

ATTACHMENT O4-1

CITY OF NEWPORT BEACH GENERAL PLAN LAND USE ELEMENT AMENDMENT TRAFFIC IMPACT ANALYSIS (TIA)

19TH STREET BRIDGE SENSITIVITY ANALYSIS

MAY 19, 2014

The purpose of this technical memorandum is to summarize the sensitivity analysis performed to determine effects of removal of the 19th Street Bridge. This sensitivity analysis has been developed in support of the City of Newport Beach General Plan Land Use Element (LUE) Amendment, Traffic Impact Analysis (TIA) (Urban Crossroads, Inc., March 12, 2014), hereinafter called “the TIA”. The memorandum will document changes to daily traffic volume forecasts, and also evaluate intersection operations at two selected study area intersections: Superior Avenue at Coast Highway and West Newport Boulevard at Coast Highway, both in the City of Newport Beach.

The Orange County Transportation Authority (OCTA) maintains the Master Plan of Arterial Highways (MPAH) for Orange County. Similar to the City of Newport Beach General Plan Circulation Element, the MPAH is the planned roadway system for the County of Orange. The MPAH has recently been modified by OCTA to eliminate the 19th Street Bridge over the Santa Ana River, which provided a connection from the current 19th Street terminus westerly to Brookhurst Street in Huntington Beach.

The 19th Street Bridge remains in the current Newport Beach Circulation Element. In the future, a complete update to the Circulation Element is expected. A complete update to the Circulation Element would include consideration of all transportation modes, including the automobile. In considering Citywide refinements to the roadway system for automobiles, it is likely that removal of the 19th Street Bridge would be among the changes considered.

Recent analysis was performed by others (on behalf of OCTA) to evaluate potential elimination of the 19th Street Bridge. The analysis is included in the 19th Street “No-Build” between Bluff Road and Brookhurst Street Traffic Analysis (Iteris, November 15, 2012). That analysis indicated that Superior Avenue at Coast Highway is impacted by the removal of the 19th Street Bridge, but only if selected MPAH facilities are amended. The OCTA study showed that if the full MPAH system is constructed, the intersection of Superior Avenue at Coast Highway is not impacted by the removal of the 19th Street Bridge.

The intersection of Superior Avenue at Coast Highway is deficient for General Plan conditions with and without the Land Use Element (LUE) Amendment Project, but a Project impact was not identified. An additional nearby intersection (West Newport Boulevard Southbound Ramps at Coast Highway) has been selected for this sensitivity analysis because it is also projected to experience deficient conditions with or without the proposed LUE Amendment project.

1.0 2006 GENERAL PLAN WITHOUT 19TH STREET BRIDGE

The 2006 General Plan scenario includes the currently adopted City of Newport Beach General Plan Land Use Element, and was used as the future baseline in the TIA. The TIA includes Average Daily Traffic (ADT) forecasts throughout the City of Newport Beach, and evaluates 64 study area intersections in the City of Newport Beach.

1.1 Roadway Segment Daily Traffic Volume Forecasts

Daily traffic volume forecasts have been prepared for study area roadway segments throughout the City of Newport Beach. Exhibit A shows the results of this analysis (which can be compared to Exhibit 3-A of the TIA). While the 19th Street Bridge removal affects network connectivity west of Newport Beach across the Santa Ana River, other currently planned MPAH roadway connections remain in place in the LUE TIA. ADT forecasts generally vary by less than one thousand vehicles per day, so the rounded forecasts are the same with or without the bridge.

1.2 Intersection Level of Service (LOS) Results

Intersection capacity utilization (ICU) values were calculated for the two study area intersections along Coast Highway mentioned above (Superior Avenue and West Newport Boulevard Southbound Ramps). Intersection peak hour volumes without the 19th Street Bridge are shown on Exhibit B. Attachment 1 contains the ICU worksheets for 2006 General Plan without 19th Street Bridge conditions. Table 1 shows the results of this analysis.

Table 1
2006 General Plan without 19th Street Bridge Intersection Analysis

Intersection	With 19th Street Bridge				Without 19th Street Bridge			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
Superior Ave. (NS) at Coast Hwy. (EW)	1.06	F	0.80	D	1.06	F	0.79	C
W. Newport Bl. SB Ramps (NS) at Coast Hwy. (EW)	1.21	F	0.86	D	1.21	F	0.87	D

For each of the two intersections analyzed without the 19th Street Bridge, the AM peak hour experiences deficient operations. The ICU values are identical to the ICU values with the 19th Street Bridge, and no impact is found. Traffic redistribution caused by the removal of the 19th

Street Bridge does not result in a significant increase or decrease in traffic volumes and resulting congestion at these two intersections. Bluff Road connectivity in the immediate vicinity of the Bridge removal provides access to nearby facilities. The result of no impact for conditions with the currently planned roadway system but without the 19th Street Bridge is the same result as found in the study prepared for OCTA with the same condition.

2.0 GENERAL PLAN LUE AMENDMENT (PROPOSED PROJECT) WITHOUT 19TH STREET BRIDGE

The General Plan LUE Amendment involves the alteration, intensification, and redistribution of land uses in certain subareas of the City, including major areas such as Newport Center/Fashion Island, Newport Coast, and the Airport Area near John Wayne Airport. The TIA includes Average Daily Traffic (ADT) forecasts throughout the City of Newport Beach, and evaluates 64 study area intersections in the City of Newport Beach.

2.1 Roadway Segment Daily Traffic Volume Forecasts

Daily traffic volume forecasts have been prepared for study area roadway segments throughout the City of Newport Beach. Exhibit C shows the results of this analysis (which can be compared to Exhibit 4-A of the TIA). While the 19th Street Bridge removal affects network connectivity west of Newport Beach across the Santa Ana River, other currently planned MPAH roadway connections remain in place in the LUE TIA. ADT forecasts generally vary by less than one thousand vehicles per day, so the rounded forecasts are the same with or without the bridge.

2.2 Intersection Level of Service (LOS) Results

Intersection capacity utilization (ICU) values were calculated for the two study area intersections along Coast Highway mentioned above (Superior Avenue and West Newport Boulevard Southbound Ramps). Intersection peak hour volumes without the 19th Street Bridge are shown on Exhibit D. Attachment 2 contains the ICU worksheets for General Plan LUE Amendment without 19th Street Bridge conditions. Table 2 shows the results of this analysis.

**Table 2
General Plan LUE Amendment without 19th Street Bridge Intersection Analysis**

Intersection	With 19th Street Bridge				Without 19th Street Bridge			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
Superior Ave. (NS) at Coast Hwy. (EW)	1.05	F	0.79	D	1.04	F	0.78	C
W. Newport Bl. SB Ramps(NS) at Coast Hwy. (EW)	1.21	F	0.86	D	1.21	F	0.86	D

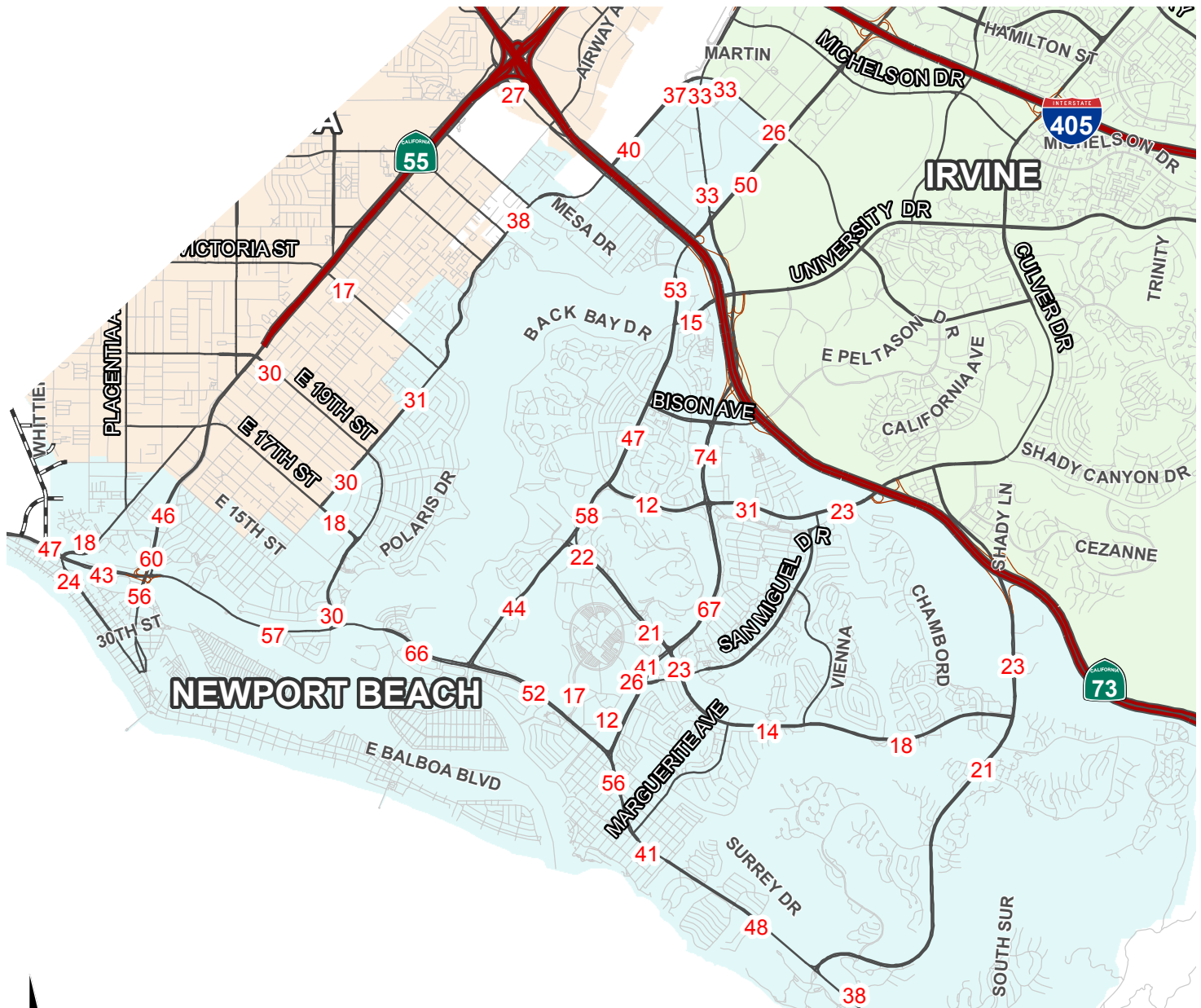
For each of the two intersections analyzed without the 19th Street Bridge, the AM peak hour experiences deficient operations. The ICU values are the same or better than the ICU values with the 19th Street Bridge, and no impact is found. Traffic redistribution caused by the removal of the 19th Street Bridge does not result in a significant increase or decrease in traffic volumes and resulting congestion at these two intersections. Bluff Road connectivity in the immediate vicinity of the Bridge removal provides access to nearby facilities.

It is also the case that the ICU values are the same or better than in the 2006 General Plan without 19th Street Bridge analysis. The LUE Amendment does not include a substantial increase in trip generation in the West Newport Area. Consistent with the TIA results, no impact is found for the LUE Amendment analysis without the 19th Street Bridge.

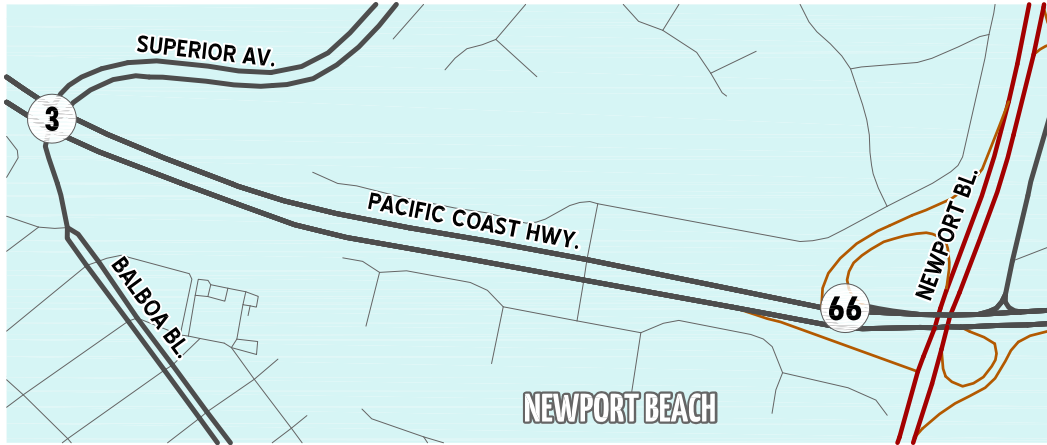
EXHIBIT A
**2006 GENERAL PLAN
 AVERAGE DAILY TRAFFIC (ADT)
 WITHOUT 19TH STREET BRIDGE**

LEGEND:

10 = VEHICLES PER DAY (1000'S)



2006 GENERAL PLAN WITHOUT 19TH STREET BRIDGE AM AND PM PEAK HOUR INTERSECTION VOLUMES



#3 Superior Av. & Coast Hwy.			
AM PEAK HOUR		PM PEAK HOUR	
138	386	674	159
186	243	451	2702
140	283	304	420
891	163	228	1047
747	3068	214	245
173	252	278	168
510	529		

#66 Newport Bl. (W) & Coast Hwy.			
AM PEAK HOUR		PM PEAK HOUR	
543	440	696	680
460	1257	464	2334
2800	1776		
140	90		

LEGEND:

- # = INTERSECTION ID
- 10 = PEAK HOUR VOLUME

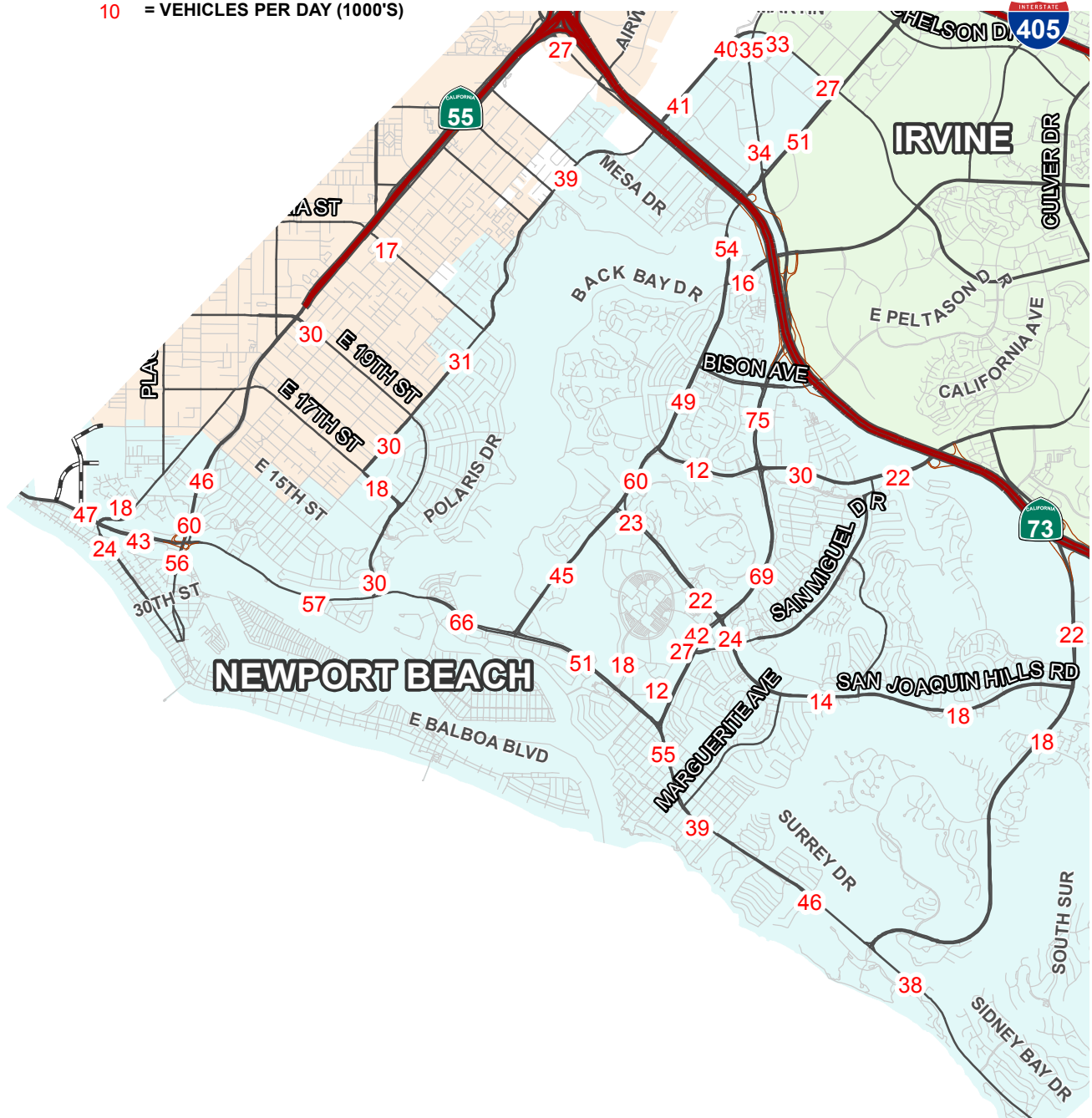


EXHIBIT C

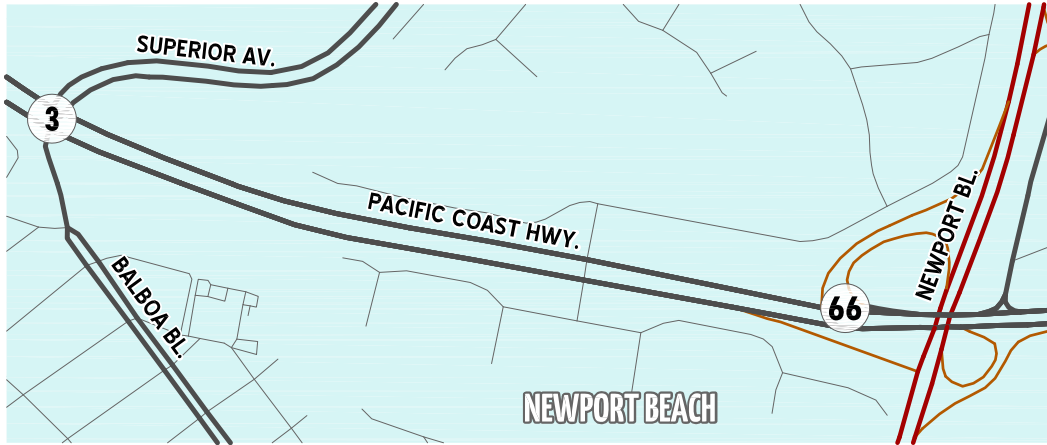
GENERAL PLAN LUE AMENDMENT (PROPOSED PROJECT) AVERAGE DAILY TRAFFIC (ADT) WITHOUT 19TH STREET BRIDGE

LEGEND:

10 = VEHICLES PER DAY (1000'S)



GENERAL PLAN LUE AMENDMENT (PROPOSED PROJECT) WITHOUT 19TH STREET BRIDGE AM AND PM PEAK HOUR INTERSECTION VOLUMES



#3 Superior Av. & Coast Hwy.			
AM PEAK HOUR		PM PEAK HOUR	
141	187	694	149
233	264	463	263
154	957	283	400
762	261	232	251
3017	514	1003	275
178	320	221	155

#66 Newport Bl. (W) & Coast Hwy.			
AM PEAK HOUR		PM PEAK HOUR	
569	370	510	640
464	1201	578	2250
2746	1742		
140	90		

LEGEND:

- # = INTERSECTION ID
- 10 = PEAK HOUR VOLUME



ATTACHMENT 1

2006 General Plan without 19th Street Bridge
ICU Analysis Worksheets

3 . Superior Av at Coast Hw

GP Baseline No 19th						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1.5		252		245	
NBT	1.5	4800	510	.227*	278	.144*
NBR	0		329		168	
SBL	1.5		243		304	
SBT	1.5	4800	186	.089*	451	.157*
SBR	2	3200	138	.043	674	.211
EBL	2	3200	747	.233	228	.071*
EBT	3	4800	3068	.639*	1047	.218
EBR	d	1600	173	.108	214	.134
WBL	1	1600	163	.102*	420	.263
WBT	4	6400	891	.139	2702	.422*
WBR	d	1600	283	.177	159	.099
Note: Assumes N/S Split Phasing						
Note: Assumes Right-Turn Overlap for SBR						
TOTAL CAPACITY UTILIZATION			1.057		.794	

66 . Newport Bl (W) at Coast

GP Baseline No 19th						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	450	.141*	554	.173*
SBT	0	0	0		0	
SBR	1	1600	543	.339	496	.310
EBL	0	0	0		0	
EBT	2	3200	2800	.875*	1776	.555*
EBR	f		140		90	
WBL	0	0	0		0	
WBT	3	4800	1257	.262	2334	.486
WBR	f		440		680	
Right Turn Adjustment			SBR	.198*	SBR	.137*
TOTAL CAPACITY UTILIZATION			1.214		.865	

ATTACHMENT 2

General Plan LUE Amendment without 19th Street Bridge
ICU Analysis Worksheets

3 . Superior Av at Coast Hw

GP Project No 19th						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1.5		261		251	
NBT	1.5	4800	514	.228*	275	.142*
NBR	0		320		155	
SBL	1.5		233		283	
SBT	1.5	4800	187	.088*	453	.153*
SBR	2	3200	141	.044	694	.217
EBL	2	3200	762	.238	232	.073*
EBT	3	4800	3017	.629*	1003	.209
EBR	d	1600	178	.111	221	.138
WBL	1	1600	154	.096*	400	.250
WBT	4	6400	857	.134	2634	.412*
WBR	d	1600	264	.165	149	.093
Note: Assumes N/S Split Phasing						
Note: Assumes Right-Turn Overlap for SBR						
TOTAL CAPACITY UTILIZATION			1.041		.780	

66 . Newport Bl (W) at Coast

GP Project No 19th						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	464	.145*	578	.181*
SBT	0	0	0		0	
SBR	1	1600	569	.356	510	.319
EBL	0	0	0		0	
EBT	2	3200	2746	.858*	1742	.544*
EBR	f		140		90	
WBL	0	0	0		0	
WBT	3	4800	1201	.250	2250	.469
WBR	f		370		640	
Right Turn Adjustment			SBR	.211*	SBR	.138*
TOTAL CAPACITY UTILIZATION			1.214		.863	