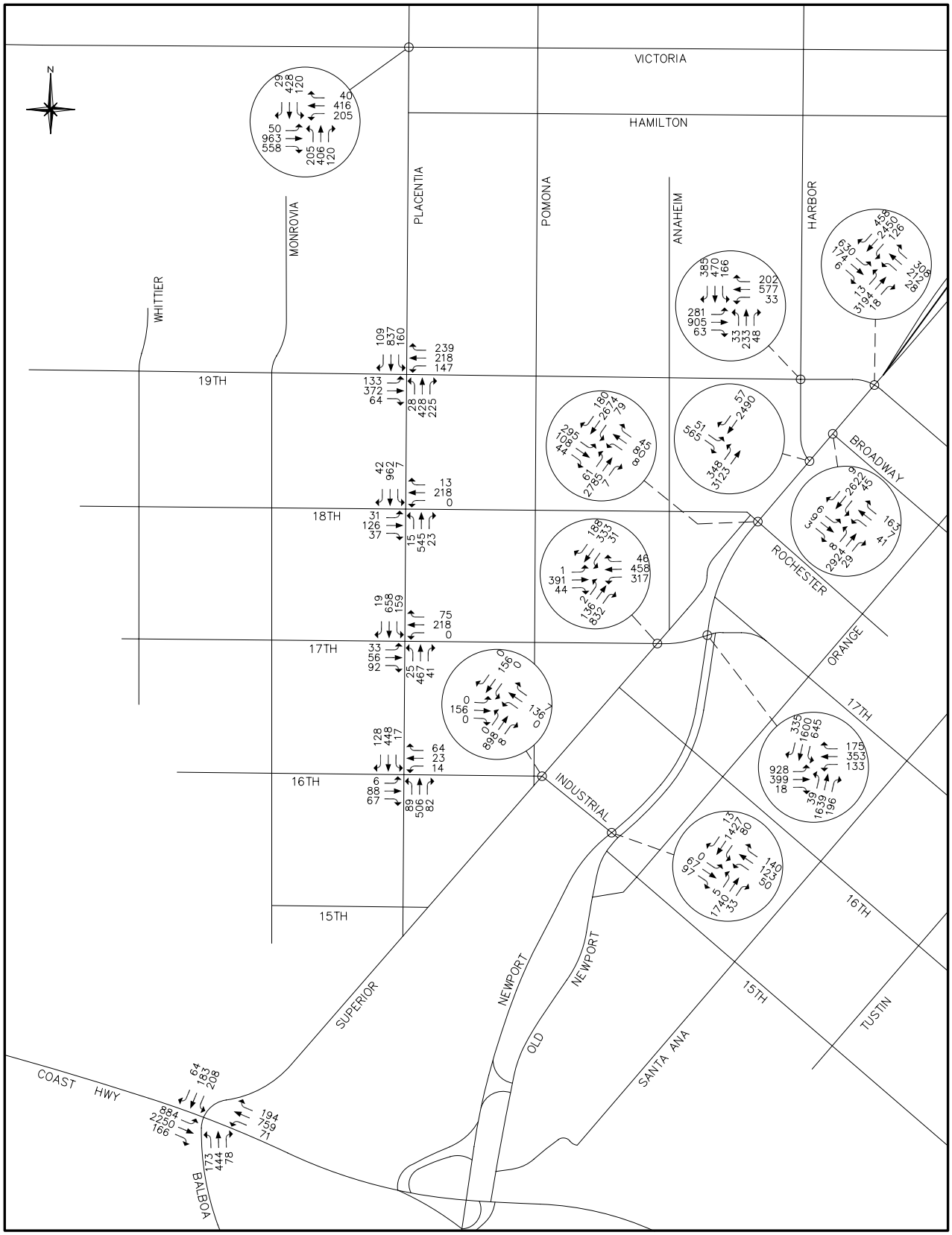


Figure A-1

EXISTING AM PEAK HOUR VOLUMES

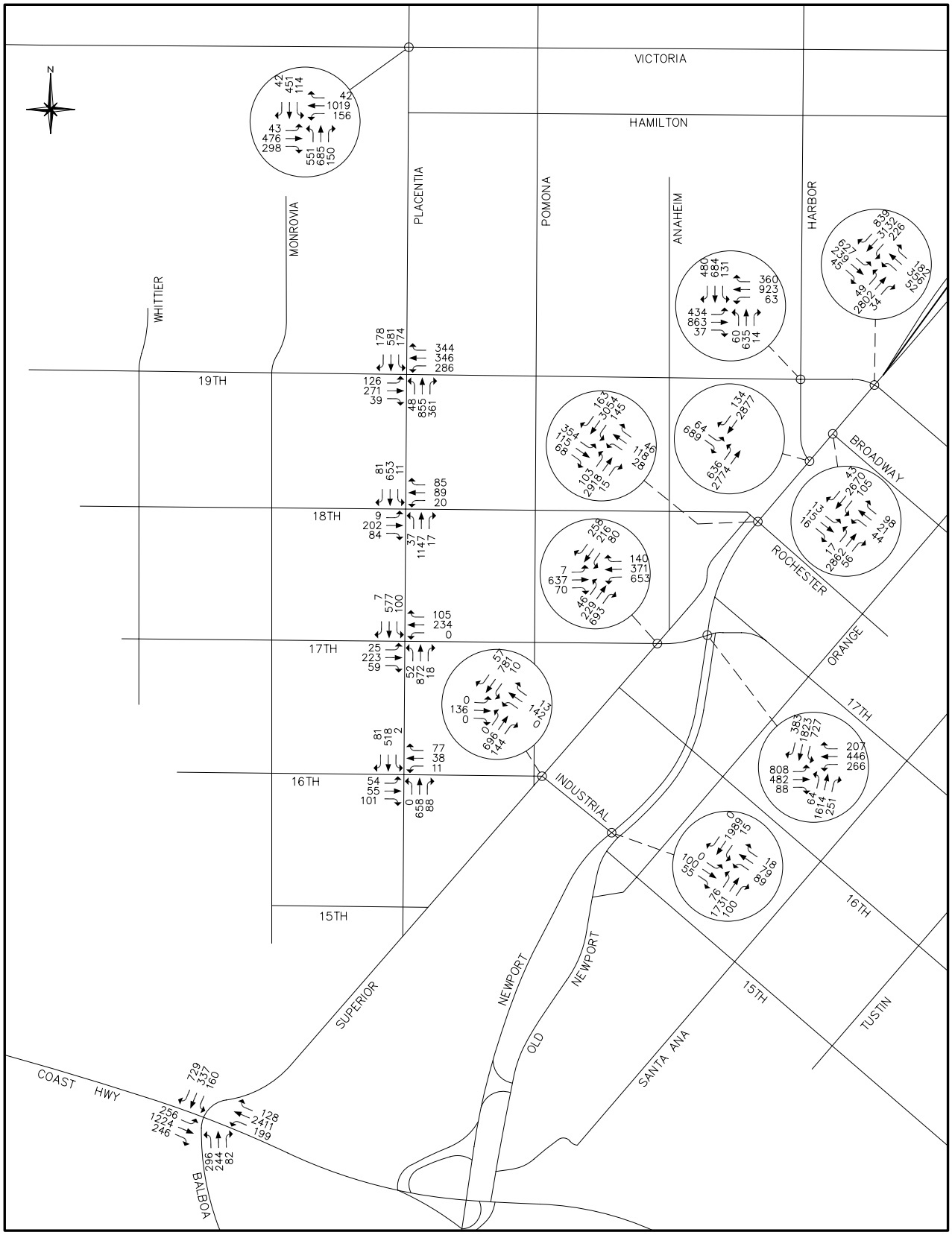


Figure A-2

EXISTING PM PEAK HOUR VOLUMES

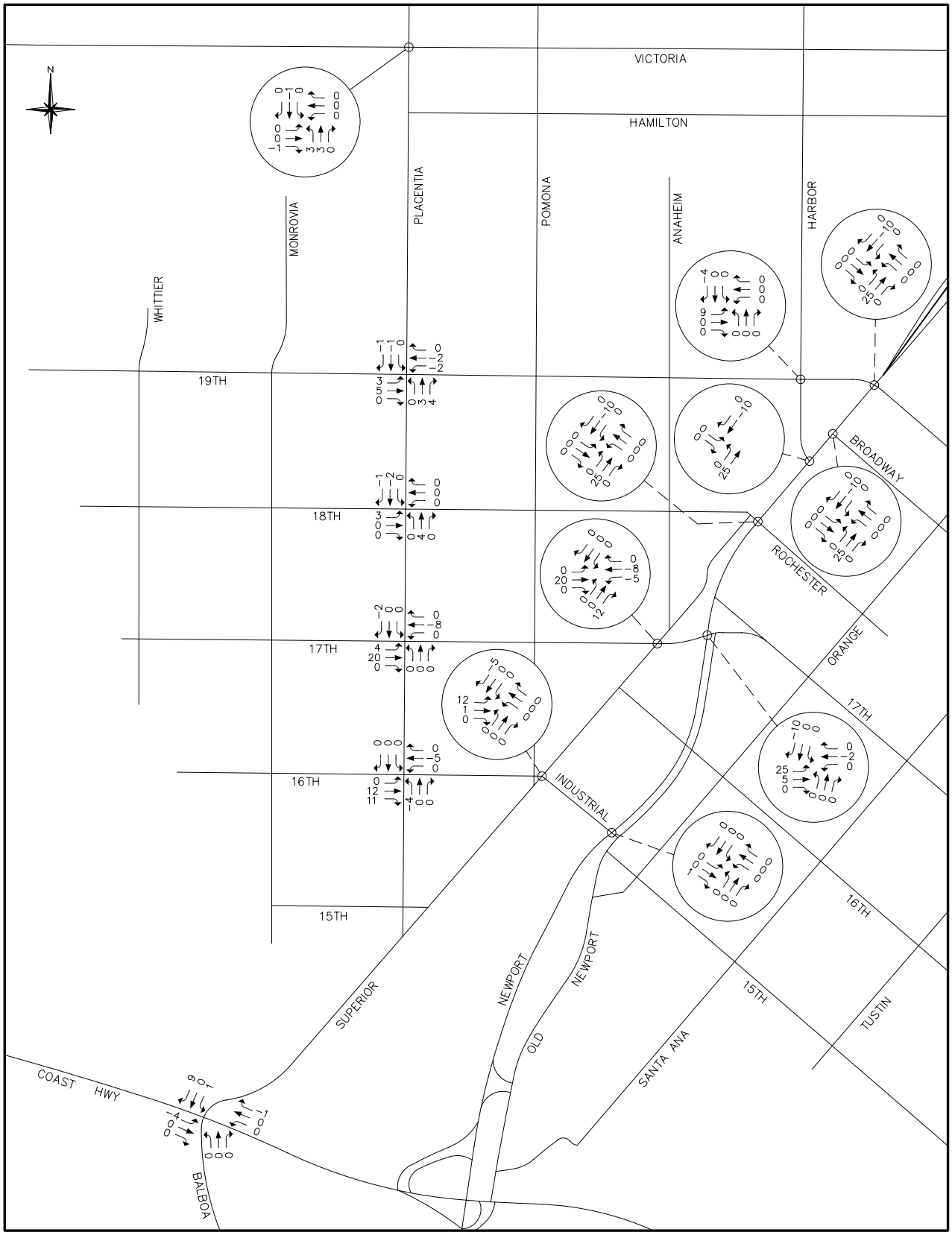


Figure A-3

PROJECT-GENERATED
AM PEAK HOUR VOLUMES

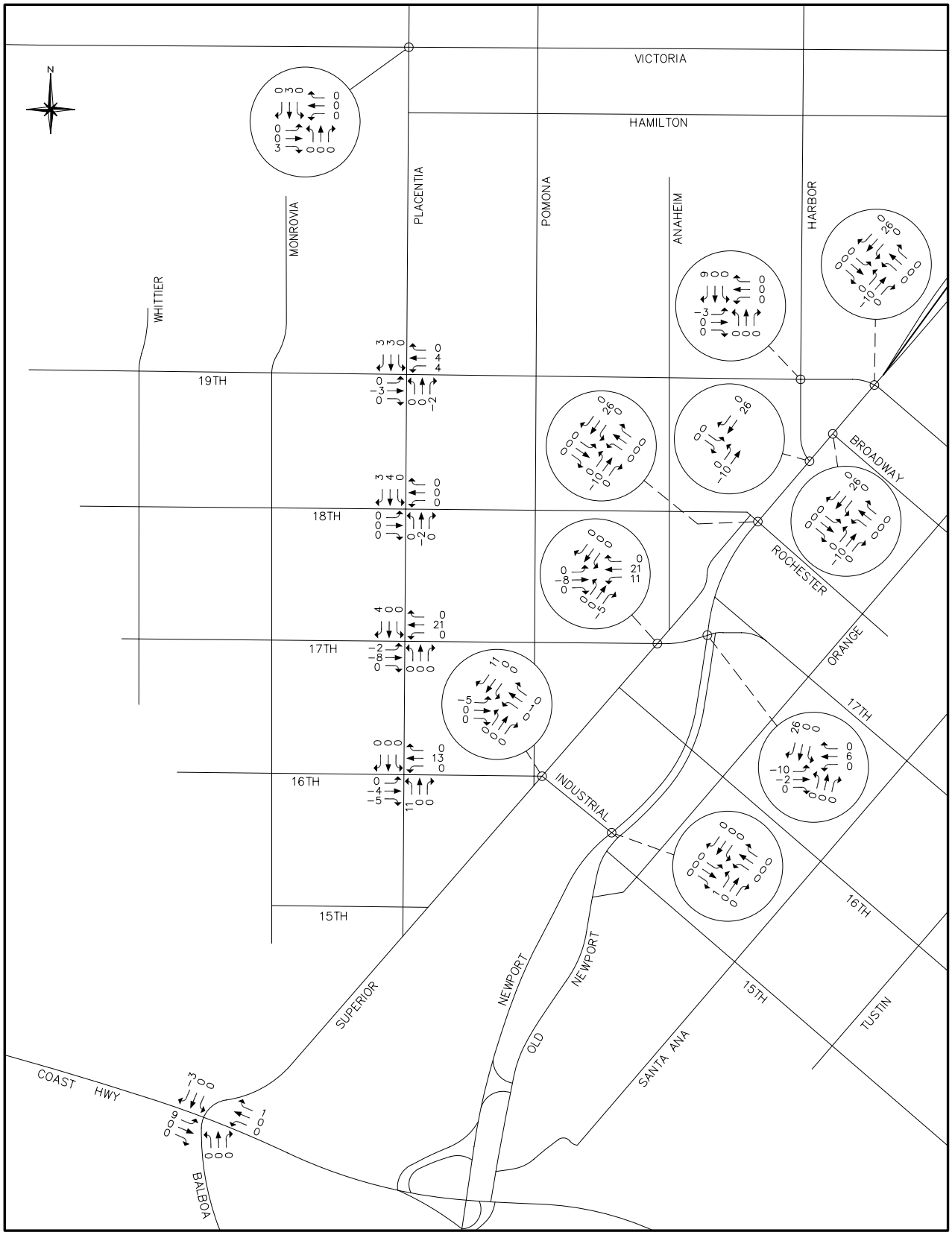


Figure A-4

PROJECT-GENERATED
PM PEAK HOUR VOLUMES

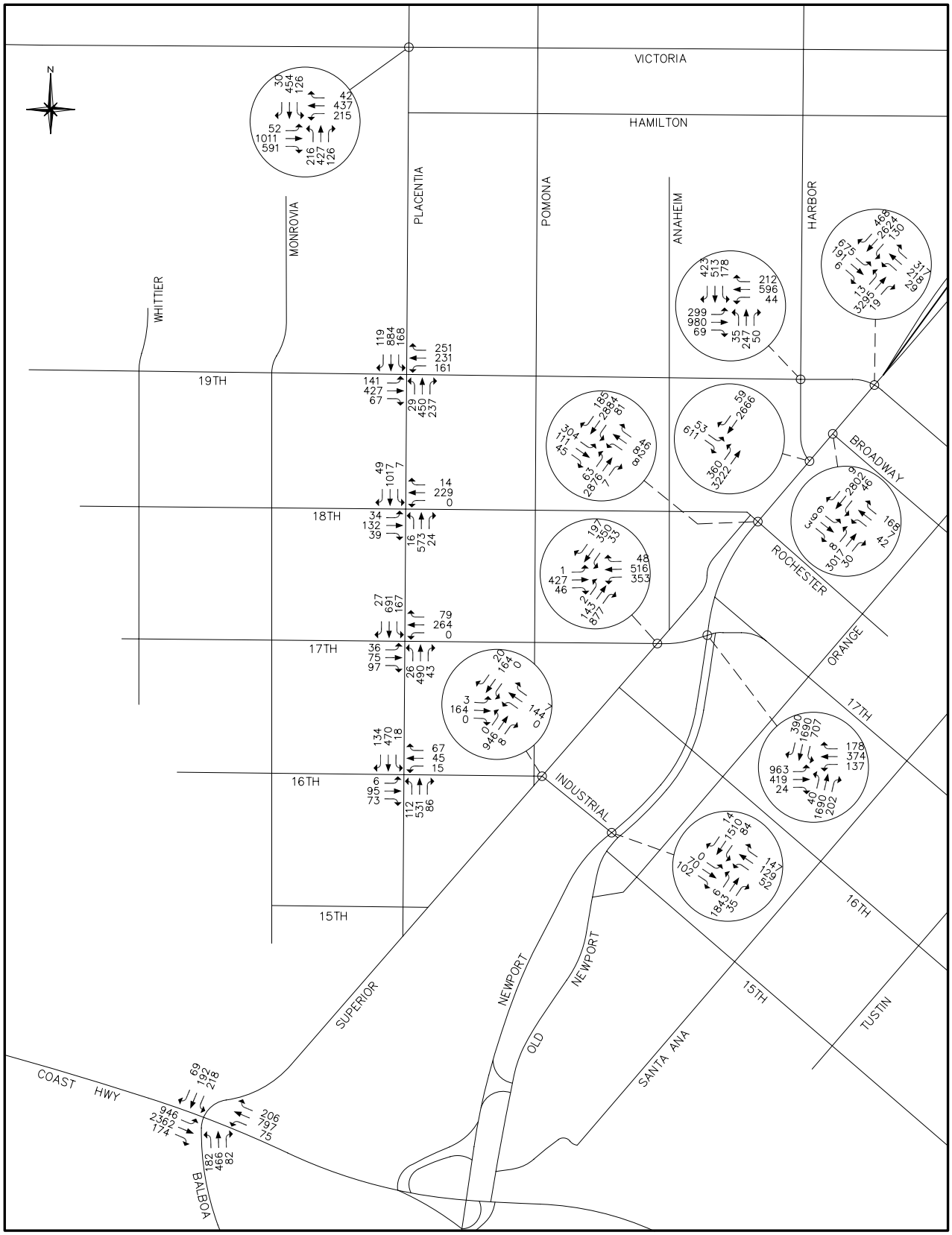


Figure A-5

YEAR 2008 NO-PROJECT
AM PEAK HOUR VOLUMES

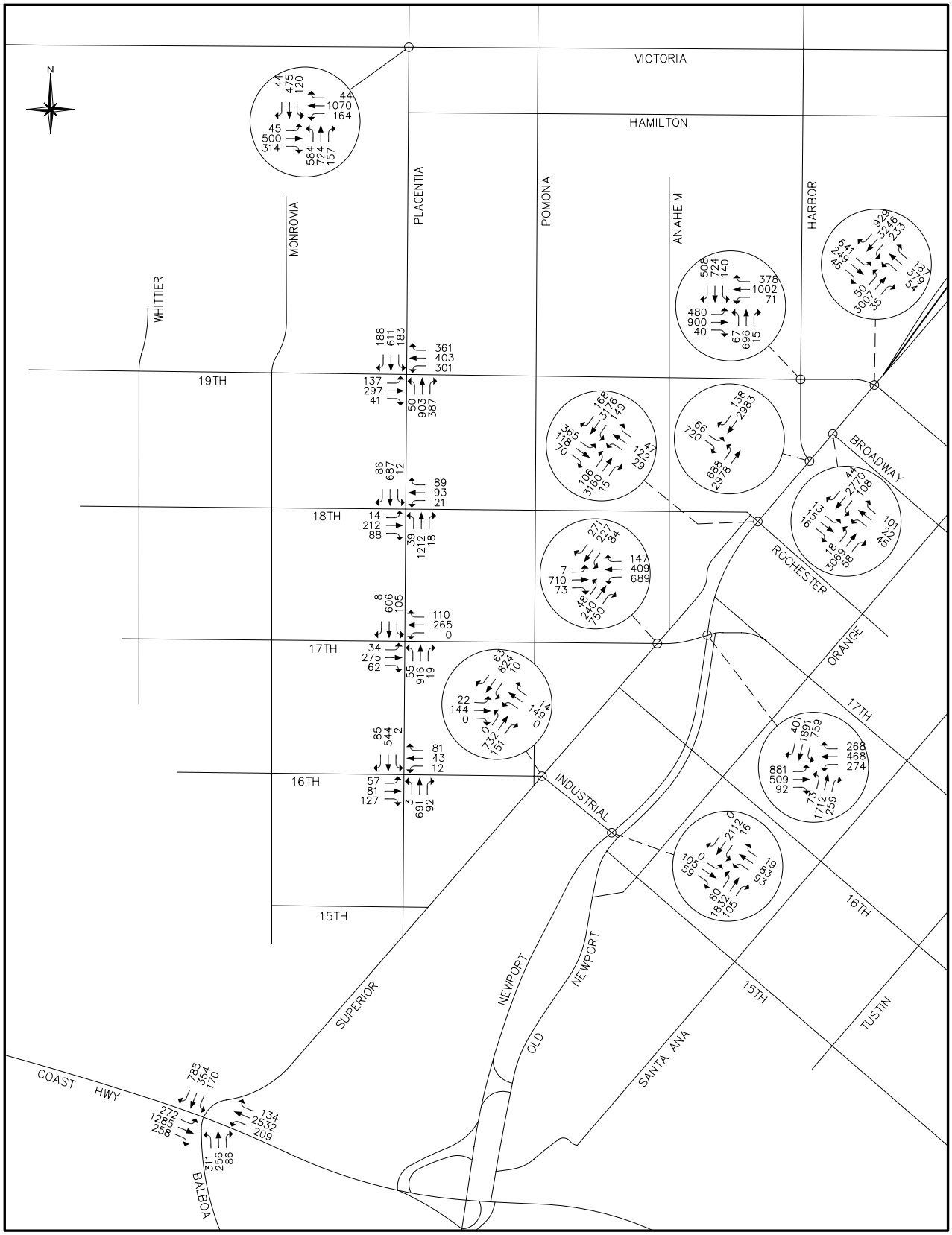


Figure A-6

YEAR 2008 NO-PROJECT
PM PEAK HOUR VOLUMES

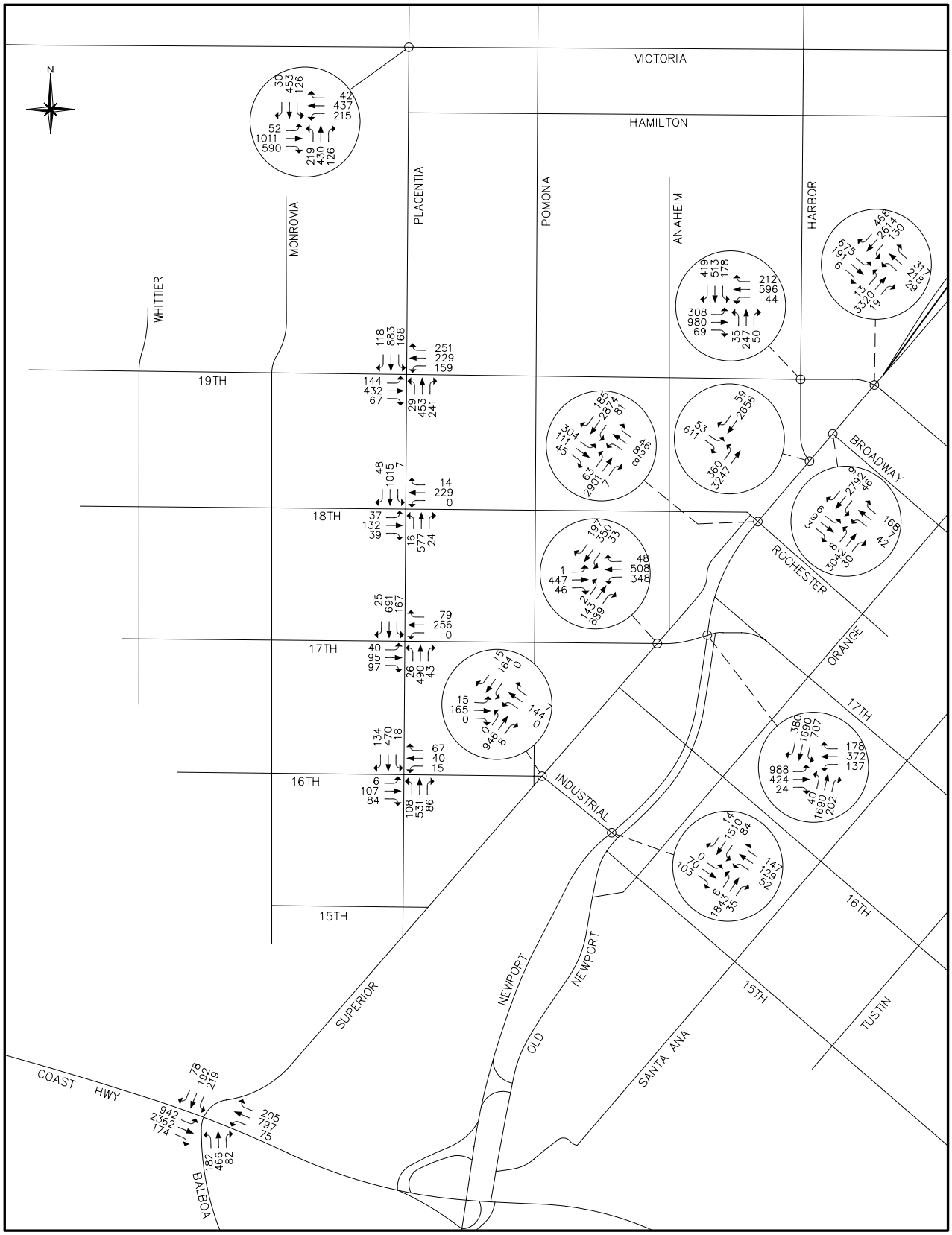


Figure A-7

YEAR 2008 WITH-PROJECT
AM PEAK HOUR VOLUMES

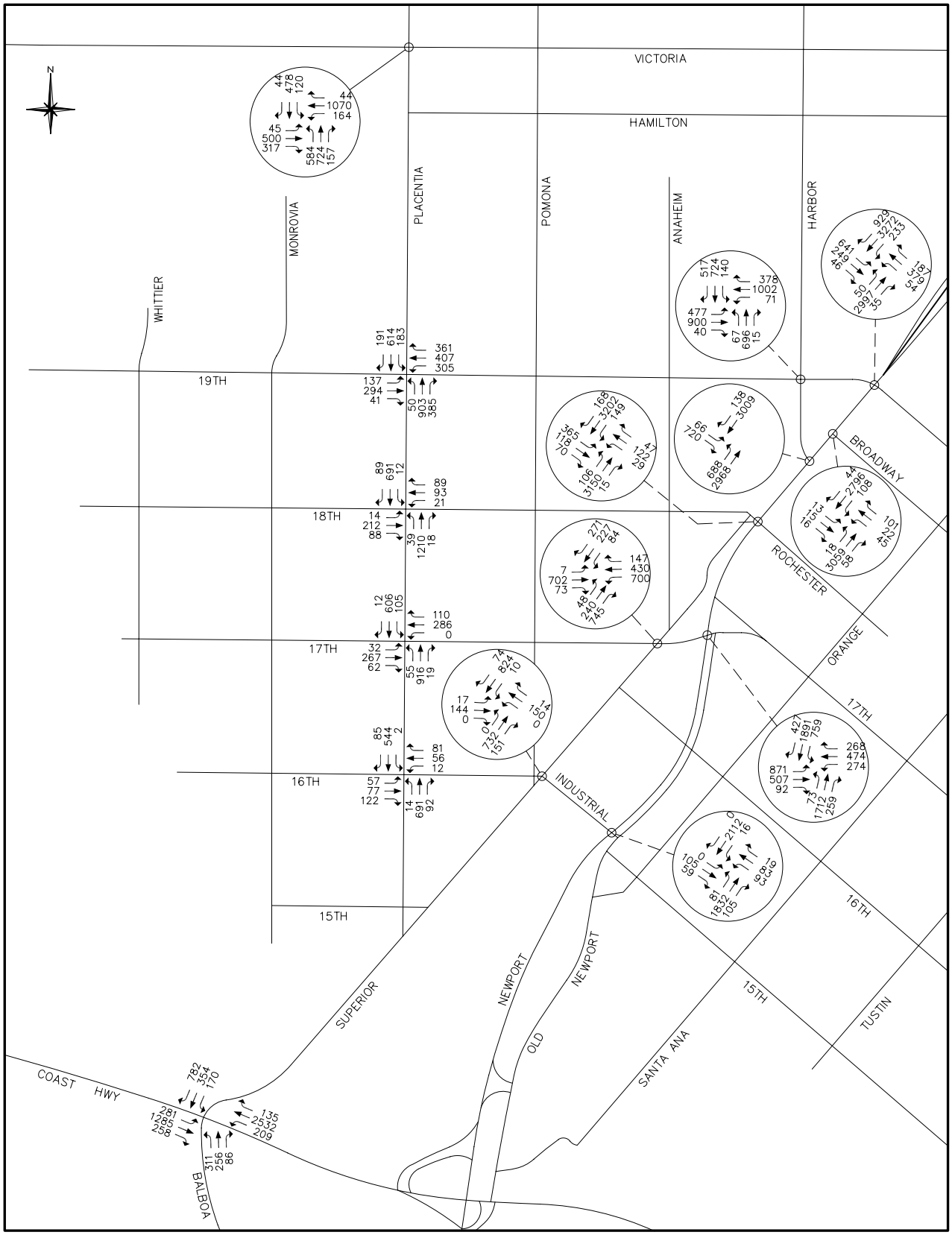


Figure A-8

YEAR 2008 WITH-PROJECT
PM PEAK HOUR VOLUMES

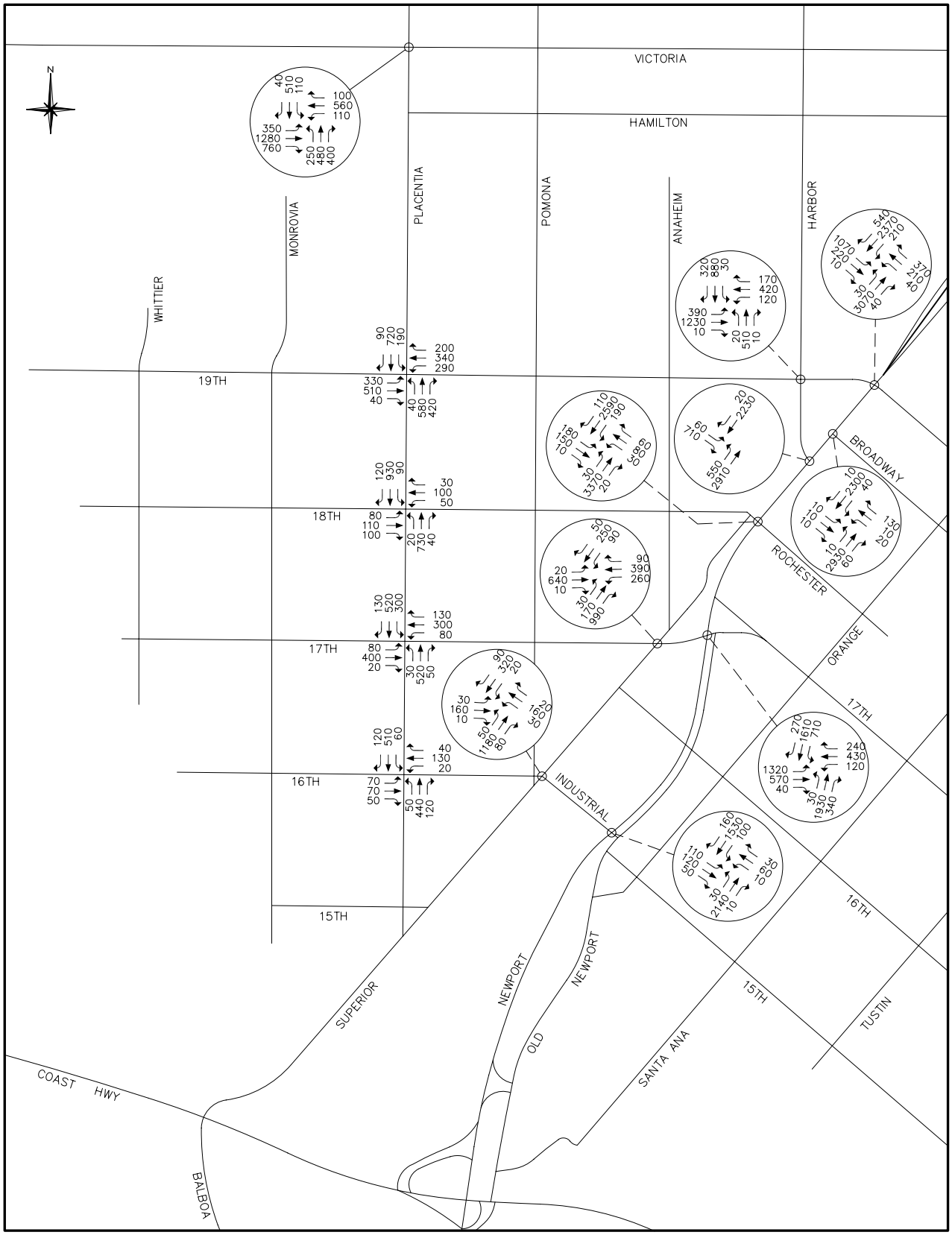


Figure A-9

2025 (CONSTRAINED)
AM PEAK HOUR VOLUMES

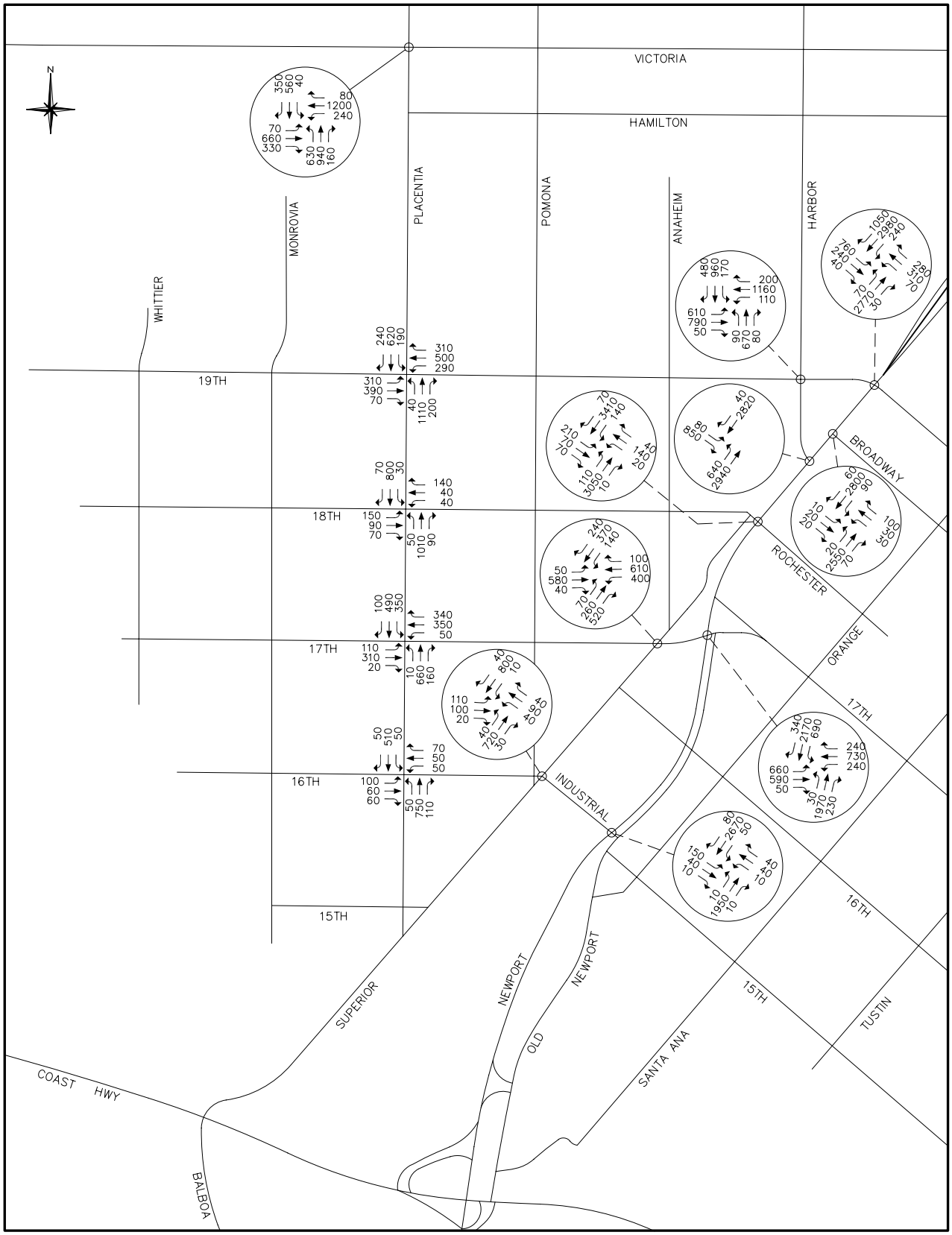


Figure A-10

2025 (CONSTRAINED)
PM PEAK HOUR VOLUMES

APPENDIX B

INTERSECTION CAPACITY UTILIZATION WORKSHEETS

Peak hour intersection volume/capacity ratios are calculated by means of intersection capacity utilization (ICU) values. ICU calculations were performed for the intersections shown in Figure B1. For simplicity, signalization is assumed at each intersection. Precise ICU calculations of existing non-signalized intersections would require a more detailed analysis.

The procedure is based on the critical movement methodology, and shows the amount of capacity utilized by each critical move. A capacity of 1600 vehicles per hour (VPH) per lane is assumed together with no clearance interval. A "de-facto" right-turn lane is used in the ICU calculation for cases where a curb lane is wide enough to separately serve both thru and right-turn traffic (typically with a width of 19 feet from curb to outside of thru-lane with parking prohibited during peak periods). Such lanes are treated the same as striped right-turn lanes during the ICU calculations, but they are denoted on the ICU calculation worksheets using the letter "d" in place of a numerical entry for right-turn lanes.

The methodology also incorporates a check for right-turn capacity utilization. Both right-turn-on-green (RTOG) and right-turn-on-red (RTOR) capacity availability are calculated and checked against the total right-turn capacity need. If insufficient capacity is available, then an adjustment is made to the total capacity utilization value. The following example shows how this adjustment is made.

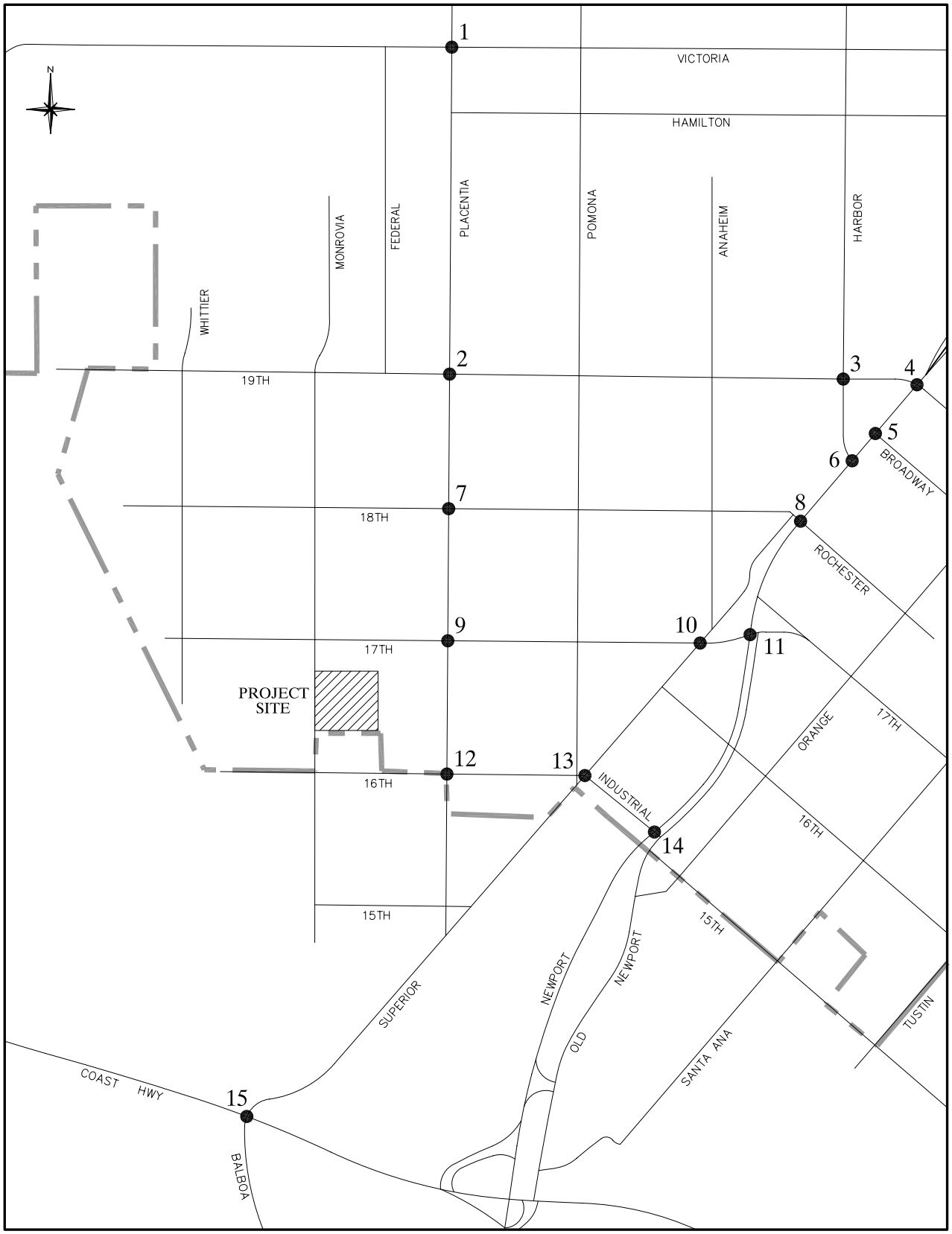
Example For Northbound Right

1. Right-Turn-On-Green (RTOG)

If NBT is critical move, then:
RTOG = V/C (NBT)
Otherwise,
RTOG = V/C (NBL) + V/C (SBT) - V/C (SBL)

2. Right-Turn-On-Red (RTOR)

If WBL is critical move, then:
RTOR = V/C (WBL)
Otherwise,
RTOR = V/C (EBL) + V/C (WBT) - V/C (EBT)



Legend

XX Study intersection

City of Costa Mesa boundary

Figure B-1

STUDY INTERSECTION LOCATIONS

3. Right-Turn Overlap Adjustment

If the northbound right is assumed to overlap with the adjacent westbound left, adjustments to the RTOG and RTOR values are made as follows:

RTOG = RTOG + V/C (WBL)
RTOR = RTOR - V/C (WBL)

4. Total Right-Turn Capacity (RTC) Availability For NBR

RTC = RTOG + factor x RTOR
Where factor = RTOR saturation flow factor (75%)

Right-turn adjustment is then as follows: Additional ICU = V/C (NBR) - RTC

A zero or negative value indicates that adequate capacity is available and no adjustment is necessary. A positive value indicates that the available RTOR and RTOG capacity does not adequately accommodate the right-turn V/C, therefore the right-turn is essentially considered to be a critical movement. In such cases, the right-turn adjustment is noted on the ICU worksheet and it is included in the total capacity utilization value. When it is determined that a right-turn adjustment is required for more than one right-turn movement, the word "multi" is printed on the worksheet instead of an actual right-turn movement reference, and the right-turn adjustments are cumulatively added to the total capacity utilization value. In such cases, further operational evaluation is typically carried out to determine if under actual operational conditions, the critical right-turns would operate simultaneously, and therefore a right-turn adjustment credit should be applied.

Shared Lane V/C Methodology

For intersection approaches where shared usage of a lane is permitted by more than one turn movement (e.g., left/thru, thru/right, left/thru/right), the individual turn volumes are evaluated to determine whether dedication of the shared lane is warranted to any one given turn movement. The following example demonstrates how this evaluation is carried out:

Example for Shared Left/Thru Lane

1. Average Lane Volume (ALV)

$$ALV = \frac{\text{Left-Turn Volume + Thru Volume}}{\text{Total Left + Thru Approach Lanes (including shared lane)}}$$

2. ALV for Each Approach

$$\text{ALV (Left)} = \frac{\text{Left-Turn Volume}}{\text{Left Approach Lanes (including shared lane)}}$$

$$\text{ALV (Thru)} = \frac{\text{Thru Volume}}{\text{Thru Approach Lanes (including shared lane)}}$$

3. Lane Dedication is Warranted

If ALV (Left) is greater than ALV then full dedication of the shared lane to the left-turn approach is warranted. Left-turn and thru V/C ratios for this case are calculated as follows:

$$\text{V/C (Left)} = \frac{\text{Left-Turn Volume}}{\text{Left Approach Capacity (including shared lane)}}$$

$$\text{V/C (Thru)} = \frac{\text{Thru Volume}}{\text{Thru Approach Capacity (excluding shared lane)}}$$

Similarly, if ALV (Thru) is greater than ALV then full dedication to the thru approach is warranted, and left-turn and thru V/C ratios are calculated as follows:

$$\text{V/C (Left)} = \frac{\text{Left-Turn Volume}}{\text{Left Approach Capacity (excluding shared lane)}}$$

$$\text{V/C (Thru)} = \frac{\text{Thru Volume}}{\text{Thru Approach Capacity (including shared lane)}}$$

4. Lane Dedication is not Warranted

If ALV (Left) and ALV (Thru) are both less than ALV, the left/thru lane is assumed to be truly shared and each left, left/thru or thru approach lane carries an evenly distributed volume of traffic equal to ALV. A combined left/thru V/C ratio is calculated as follows:

$$\text{V/C (Left/Thru)} = \frac{\text{Left-Turn Volume + Thru Volume}}{\text{Total Left + Thru Approach Capacity (including shared lane)}}$$

This V/C (Left/Thru) ratio is assigned as the V/C (Thru) ratio for the critical movement analysis and ICU summary listing.

If split phasing has not been designated for this approach, the relative proportion of V/C (Thru) that is attributed to the left-turn volume is estimated as follows:

If approach has more than one left-turn (including shared lane), then:

V/C (Left) = V/C (Thru)

If approach has only one left-turn lane (shared lane), then:

$$\text{V/C (Left)} = \frac{\text{Left-Turn Volume}}{\text{Single Approach Lane Capacity}}$$

If this left-turn movement is determined to be a critical movement, the V/C (Left) value is posted in brackets on the ICU summary printout.

These same steps are carried out for shared thru/right lanes. If full dedication of a shared thru/right lane to the right-turn movement is warranted, the right-turn V/C value calculated in step three is checked against the RTOR and RTOG capacity availability if the option to include right-turns in the V/C ratio calculations is selected. If the V/C value that is determined using the shared lane methodology described here is reduced due to RTOR and RTOG capacity availability, the V/C value for the thru/right lanes is posted in brackets.

When an approach contains more than one shared lane (e.g., left/thru and thru/right), steps one and two listed above are carried out for the three turn movements combined. Step four is carried out if dedication is not warranted for either of the shared lanes. If dedication of one of the shared lanes is warranted to one movement or another, step three is carried out for the two movements involved, and then steps one through four are repeated for the two movements involved in the other shared lane.

1. Placentia & Victoria

Existing

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3200	205	.064	551	.172*
NBT	2	3200	406	.127*	685	.214
NBR	1	1600	120	.075	150	.094
SBL	1	1600	120	.075*	114	.071
SBT	2	3200	428	.134	451	.141*
SBR	1	1600	29	.018	42	.026
EBL	1	1600	50	.031	43	.027*
EBT	2	3200	963	.301*	476	.149
EBR	1	1600	558	.349	298	.186
WBL	1	1600	205	.128*	156	.098
WBT	2	3200	416	.130	1019	.318*
WBR	1	1600	40	.025	42	.026

TOTAL CAPACITY UTILIZATION .631 .658

2008 with Existing Industrial

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3200	216	.068	584	.183*
NBT	2	3200	427	.133*	724	.226
NBR	1	1600	126	.079	157	.098
SBL	1	1600	126	.079*	120	.075
SBT	2	3200	454	.142	475	.148*
SBR	1	1600	30	.019	44	.028
EBL	1	1600	52	.033	45	.028*
EBT	2	3200	1011	.316*	500	.156
EBR	1	1600	591	.369	314	.196
WBL	1	1600	215	.134*	164	.103
WBT	2	3200	437	.137	1070	.334*
WBR	1	1600	42	.026	44	.028

TOTAL CAPACITY UTILIZATION .662 .693

2008 with Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3200	219	.068	584	.183*
NBT	2	3200	430	.134*	724	.226
NBR	1	1600	126	.079	157	.098
SBL	1	1600	126	.079*	120	.075
SBT	2	3200	453	.142	478	.149*
SBR	1	1600	30	.019	44	.028
EBL	1	1600	52	.033	45	.028*
EBT	2	3200	1011	.316*	500	.156
EBR	1	1600	590	.369	317	.198
WBL	1	1600	215	.134*	164	.103
WBT	2	3200	437	.137	1070	.334*
WBR	1	1600	42	.026	44	.028

TOTAL CAPACITY UTILIZATION .663 .694

2025 (Constrained)

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3200	250	.08*	630	.20*
NBT	2	3200	480	.15	940	.29
NBR	1	1600	400	.25	160	.10
SBL	1	1600	110	.07	40	.03
SBT	2	3200	510	.16*	560	.18*
SBR	1	1600	40	.03	350	.22
EBL	1	1600	350	.22	70	.04*
EBT	2	3200	1280	.40*	660	.21
EBR	2	3200	760	.24	330	.10
WBL	1	1600	110	.07*	240	.15
WBT	2	3200	560	.18	1200	.38*
WBR	1	1600	100	.06	80	.05
Right Turn Adjustment			NBR	.03*	SBR	.01*

TOTAL CAPACITY UTILIZATION .74 .81

2. Placentia & 19th

Existing

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	28	.018*	48	.030
NBT	2	3200	428	.134	855	.267*
NBR	1	1600	225	.141	361	.226
SBL	1	1600	160	.100	174	.109*
SBT	2	3200	837	.296*	581	.237
SBR	0	0	109		178	
EBL	2	3200	133	.042	126	.039
EBT	2	3200	372	.136*	271	.097*
EBR	0	0	64		39	
WBL	2	3200	147	.046*	286	.089*
WBT	2	3200	218	.068	346	.108
WBR	1	1600	239	.149	344	.215

TOTAL CAPACITY UTILIZATION .496 .562

2008 with Existing Industrial

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	29	.018*	50	.031
NBT	2	3200	450	.141	903	.282*
NBR	1	1600	237	.148	387	.242
SBL	1	1600	168	.105	183	.114*
SBT	2	3200	884	.313*	611	.250
SBR	0	0	119		188	
EBL	2	3200	141	.044	137	.043
EBT	2	3200	427	.154*	297	.106*
EBR	0	0	67		41	
WBL	2	3200	161	.050*	301	.094*
WBT	2	3200	231	.072	403	.126
WBR	1	1600	251	.157	361	.226

TOTAL CAPACITY UTILIZATION .535 .596

2008 with Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	29	.018*	50	.031
NBT	2	3200	453	.142	903	.282*
NBR	1	1600	241	.151	385	.241
SBL	1	1600	168	.105	183	.114*
SBT	2	3200	883	.313*	614	.252
SBR	0	0	118		191	
EBL	2	3200	144	.045	137	.043
EBT	2	3200	432	.156*	294	.105*
EBR	0	0	67		41	
WBL	2	3200	159	.050*	305	.095*
WBT	2	3200	229	.072	407	.127
WBR	1	1600	251	.157	361	.226

TOTAL CAPACITY UTILIZATION .537 .596

2025 (Constrained)

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	40	.03	40	.03
NBT	2	3200	580	.18*	1110	.35*
NBR	1	1600	420	.26	200	.13
SBL	1	1600	190	.12*	190	.12*
SBT	2	3200	720	.23	620	.19
SBR	1	1600	90	.06	240	.15
EBL	2	3200	330	.10	310	.10*
EBT	2	3200	510	.16*	390	.12
EBR	1	1600	40	.03	70	.04
WBL	2	3200	290	.09*	290	.09
WBT	2	3200	340	.11	500	.16*
WBR	1	1600	200	.13	310	.19
Right Turn Adjustment			NBR	.01*		

TOTAL CAPACITY UTILIZATION .56 .73

3. Harbor & 19th

Existing

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	33	.021	60	.038
NBT	2	3200	233	.073*	635	.198*
NBR	1	1600	48	.030	14	.009
SBL	1	1600	166	.104*	131	.082*
SBT	2	3200	470	.147	684	.214
SBR	1	1600	385	.241	480	.300
EBL	2	3200	281	.088	434	.136*
EBT	3	4800	905	.202*	863	.188
EBR	0	0	63		37	
WBL	1	1600	33	.021*	63	.039
WBT	3	4800	577	.120	923	.192*
WBR	1	1600	202	.126	360	.225
Right Turn Adjustment			SBR	.008*		
TOTAL CAPACITY UTILIZATION				**.408**		**.608**

2008 with Existing Industrial

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	35	.022	67	.042
NBT	2	3200	247	.077*	696	.218*
NBR	1	1600	50	.031	15	.009
SBL	1	1600	178	.111*	140	.088*
SBT	2	3200	513	.160	724	.226
SBR	1	1600	423	.264	508	.318
EBL	2	3200	299	.093	480	.150*
EBT	3	4800	980	.219*	900	.196
EBR	0	0	69		40	
WBL	1	1600	44	.028*	71	.044
WBT	3	4800	596	.124	1002	.209*
WBR	1	1600	212	.133	378	.236
Right Turn Adjustment			SBR	.006*		
TOTAL CAPACITY UTILIZATION				**.441**		**.665**

2008 with Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	35	.022	67	.042
NBT	2	3200	247	.077*	696	.218*
NBR	1	1600	50	.031	15	.009
SBL	1	1600	178	.111*	140	.088*
SBT	2	3200	513	.160	724	.226
SBR	1	1600	419	.262	517	.323
EBL	2	3200	308	.096	477	.149*
EBT	3	4800	980	.219*	900	.196
EBR	0	0	69		40	
WBL	1	1600	44	.028*	71	.044
WBT	3	4800	596	.124	1002	.209*
WBR	1	1600	212	.133	378	.236
Right Turn Adjustment			SBR	.004*		
TOTAL CAPACITY UTILIZATION				**.439**		**.664**

2025 (Constrained)

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	20	.01*	90	.06*
NBT	3	4800	510	.11	670	.16
NBR	0	0	10		80	
SBL	1	1600	30	.02	170	.11
SBT	3	4800	880	.25*	960	.30*
SBR	0	0	320		480	
EBL	2	3200	390	.12	610	.19*
EBT	3	4800	1230	.26*	790	.18
EBR	0	0	10		50	
WBL	1	1600	120	.08*	110	.07
WBT	3	4800	420	.09	1160	.24*
WBR	1	1600	170	.11	200	.13
TOTAL CAPACITY UTILIZATION				**.60**		**.79**

4. Newport & 19th

Existing

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	13	.008	49	.031
NBT	3	4800	3194	.665*	2802	.584*
NBR	1	1600	18	.011	34	.021
SBL	1	1600	126	.079*	226	.141*
SBT	2.5	6400	2450	.510	3132	.653
SBR	1.5		458	.286	839	.524
EBL	2.5		630	.131*	627	
EBT	1.5	6400	174	.109	239	.135*
EBR	1	1600	6	.004	45	.028
WBL	1	1600	28	.018	52	.033
WBT	2.5	6400	212	.066*	356	{.074}*
WBR	1.5		308	.096	182	{.008}

Note: Assumes E/W Split Phasing

TOTAL CAPACITY UTILIZATION .941 .934

2008 with Existing Industrial

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	13	.008	50	.031
NBT	4	6400	3295	.518*	3007	.475*
NBR	0	0	19		35	
SBL	1	1600	130	.081*	233	.146*
SBT	4	6400	2624	.410	3246	.507
SBR	1	1600	468	.293	929	.581
EBL	2.5		675	.141*	641	
EBT	1.5	6400	191	.119	249	.139*
EBR	1	1600	6	.004	46	.029
WBL	1	1600	29	.018	54	.034
WBT	2.5	6400	218	.068*	379	{.079}*
WBR	1.5		317	.099	187	{.008}

Note: Assumes E/W Split Phasing

TOTAL CAPACITY UTILIZATION .808 .839

2008 with Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	13	.008	50	.031
NBT	4	6400	3320	.522*	2997	.474*
NBR	0	0	19		35	
SBL	1	1600	130	.081*	233	.146*
SBT	4	6400	2614	.408	3272	.511
SBR	1	1600	468	.293	929	.581
EBL	2.5		675	.141*	641	
EBT	1.5	6400	191	.119	249	.139*
EBR	1	1600	6	.004	46	.029
WBL	1	1600	29	.018	54	.034
WBT	2.5	6400	218	.068*	379	{.079}*
WBR	1.5		317	.099	187	{.008}

Note: Assumes E/W Split Phasing

TOTAL CAPACITY UTILIZATION .812 .838

2025 (Constrained)

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	30	.02	70	.04
NBT	4	6400	3070	.48*	2770	.43*
NBR	1	1600	40	.03	30	.02
SBL	1	1600	210	.13*	240	.15*
SBT	3.5	8000	2370	.37	2980	{.48}
SBR	1.5		540	.34	1050	
EBL	2.5		1070	.22*	760	.16*
EBT	1.5	6400	220	.14	240	.15
EBR	1	1600	10	.01	40	.03
WBL	1	1600	40	.03	70	.04
WBT	2.5	6400	210	.07*	310	{.06}*
WBR	1.5		370	.12	280	{.06}

Note: Assumes E/W Split Phasing

TOTAL CAPACITY UTILIZATION .90 .80

5. Newport & Broadway

Existing

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	8	.005	17	.011
NBT	3	4800	2924	.615*	2862	.608*
NBR	0	0	29		56	
SBL	1	1600	45	.028*	105	.066*
SBT	3	4800	2622	.546	2670	.556
SBR	1	1600	9	.006	43	.027
EBL	0	0	6	{.004}*	13	{.008}*
EBT	1	1600	9	.009	15	.018
EBR	1	1600	3	.002	16	.010
WBL	1	1600	41	.026	44	.028
WBT	1	1600	7	.106*	21	.074*
WBR	0	0	163		98	

TOTAL CAPACITY UTILIZATION .753 .756

2008 with Existing Industrial

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	8	.005*	18	.011*
NBT	4	6400	3017	.476	3069	.489
NBR	0	0	30		58	
SBL	1	1600	46	.029	108	.068
SBT	3	4800	2802	.584*	2770	.577*
SBR	1	1600	9	.006	44	.028
EBL	0	0	6	{.004}*	13	{.008}*
EBT	1	1600	9	.009	15	.018
EBR	1	1600	3	.002	16	.010
WBL	1	1600	42	.026	45	.028
WBT	1	1600	7	.109*	22	.077*
WBR	0	0	168		101	

TOTAL CAPACITY UTILIZATION .702 .673

2008 with Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	8	.005*	18	.011*
NBT	4	6400	3042	.480	3059	.487
NBR	0	0	30		58	
SBL	1	1600	46	.029	108	.068
SBT	3	4800	2792	.582*	2796	.583*
SBR	1	1600	9	.006	44	.028
EBL	0	0	6	{.004}*	13	{.008}*
EBT	1	1600	9	.009	15	.018
EBR	1	1600	3	.002	16	.010
WBL	1	1600	42	.026	45	.028
WBT	1	1600	7	.109*	22	.077*
WBR	0	0	168		101	

TOTAL CAPACITY UTILIZATION .700 .679

2025 (Constrained)

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	10	.01	20	.01
NBT	4	6400	2930	.47*	2550	.41*
NBR	0	0	60		70	
SBL	1	1600	40	.03*	90	.06*
SBT	4	6400	2300	.36	2800	.44
SBR	1	1600	10	.01	60	.04
EBL	0	0	10	{.01}*	10	{.01}*
EBT	1	1600	10	.01	20	.02
EBR	1	1600	10	.01	20	.01
WBL	1	1600	20	.01	30	.02
WBT	1	1600	10	.09*	30	.08*
WBR	0	0	130		100	

TOTAL CAPACITY UTILIZATION .60 .56

6. Newport & Harbor

Existing

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3200	348	.109	636	.199*
NBT	3	4800	3123	.651*	2774	.578
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	4800	2490	.519	2877	.599*
SBR	1	1600	57	.036	134	.084
EBL	1	1600	51	.032*	64	.040*
EBT	0	0	0		0	
EBR	2	3200	565	.177	689	.215
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.046*	EBR	.026*

TOTAL CAPACITY UTILIZATION .729 .864

2008 with Existing Industrial

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3200	360	.113*	688	.215*
NBT	4	6400	3222	.503	2978	.465
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	4800	2666	.568*	2983	.650*
SBR	0	0	59		138	
EBL	1	1600	53	.033*	66	.041*
EBT	0	0	0		0	
EBR	2	3200	611	.191	720	.225
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.073*	EBR	.023*

TOTAL CAPACITY UTILIZATION .787 .929

2008 with Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3200	360	.113*	688	.215*
NBT	4	6400	3247	.507	2968	.464
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	4800	2656	.566*	3009	.656*
SBR	0	0	59		138	
EBL	1	1600	53	.033*	66	.041*
EBT	0	0	0		0	
EBR	2	3200	611	.191	720	.225
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.073*	EBR	.023*

TOTAL CAPACITY UTILIZATION .785 .935

2025 (Constrained)

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3200	550	.17*	640	.20*
NBT	4	6400	2910	.46	2940	.46
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	4	6400	2230	.35*	2820	.44*
SBR	1	1600	20	.01	40	.03
EBL	1	1600	60	.04*	80	.05*
EBT	0	0	0		0	
EBR	2	3200	710	.22	850	.27
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.05*	EBR	.07*

TOTAL CAPACITY UTILIZATION .61 .76

7. Placentia & 18th

Existing

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	15	.009*	37	.023
NBT	2	3200	545	.178	1147	.364*
NBR	0	0	23		17	
SBL	1	1600	7	.004	11	.007*
SBT	2	3200	962	.314*	653	.229
SBR	0	0	42		81	
EBL	1	1600	31	.019*	9	.006
EBT	1	1600	126	.102	202	.179*
EBR	0	0	37		84	
WBL	1	1600	0	.000	20	.013*
WBT	1	1600	218	.144*	89	.109
WBR	0	0	13		85	

TOTAL CAPACITY UTILIZATION .486 .563

2008 with Existing Industrial

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	16	.010*	39	.024
NBT	2	3200	573	.187	1212	.384*
NBR	0	0	24		18	
SBL	1	1600	7	.004	12	.008*
SBT	2	3200	1017	.333*	687	.242
SBR	0	0	49		86	
EBL	1	1600	34	.021*	14	.009
EBT	1	1600	132	.107	212	.188*
EBR	0	0	39		88	
WBL	1	1600	0	.000	21	.013*
WBT	1	1600	229	.152*	93	.114
WBR	0	0	14		89	

TOTAL CAPACITY UTILIZATION .516 .593

2008 with Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	16	.010*	39	.024
NBT	2	3200	577	.188	1210	.384*
NBR	0	0	24		18	
SBL	1	1600	7	.004	12	.008*
SBT	2	3200	1015	.332*	691	.244
SBR	0	0	48		89	
EBL	1	1600	37	.023*	14	.009
EBT	1	1600	132	.107	212	.188*
EBR	0	0	39		88	
WBL	1	1600	0	.000	21	.013*
WBT	1	1600	229	.152*	93	.114
WBR	0	0	14		89	

TOTAL CAPACITY UTILIZATION .517 .593

2025 (Constrained)

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	20	.01*	50	.03
NBT	2	3200	730	.24	1010	.34*
NBR	0	0	40		90	
SBL	1	1600	90	.06	30	.02*
SBT	2	3200	930	.33*	800	.27
SBR	0	0	120		70	
EBL	1	1600	80	.05	150	.09*
EBT	1	1600	110	.13*	90	.10
EBR	0	0	100		70	
WBL	1	1600	50	.03*	40	.03
WBT	1	1600	100	.08	40	.11*
WBR	0	0	30		140	

TOTAL CAPACITY UTILIZATION .50 .56

8. Newport & 18th/Rochester

Existing

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	61	.038	103	.064
NBT	3	4800	2785	.582*	2918	.611*
NBR	0	0	7		15	
SBL	1	1600	79	.049*	145	.091*
SBT	3	4800	2674	.557	3054	.636
SBR	1	1600	180	.113	163	.102
EBL	2	3200	295	.092*	354	.111*
EBT	1	1600	108	.068	115	.072
EBR	1	1600	44	.028	68	.043
WBL	1	1600	8	.005	28	.018
WBT	1	1600	80	.078*	118	.103*
WBR	0	0	45		46	

TOTAL CAPACITY UTILIZATION .801 .916

2008 with Existing Industrial

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	63	.039*	106	.066*
NBT	4	6400	2876	.450	3160	.496
NBR	0	0	7		15	
SBL	1	1600	81	.051	149	.093
SBT	3	4800	2884	.601*	3176	.662*
SBR	1	1600	185	.116	168	.105
EBL	2	3200	304	.095*	365	.114*
EBT	1	1600	111	.069	118	.074
EBR	1	1600	45	.028	70	.044
WBL	1	1600	8	.005	29	.018
WBT	1	1600	82	.080*	122	.106*
WBR	0	0	46		47	

TOTAL CAPACITY UTILIZATION .815 .948

2008 with Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	63	.039*	106	.066*
NBT	4	6400	2901	.454	3150	.495
NBR	0	0	7		15	
SBL	1	1600	81	.051	149	.093
SBT	3	4800	2874	.599*	3202	.667*
SBR	1	1600	185	.116	168	.105
EBL	2	3200	304	.095*	365	.114*
EBT	1	1600	111	.069	118	.074
EBR	1	1600	45	.028	70	.044
WBL	1	1600	8	.005	29	.018
WBT	1	1600	82	.080*	122	.106*
WBR	0	0	46		47	

TOTAL CAPACITY UTILIZATION .813 .953

2025 (Constrained)

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	30	.02	110	.07*
NBT	4	6400	3370	.53*	3050	.48
NBR	0	0	20		10	
SBL	1	1600	190	.12*	140	.09
SBT	4	6400	2590	.41	3410	.53*
SBR	1	1600	110	.07	70	.04
EBL	2	3200	180	.06*	210	.07*
EBT	1	1600	150	.09	70	.04
EBR	1	1600	10	.01	70	.04
WBL	1	1600	30	.02	20	.01
WBT	1	1600	80	.09*	140	.11*
WBR	0	0	60		40	

TOTAL CAPACITY UTILIZATION .80 .78

9. Placentia & 17th

Existing

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	25	.016	52	.033
NBT	2	3200	467	.159*	872	.278*
NBR	0	0	41		18	
SBL	1	1600	159	.099*	100	.063*
SBT	2	3200	658	.212	577	.183
SBR	0	0	19		7	
EBL	1	1600	33	.021*	25	.016*
EBT	1	1600	56	.093	223	.176
EBR	0	0	92		59	
WBL	1	1600	0	.000	0	.000
WBT	1	1600	218	.183*	234	.212*
WBR	0	0	75		105	

TOTAL CAPACITY UTILIZATION .462 .569

2008 with Existing Industrial

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	26	.016	55	.034
NBT	2	3200	490	.167*	916	.292*
NBR	0	0	43		19	
SBL	1	1600	167	.104*	105	.066*
SBT	2	3200	691	.224	606	.192
SBR	0	0	27		8	
EBL	1	1600	36	.023*	34	.021*
EBT	1	1600	75	.108	275	.211
EBR	0	0	97		62	
WBL	1	1600	0	.000	0	.000
WBT	1	1600	264	.214*	265	.234*
WBR	0	0	79		110	

TOTAL CAPACITY UTILIZATION .508 .613

2008 with Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	26	.016	55	.034
NBT	2	3200	490	.167*	916	.292*
NBR	0	0	43		19	
SBL	1	1600	167	.104*	105	.066*
SBT	2	3200	691	.224	606	.193
SBR	0	0	25		12	
EBL	1	1600	40	.025*	32	.020*
EBT	1	1600	95	.120	267	.206
EBR	0	0	97		62	
WBL	1	1600	0	.000	0	.000
WBT	1	1600	256	.209*	286	.248*
WBR	0	0	79		110	

TOTAL CAPACITY UTILIZATION .505 .626

2025 (Constrained)

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	30	.02	10	.01
NBT	2	3200	520	.18*	660	.26*
NBR	0	0	50		160	
SBL	1	1600	300	.19*	350	.22*
SBT	2	3200	520	.20	490	.18
SBR	0	0	130		100	
EBL	1	1600	80	.05*	110	.07*
EBT	2	3200	400	.13	310	.10
EBR	0	0	20		20	
WBL	1	1600	80	.05	50	.03
WBT	2	3200	300	.13*	350	.22*
WBR	0	0	130		340	

TOTAL CAPACITY UTILIZATION .55 .77

10. Superior & 17th

Existing

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	2	.001	46	.029
NBT	0.5	3200	136	{.228}*	229	{.143}*
NBR	1.5		832		693	{.127}
SBL	1	1600	31	.019*	80	.050*
SBT	2	3200	333	.163	216	.135
SBR	0	0	188		258	.161
EBL	1	1600	1	.001	7	.004
EBT	2	3200	391	.136*	637	.221*
EBR	0	0	44		70	
WBL	1	1600	317	.198*	653	.408*
WBT	2	3200	458	.158	371	.160
WBR	0	0	46		140	

TOTAL CAPACITY UTILIZATION .581 .822

2008 with Existing Industrial

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	2	.001	48	.030
NBT	0.5	3200	143	{.236}*	240	{.150}*
NBR	1.5		877		750	{.146}
SBL	1	1600	33	.021*	84	.053*
SBT	2	3200	350	.171	227	.142
SBR	0	0	197		271	.169
EBL	1	1600	1	.001	7	.004
EBT	2	3200	427	.148*	710	.245*
EBR	0	0	46		73	
WBL	1	1600	353	.221*	689	.431*
WBT	2	3200	516	.176	409	.174
WBR	0	0	48		147	

TOTAL CAPACITY UTILIZATION .626 .879

2008 with Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	2	.001	48	.030
NBT	0.5	3200	143	{.241}*	240	{.150}*
NBR	1.5		889		745	{.137}
SBL	1	1600	33	.021*	84	.053*
SBT	2	3200	350	.171	227	.142
SBR	0	0	197		271	.169
EBL	1	1600	1	.001	7	.004
EBT	2	3200	447	.154*	702	.242*
EBR	0	0	46		73	
WBL	1	1600	348	.218*	700	.438*
WBT	2	3200	508	.174	430	.180
WBR	0	0	48		147	

TOTAL CAPACITY UTILIZATION .634 .883

2025 (Constrained)

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	30	.02	70	.04
NBT	0.5	3200	170	{.30}*	260	{.16}*
NBR	1.5		990		520	{.14}
SBL	1	1600	90	.06*	140	.09*
SBT	2	3200	250	.09	370	.19
SBR	0	0	50		240	
EBL	1	1600	20	.01	50	.03
EBT	2	3200	640	.20*	580	.19*
EBR	0	0	10		40	
WBL	1	1600	260	.16*	400	.25*
WBT	2	3200	390	.15	610	.22
WBR	0	0	90		100	

TOTAL CAPACITY UTILIZATION .72 .69

11. Newport & 17th

Existing

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	39	.024	64	.040
NBT	3	4800	1639	.341*	1614	.336*
NBR	1	1600	196	.123	251	.157
SBL	2	3200	645	.202*	727	.227*
SBT	3	4800	1600	.403	1823	.460
SBR	0	0	335		383	
EBL	3	4800	928	.193*	808	.168*
EBT	2	3200	399	.130	482	.178
EBR	0	0	18		88	
WBL	2	3200	133	.042	266	.083
WBT	3	4800	353	.074*	446	.093*
WBR	1	1600	175	.109	207	.129

TOTAL CAPACITY UTILIZATION .810 .824

2008 with Existing Industrial

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	40	.025	73	.046
NBT	3	4800	1690	.352*	1712	.357*
NBR	1	1600	202	.126	259	.162
SBL	2	3200	707	.221*	759	.237*
SBT	3	4800	1690	.352	1891	.394
SBR	1	1600	390	.244	401	.251
EBL	3	4800	963	.201*	881	.184*
EBT	2	3200	419	.138	509	.188
EBR	0	0	24		92	
WBL	2	3200	137	.043	274	.086
WBT	3	4800	374	.078*	468	.098*
WBR	1	1600	178	.111	268	.168

TOTAL CAPACITY UTILIZATION .852 .876

2008 with Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	40	.025	73	.046
NBT	3	4800	1690	.352*	1712	.357*
NBR	1	1600	202	.126	259	.162
SBL	2	3200	707	.221*	759	.237*
SBT	3	4800	1690	.352	1891	.394
SBR	1	1600	380	.238	427	.267
EBL	3	4800	988	.206*	871	.181*
EBT	2	3200	424	.140	507	.187
EBR	0	0	24		92	
WBL	2	3200	137	.043	274	.086
WBT	3	4800	372	.078*	474	.099*
WBR	1	1600	178	.111	268	.168

TOTAL CAPACITY UTILIZATION .857 .874

2025 (Constrained)

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	30	.02	30	.02
NBT	4	6400	1930	.30*	1970	.31*
NBR	1	1600	340	.21	230	.14
SBL	2	3200	710	.22*	690	.22*
SBT	4	6400	1610	.25	2170	.34
SBR	1	1600	270	.17	340	.21
EBL	3	4800	1320	.28*	660	.14*
EBT	2	3200	570	.19	590	.20
EBR	0	0	40		50	
WBL	2	3200	120	.04	240	.08
WBT	3	4800	430	.09*	730	.15*
WBR	1	1600	240	.15	240	.15

TOTAL CAPACITY UTILIZATION .89 .82

12. Placentia & 16th

Existing

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	89	.056*	0	.000
NBT	2	3200	506	.184	658	.233*
NBR	0	0	82		88	
SBL	1	1600	17	.011	2	.001*
SBT	2	3200	448	.180*	518	.187
SBR	0	0	128		81	
EBL	1	1600	6	.004	54	.034*
EBT	1	1600	88	.097*	55	.098
EBR	0	0	67		101	
WBL	1	1600	14	.009*	11	.007
WBT	1	1600	23	.054	38	.072*
WBR	0	0	64		77	

TOTAL CAPACITY UTILIZATION .342 .340

2008 with Existing Industrial

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	112	.070*	3	.002
NBT	2	3200	531	.193	691	.245*
NBR	0	0	86		92	
SBL	1	1600	18	.011	2	.001*
SBT	2	3200	470	.189*	544	.197
SBR	0	0	134		85	
EBL	1	1600	6	.004	57	.036
EBT	1	1600	95	.105*	81	.130*
EBR	0	0	73		127	
WBL	1	1600	15	.009*	12	.008*
WBT	1	1600	45	.070	43	.078
WBR	0	0	67		81	

TOTAL CAPACITY UTILIZATION .373 .384

2008 with Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	108	.068*	14	.009
NBT	2	3200	531	.193	691	.245*
NBR	0	0	86		92	
SBL	1	1600	18	.011	2	.001*
SBT	2	3200	470	.189*	544	.197
SBR	0	0	134		85	
EBL	1	1600	6	.004	57	.036
EBT	1	1600	107	.119*	77	.124*
EBR	0	0	84		122	
WBL	1	1600	15	.009*	12	.008*
WBT	1	1600	40	.067	56	.086
WBR	0	0	67		81	

TOTAL CAPACITY UTILIZATION .385 .378

2025 (Constrained)

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	50	.03*	50	.03
NBT	2	3200	440	.18	750	.27*
NBR	0	0	120		110	
SBL	1	1600	60	.04	50	.03*
SBT	2	3200	510	.20*	510	.18
SBR	0	0	120		50	
EBL	1	1600	70	.04*	100	.06*
EBT	1	1600	70	.08	60	.08
EBR	0	0	50		60	
WBL	1	1600	20	.01	50	.03
WBT	1	1600	130	.11*	50	.08*
WBR	0	0	40		70	

TOTAL CAPACITY UTILIZATION .38 .44

13. Superior & 16th

Existing

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	0	.000	0	.000
NBT	2	3200	898	.283*	696	.263*
NBR	0	0	8		144	
SBL	1	1600	0	.000	10	.006*
SBT	2	3200	156	.049	781	.262
SBR	0	0	0		57	
EBL	1	1600	0	.000	0	.000
EBT	1	1600	156	.098*	136	.085
EBR	1	1600	0	.000	0	.000
WBL	0	0	0		0	
WBT	1	1600	136	.089	142	.097*
WBR	0	0	7		13	

TOTAL CAPACITY UTILIZATION .381 .366

2008 with Existing Industrial

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	0	.000	0	.000
NBT	2	3200	946	.298*	732	.276*
NBR	0	0	8		151	
SBL	1	1600	0	.000	10	.006*
SBT	2	3200	164	.058	824	.277
SBR	0	0	20		63	
EBL	1	1600	3	.002	22	.014*
EBT	1	1600	164	.103*	144	.090
EBR	1	1600	0	.000	0	.000
WBL	0	0	0		0	
WBT	1	1600	144	.094	149	.102*
WBR	0	0	7		14	

TOTAL CAPACITY UTILIZATION .401 .398

2008 with Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	0	.000	0	.000
NBT	2	3200	946	.298*	732	.276*
NBR	0	0	8		151	
SBL	1	1600	0	.000	10	.006*
SBT	2	3200	164	.056	824	.281
SBR	0	0	15		74	
EBL	1	1600	15	.009	17	.011*
EBT	1	1600	165	.103*	144	.090
EBR	1	1600	0	.000	0	.000
WBL	0	0	0		0	
WBT	1	1600	144	.094	150	.103*
WBR	0	0	7		14	

TOTAL CAPACITY UTILIZATION .401 .396

2025 (Constrained)

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	50	.03	40	.03*
NBT	2	3200	1180	.39*	720	.23
NBR	0	0	80		30	
SBL	1	1600	20	.01*	10	.01
SBT	2	3200	320	.13	800	.26*
SBR	0	0	90		40	
EBL	1	1600	30	.02*	110	.07*
EBT	1	1600	160	.10	100	.06
EBR	1	1600	10	.01	20	.01
WBL	1	1600	30	.02	40	.03
WBT	1	1600	160	.11*	90	.08*
WBR	0	0	20		40	

TOTAL CAPACITY UTILIZATION .53 .44

14. Newport & Industrial

Existing

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	5	.003	76	.048*
NBT	3	4800	1740	.369*	1731	.381
NBR	0	0	33		100	
SBL	1	1600	80	.050*	15	.009
SBT	3	4800	1427	.300	1989	.414*
SBR	0	0	13		0	
EBL	0	0	0		0	
EBT	1	1600	67	.042	100	.063*
EBR	1	1600	97	.061	55	.034
WBL	1	1600	50	.031	89	.056*
WBT	1	1600	123	.077*	79	.049
WBR	1	1600	140	.088	18	.011

TOTAL CAPACITY UTILIZATION .496 .581

2008 with Existing Industrial

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	6	.004	80	.050*
NBT	3	4800	1843	.391*	1832	.404
NBR	0	0	35		105	
SBL	1	1600	84	.053*	16	.010
SBT	3	4800	1510	.318	2112	.440*
SBR	0	0	14		0	
EBL	0	0	0		0	
EBT	1	1600	70	.044	105	.066*
EBR	1	1600	102	.064	59	.037
WBL	1	1600	52	.033	93	.058*
WBT	1	1600	129	.081*	83	.052
WBR	1	1600	147	.092	19	.012

TOTAL CAPACITY UTILIZATION .525 .614

2008 with Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	6	.004	81	.051*
NBT	3	4800	1843	.391*	1832	.404
NBR	0	0	35		105	
SBL	1	1600	84	.053*	16	.010
SBT	3	4800	1510	.318	2112	.440*
SBR	0	0	14		0	
EBL	0	0	0		0	
EBT	1	1600	70	.044	105	.066*
EBR	1	1600	103	.064	59	.037
WBL	1	1600	52	.033	93	.058*
WBT	1	1600	129	.081*	83	.052
WBR	1	1600	147	.092	19	.012

TOTAL CAPACITY UTILIZATION .525 .615

2025 (Constrained)

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1600	30	.02	10	.01*
NBT	3	4800	2140	.45*	1950	.41
NBR	0	0	10		10	
SBL	1	1600	100	.06*	50	.03
SBT	3	4800	1530	.32	2670	.56*
SBR	1	1600	160	.10	80	.05
EBL	0	0	110		150	
EBT	1	1600	120	.14*	40	.12*
EBR	1	1600	50	.03	10	.01
WBL	1	1600	10	.01*	10	.01*
WBT	1	1600	60	.04	40	.03
WBR	1	1600	30	.02	40	.03

TOTAL CAPACITY UTILIZATION .66 .70

15. Superior/Balboa & Coast Hwy

Existing

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	173		296	
NBT	3	4800	444	.145*	244	.130*
NBR	0	0	78		82	
SBL	1.5		208		160	.100
SBT	1.5	4800	183	.081*	337	.105*
SBR	2	3200	64	.020	729	.228
EBL	2	3200	884	.276	256	.080*
EBT	3	4800	2250	.469*	1224	.255
EBR	1	1600	166	.104	246	.154
WBL	1	1600	71	.044*	199	.124
WBT	4	6400	759	.149	2411	.397*
WBR	0	0	194		128	
Right Turn Adjustment					SBR	.063*

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .739 .775

2008 with Existing Industrial

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	182		311	
NBT	3	4800	466	.152*	256	.136*
NBR	0	0	82		86	
SBL	1.5		218		170	.106
SBT	1.5	4800	192	.085*	354	.111*
SBR	2	3200	69	.022	785	.245
EBL	2	3200	946	.296	272	.085*
EBT	3	4800	2362	.492*	1285	.268
EBR	1	1600	174	.109	258	.161
WBL	1	1600	75	.047*	209	.131
WBT	4	6400	797	.157	2532	.417*
WBR	0	0	206		134	
Right Turn Adjustment					SBR	.070*

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .776 .819

2008 with Project

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	182		311	
NBT	3	4800	466	.152*	256	.136*
NBR	0	0	82		86	
SBL	1.5		219		170	.106
SBT	1.5	4800	192	.086*	354	.111*
SBR	2	3200	78	.024	782	.244
EBL	2	3200	942	.294	281	.088*
EBT	3	4800	2362	.492*	1285	.268
EBR	1	1600	174	.109	258	.161
WBL	1	1600	75	.047*	209	.131
WBT	4	6400	797	.157	2532	.417*
WBR	0	0	205		135	
Right Turn Adjustment					SBR	.067*

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .777 .819