

APPENDIX D

PRELIMINARY ANALYSIS OF AIR QUALITY-RELATED ACTIVITY DATA

MEMORANDUM

TO: Jacki Bacharach, Executive Director
South Bay Cities Council of Governments

FROM: Dick Kaku
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SUBJECT: Coastal Corridor Transportation Study – Phase II
Task 5.1 – Collect Air Quality-Related Data

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Introduction and Purpose

The purpose of this memorandum is to document preliminary estimates of changes in key air-quality-related performance measures that could be expected to result from full implementation of the near-term and mid-term improvements recommended in the report for the draft *Coastal Corridor Transportation Study - Phase II* dated February 2003 (study). The overall approach utilizes readily available data and was described in a memorandum to members of the study's Technical Advisory Committee dated March 20, 2003. Following receipt of comments, the approach was implemented.

Each of the projects recommended in the study fall under one of the five categories shown in Table 1. The key performance measures to be quantified are changes in vehicle miles traveled (VMT), vehicle trips, and travel speeds (or reductions in delay).

Table 1 - Recommended Improvement Categories

No.	Category	Improvement Measures
1	Bikeway	Construction of Class I and Class II bikeways
2	Transit	Transit service improvements and upgraded transit stops as part of the expansion of the Metro Rapid system
3	Grade Crossing	Safety-related improvements
4	Arterial Streets - Physical & ITS	Construction of through and/or turn lanes; roadway realignment or extension; corridor improvements; traffic signal upgrades; smart corridor signal systems
5	Freeways and Ramps	Interchange improvements; construct additional lanes; construction of auxiliary lanes; exit and entrance ramp realignment and widening

It should be recognized that the results of this process are necessarily based on broad assumptions and estimates regarding the effectiveness of the recommended improvements. This approach utilizes generic formulas, which can be applied for estimation only. A travel demand forecasting model would be the most appropriate tool for quantifying changes in each of the key performance measures for the recommended improvements, as it would provide a more refined evaluation of network-based re-routing, if any. Table 2 identifies which key performance measures have been quantified at this time for each type of improvement.

Table 2 - Key Performance Measures Quantified by Improvement Type

No.	Category	Key Performance Measures Quantified		
		Vehicle Miles of Travel (VMT)	Vehicle Trips	Vehicle Hours of Delay
1	Bikeway	Yes	Yes	No
2	Transit	N/A	N/A	N/A
3	Grade Crossing	N/A	N/A	N/A
4	Arterial Streets - Physical & ITS	No	No	Yes
5	Freeways and Ramps	No	No	Yes

Analysis Methods

The method proposed for each improvement category utilizes data that is readily available from the study or from other sources. The study includes forecasts of 2015 traffic conditions on over 1,100 roadway and freeway segments and 30 intersections and a description of how the forecasts were prepared. The methods proposed below are based on information found in the *2002 Congestion Management Program for Los Angeles County* (CMP document, Los Angeles County Metropolitan Transportation Authority, 2002) and in the traffic engineering literature.

Bikeway Projects

Reductions in vehicle trips and vehicle miles of travel that could result from implementation of the recommended bikeway projects are quantified on the basis of a methodology presented in the CMP document. This methodology is outlined in the discussion of strategy 245 and estimates that the implementation of the planned 2,000-mile bikeway network throughout the county would shift 358,000 person trips to non-motorized transportation (a 1% increase in bicycle mode split). Therefore, the 90-mile portion of this network that is recommended for implementation in the study (4.5% of the total) could be expected to result in a proportional shift in person trips. An assumed trip length of four miles was used. Because trips that could reasonably be expected to shift from automobile to bicycle would likely be trips made alone, an average vehicle occupancy of 1.0 was used. To account for the possibility that the entire planned bikeway network may not be in place by 2015, which would reduce the connectivity and attractiveness of the system, the estimates were reduced by 20%. With these assumptions, approximately 12,900 vehicle trips per day would be shifted to bicycles ($90 \text{ miles} / 2000 \text{ miles} \times 358,000 \text{ trips} \times .80 = 12,888$) and approximately 51,500 vehicle miles of travel per day would be avoided ($16,110 \text{ trips} \times 4 \text{ miles} \times .80 = 51,552$).

Transit Projects

The study recommends that local agencies cooperate with the MTA and other transit service providers as the planned six Metro Rapid routes within or through the Coastal Corridor are implemented. Because current forecasts provided by the MTA do not show a net increase in ridership on these routes, no change in vehicle trips and VMT are indicated. These forecasts might be revised in the future.

Grade Crossing Projects

The grade crossing projects recommended in the study are primarily safety-related improvements. They are expected to result in no change or negligible changes in the key performance measures.

Arterial Street Projects & Freeway and Ramp Improvements

The study recommends improvements to both intersections and roadway segments and to freeway ramps and freeway segments. Also recommended are ITS improvements on surface streets and on the freeway system. The key performance measure quantified for these types of projects is the change in delay. Without the use of a travel demand forecasting model, it is not possible to compute changes in VMT or vehicle trips satisfactorily. Because off-model methods cannot reliably forecast changes in traffic volumes from route shifting that may occur following implementation of the recommended capacity improvements, no adjustments were made to the study's forecasts of future traffic.

The estimated change in PM peak hour delay on streets and freeways where improvements are recommended was computed by applying an appropriate increase in capacity for each type of improvement and calculating delay using the formula below for the "before" and "after" future conditions. Total daily change in delay was assumed to be eight times the PM peak hour delay, based on data developed during the preparation of the 2001 Regional Transportation Plan.

$$\text{Link Delay} = \text{Free-flow Travel Time} (1 + 0.15 * (\text{Peak Hour Volume} / \text{Capacity})^4)$$

Implementation of ITS/signal system improvements would be assumed to result in a 10% increase in intersection and roadway segment capacity and 3% at locations that currently have some level of ITS in place. Additions of a freeway auxiliary lane or an on-ramp lane were assumed to increase segment capacity by 1,500 vehicles per hour and 800 vehicles per hour, respectively. Capacity increases at off-ramps are assumed to be 400 vehicles per hour. Forecast traffic volumes and intersection volume-to-capacity ratios developed in Phase 2 of the Rosecrans Corridor Study were averaged for the purpose of evaluating the improvements recommended on Rosecrans Avenue.

The delay analysis presented in Table 3 shows that full implementation of the recommended arterial and freeway projects is estimated to result in a reduction of approximately 730 PM peak hour vehicle hours of delay and approximately 5,850 daily vehicle hours of delay.

Conclusion

Based on the preliminary analysis of available data, full implementation of the recommended program of improvements is estimated to result in a reduction of approximately 12,900 daily vehicle trips, approximately 51,500 daily vehicle miles of travel, approximately 730 PM peak hour vehicle hours of delay and approximately 5,850 daily vehicle hours of delay. Use of a travel demand forecasting model would provide a more refined estimate of the effectiveness of the recommended program of improvements, as quantified by these and other performance measures.

Table 3 - Estimated Change in Total Vehicle Hours of Delay (VHD) - Locally-Identified and Freeway & Ramp Projects

Route / Street	description	Miles	Capacity (vph)		Δ Capacity (vph)		2015 Volume		Free Flow Travel Time		Baseline Link Delay		Fut. w/ Projects Link Delay		Δ Delay per vehicle		Δ Total Veh. Hours of Delay	
			NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
I 10	Add additional WB lane from Harcourt to Overland	5.00		8,400		2,100		10,969		4.62		6.63		5.44		1.19		217.28
405	Add additional lane @ NB off-ramp to Crenshaw Bl	0.25	800		400		1,825		0.23		1.17		0.42		0.75		22.88	
405	add NB aux lane from Hawthorne to Inglewood Blvd	0.80	8,400		1,500		9,446		0.74		0.92		0.83		0.09		13.43	
405	Add NB aux lane from Inglewood to Rosecrans	1.20	8,400		1,500		10,464		1.11		1.51		1.32		0.19		33.61	
405	add auxiliary lanes from SR-90 to I-105	3.00	8,400		1,500		11,799		2.77		4.39		3.61		0.78		153.18	
10	Add WB aux lane from Cloverfield to Centinela	0.68		8,400		1,500		6,390		0.63		0.66		0.64		0.02		1.62
10	Realign and widen WB off-ramp at Cloverfield	0.15		1,000		0		3,330		0.14		2.69		2.69		0.00		0.00
10	NB405 to EB 10 connector to Overland Ave	0.50	4,200		1,500				0.46		0.46		0.46		0.00			
405	Add NB aux lane from Florence to Hughes Pkwy	0.68	8,400		1,500		11,799		0.63		0.99		0.82		0.18		34.72	
405	Add SB aux lane from Manchester to Century	0.69		8,400		1,500		10,464		0.64		0.87		0.76		0.11		19.33
405	Widen NB Inglewood loop on-ramp	0.15	800		800		1,088		0.14		0.21		0.14		0.07		1.21	
405	Add additional lane @ National SB On-ramp	0.20		800		400		1,190		0.18		0.32		0.21		0.11		2.16
10	Realign & widen WB off to national	0.25		1,100		400		1,282		0.23		0.29		0.25		0.05		0.97
10	Realign & widen WB off to Bundy North	0.10		1,200		400		1,449		0.09		0.12		0.10		0.02		0.49
10	Realign & widen WB off to Robertson	0.20		800		400		1,295		0.18		0.37		0.22		0.15		3.29
10	Realign & widen EB on @ Bundy	0.10	800		800		1,224		0.09		0.17		0.10		0.07		1.45	
10	Realign & widen EB off to Robertson	0.30	1,700		0		1,853		0.28		0.34		0.34		0.00		0.00	
10	Widen Overland Ave bridge & improve WB on-ramp	0.25	1,200		0		2,236		0.23		0.65		0.65		0.00		0.00	
105	Add EB aux lane from Yukon to Crenshaw	0.50	6,300		1,500		3,139		0.46		0.47		0.46		0.00		0.13	
105	Add WB aux lane from Crenshaw off to Crenshaw On	0.50		6,300		1,500		3,083		0.46		0.47		0.46		0.00		0.12
105	Add EB aux lane from Crenshaw off to crenshaw on	0.40	6,300		1,500		3,139		0.37		0.37		0.37		0.00		0.10	
10	Add EB lane thru interchange (EB Bundy on-ramp fly-over)	0.60	8,400		2,100			10,514		0.55		0.55		0.55		0.00		
10	Add lane EB through La Brea Interchange	0.25	8,400		2,100			10,969		0.23		0.23		0.23		0.00		
405	Widen from 3 to 4 lanes thru 10 interchange	0.75	6,300	6,300	2,100	2,100	6,048	5,241	0.69	0.69	0.78	0.74	0.72	0.71	0.06	0.03	6.08	2.97
405	Add NB lane from Hawthorne to 105	3.90	8,400		1,500		9,446		3.60		4.46		4.05		0.42		65.49	
405	Add NB aux lane from La Tijera to Culver	3.20	10,500		1,500		11,799		2.95		3.66		3.37		0.29		57.49	
405	Add SB aux lane from Culver to Manchester	4.20		10,500		1,500				3.88		3.88		3.88		0.00		
Admiralty Way	Fiji to Bali - add NB lane	0.37	1,500		750			1,357		0.34		0.34		0.34		0.00		
Admiralty Way	Bali to via marina - add NB & SB lane	1.29	1,500	1,500	750	750			1.19	1.19	1.19	1.19	1.19	1.19	0.00	0.00		
Pico Blvd	Neilson Way to 4th St	0.23	1,600	1,600	160	160	928	669	0.21	0.21	0.22	0.21	0.21	0.21	0.00	0.00	0.02	0.00
	4th St to Lincoln	0.30	1,600	1,600	160	160	1,103	776	0.28	0.28	0.29	0.28	0.28	0.28	0.00	0.00	0.05	0.01
	Lincoln Blvd to 14th St	0.46	1,600	1,600	160	160	939	867	0.42	0.42	0.43	0.43	0.43	0.43	0.00	0.00	0.04	0.03
	14th St to 20th St	0.45	1,600	1,600	160	160	1,485	1,780	0.42	0.42	0.46	0.51	0.45	0.48	0.01	0.03	0.36	0.90
	20th St to Cloverfield Blvd	0.27	1,600	1,600	160	160	1,763	1,672	0.25	0.25	0.30	0.29	0.29	0.28	0.02	0.01	0.51	0.39
	Cloverfield Blvd to Centinela Ave	0.71	1,600	1,600	160	160	2,119	1,590	0.66	0.66	0.96	0.75	0.86	0.72	0.10	0.03	3.39	0.81
Lincoln Blvd	I-10 to Pico Blvd	0.14	1,600	1,600	160	160	1,927	1,140	0.13	0.13	0.17	0.13	0.16	0.13	0.01	0.00	0.42	0.03
	Pico Blvd to Ocean Park Blvd	0.43	1,600	1,600	160	160	2,241	1,879	0.40	0.40	0.63	0.51	0.55	0.47	0.07	0.04	2.71	1.12
	Ocean Park Blvd to Rose Ave	0.62	2,400	2,400	160	160	2,566	2,042	0.57	0.57	0.68	0.62	0.66	0.61	0.03	0.01	1.09	0.35
Culver Blvd	Add 3rd WB thru Ln from Sepulveda Bl to Elenda	0.45	1,600		2,400			536	0.42		0.42		0.42		0.00			
Sepulveda Blvd	Add 3rd SB lane from Playa St to Slauson	0.11	1,600		2,400			2,154	0.10		0.10		0.10		0.00			
	Add 3rd SB lane from Slauson to Green Valley Ci	0.34	1,600		2,400			2,027	0.31		0.31		0.31		0.00			
City of Inglewood ITS Improvments																		
La Cienega Blvd	Inglewood border to Centinela Ave	0.21	2,400	2,400	240	240	2,741	2,717	0.35	0.35	0.44	0.44	0.41	0.41	0.03	0.03	1.30	1.24
	Centinela Ave to Manchester Ave	0.95	2,400	2,400	240	240	2,853	2,933	1.62	1.62	2.11	2.16	1.95	1.99	0.15	0.17	7.32	8.41
	Manchester Ave to Arbor Vitae	0.61	1,600	1,600	160	160	919	869	1.04	1.04	1.06	1.05	1.05	1.05	0.01	0.00	0.08	0.06
	Arbor Vitae to Century Blvd	0.50	1,600	1,600	160	160	1,096	960	0.86	0.86	0.89	0.87	0.88	0.87	0.01	0.01	0.16	0.08
Inglewood Ave	Florence Ave to Manchester Ave	0.27	750	750	75	75	299	268	0.46	0.46	0.46	0.46	0.46	0.46	0.00	0.00	0.00	0.00
	Manchester Ave to Arbor Vitae	0.63	750	750	75	75	405	364	1.07	1.07	1.09	1.08	1.08	1.08	0.00	0.00	0.03	0.02
	Arbor Vitae to Century Blvd	0.50	750	750	75	75	618	555	0.86	0.86	0.92	0.90	0.90	0.88	0.02	0.01	0.19	0.11
	Century Blvd to Inglewood S. Border	0.05	750	750	75	75	682	654	0.09	0.09	0.09	0.09	0.09	0.09	0.00	0.00	0.03	0.03
La Brea Av	64th St to Centinela Ave	0.25	1,600	1,600	160	160	1,802	1,797	0.43	0.43	0.53	0.53	0.50	0.50	0.03	0.03	0.98	0.97
	Centinela Ave to Florence Ave	0.50	1,600	1,600	160	160	1,675	1,549	0.86	0.86	1.01	0.97	0.96	0.93	0.05	0.04	1.37	0.92
	Florence Ave to Manchester Ave	0.64	1,600	1,600	160	160	1,363	1,629	1.10	1.10	1.19	1.28	1.16	1.22	0.03	0.06	0.63	1.53
	Manchester Ave to Arbor Vitae	0.25	1,600	1,600	160	160	1,306	1,458	0.43	0.43	0.46	0.47	0.45	0.46	0.01	0.01	0.20	0.34
	Arbor Vitae to Century Blvd	0.79	2,400	2,400	240	240	1,499	1,347	1.35	1.35	1.38	1.37	1.37	1.36	0.01	0.01	0.24	0.14
	Century Blvd to 104th St	0.38	2,400	2,400	240	240	1,828	1,883	0.64	0.64	0.68	0.68	0.67	0.67	0.01	0.01	0.31	0.36
Prairie Av	Florence Ave to Manchester Ave	0.75	1,600	1,600	160	160	1,360	1,601	1.29	1.29	1.39	1.48	1.35	1.42	0.03	0.06	0.72	1.64
	Manchester Ave to Arbor Vitae	0.50	2,400	2,400	240	240	1,570	1,411	0.86	0.86	0.88	0.87	0.87	0.87	0.01	0.00	0.20	0.11
	Arbor Vitae to Century Blvd	0.50	2,400	2,400	240	240	1,570	1,411	0.86	0.86	0.88	0.87	0.87	0.87	0.01	0.00	0.20	0.11
	Century Blvd to Lennox Blvd	0.50	2,400	2,400	240	240	2,006	1,802	0.86	0.86	0.92	0.90	0.90	0.89	0.02	0.01	0.67	0.39
	Lennox Blvd to Imperial Hwy	0.50	2,400	2,400	240	240	2,208	1,984	0.86	0.86	0.95	0.92	0.92	0.90	0.03	0.02	1.07	0.63
Crenshaw Blvd	79th St to Manchester Ave	0.59	2,400	2,400	240	240	2,394	1,623	1.01	1.01	1.16	1.04	1.11	1.03	0.05	0.01	1.90	0.27
	Manchester Ave to Century Blvd	1.00	1,600	1,600	160	160	1,306	1,095	1.71	1.71	1.83	1.77	1.79	1.75	0.04	0.02	0.79	0.33
	Century Blvd to Imperial Hwy	1.00	1,600	1,600	160	160	1,813	1,629	1.71	1.71	2.14	1.99	2.00	1.90	0.13	0.09	4.06	2.38
	Imperial Hwy to I-105	0.39	1,600	1,600	160	160	1,851	1,735	0.67	0.67	0.85	0.81	0.79	0.76	0.06	0.04	1.76	1.27

Table 3 - Estimated Change in Total Vehicle Hours of Delay (VHD) - Locally-Identified and Freeway & Ramp Projects (page 2 of 2)

Route / Street	description	Miles	Capacity (vph)		Δ Capacity (vph)		2015 Volume		Free Flow Travel Time		Baseline Link Delay		Fut. w/ Projects Link Delay		Δ Delay per vehicle		Δ Total Veh. Hours of Delay	
			NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
Van Ness Ave	76th St to Manchester Ave	0.75	750	750	75	75	912	819	1.29	1.29	1.71	1.56	1.57	1.47	0.13	0.09	2.03	1.19
	Manchester Ave to Century Blvd	1.00	750	750	75	75	800	719	1.71	1.71	2.05	1.93	1.94	1.86	0.11	0.07	1.41	0.83
	Century Blvd to Imperial Hwy	1.00	750	750	75	75	891	657	1.71	1.71	2.23	1.87	2.06	1.82	0.16	0.05	2.41	0.53
Centinela	La Cienega Blvd to La Brea Ave	0.73	1,600	1,600	160	160	1,653	1,353	1.25	1.25	1.47	1.35	1.40	1.32	0.07	0.03	1.87	0.69
	La Brea Ave to Florence Ave	0.79	1,600	1,600	160	160	1,521	1,444	1.35	1.35	1.51	1.48	1.46	1.44	0.05	0.04	1.33	1.02
Florence Ave	Aviation Blvd to La Cienega Blvd	0.45	1,600	1,600	160	160	766	764	0.76	0.76	0.77	0.77	0.77	0.77	0.00	0.00	0.02	0.02
	La Cienega Blvd to Inglewood Ave	0.52	1,600	1,600	160	160	1,118	1,098	0.89	0.89	0.92	0.92	0.91	0.91	0.01	0.01	0.19	0.17
	Inglewood Ave to La Brea Ave	0.50	1,600	1,600	160	160	954	937	0.86	0.86	0.87	0.87	0.87	0.87	0.01	0.00	0.08	0.07
	La Brea Ave to Centinela Ave	0.46	1,600	1,600	160	160	2,143	2,104	0.80	0.80	1.18	1.15	1.06	1.04	0.12	0.11	4.35	3.97
	Centinela Ave to Prairie Ave	0.20	1,600	1,600	160	160	2,143	2,104	0.34	0.34	0.50	0.49	0.45	0.44	0.05	0.05	1.84	1.68
	Prairie Ave to West Blvd	0.54	1,600	1,600	160	160	2,012	1,975	0.92	0.92	1.26	1.24	1.15	1.14	0.11	0.10	3.66	3.34
Manchester Ave	Aviation Blvd to La Cienega Blvd	0.41	1,600	1,600	160	160	1,534	1,507	0.70	0.70	0.79	0.79	0.77	0.76	0.03	0.03	0.72	0.66
	La Cienega Blvd to Inglewood Ave	0.39	1,600	1,600	160	160	1,661	1,634	0.67	0.67	0.79	0.78	0.75	0.75	0.04	0.03	1.03	0.95
	Inglewood Ave to La Brea Ave	0.48	1,600	1,600	160	160	1,238	1,076	0.83	0.83	0.87	0.85	0.86	0.84	0.01	0.01	0.29	0.14
	La Brea Ave to Prairie Ave	0.59	1,600	1,600	160	160	1,390	1,364	1.01	1.01	1.10	1.09	1.07	1.06	0.03	0.03	0.63	0.58
	Prairie Ave to Crenshaw Blvd	1.00	1,600	1,600	160	160	1,426	1,279	1.71	1.71	1.88	1.82	1.83	1.79	0.05	0.03	1.22	0.71
Arbor Vitae	Crenshaw Blvd to Van Ness Ave	0.50	1,600	1,600	160	160	1,502	1,474	0.86	0.86	0.96	0.95	0.93	0.92	0.03	0.03	0.79	0.72
	Osage Ave to Aviation Blvd	0.09	1,600	1,600	160	160	727	623	0.15	0.15	0.15	0.15	0.15	0.15	0.00	0.00	0.00	0.00
	Aviation Blvd to La Cienega Blvd	0.39	1,600	1,600	160	160	1,409	723	0.67	0.67	0.73	0.68	0.72	0.68	0.02	0.00	0.45	0.02
	La Cienega Blvd to Inglewood Ave	0.48	1,600	1,600	160	160	1,479	1,451	0.83	0.83	0.92	0.91	0.89	0.88	0.03	0.03	0.71	0.64
	Inglewood Ave to La Brea Ave	0.51	1,600	1,600	160	160	739	726	0.87	0.87	0.88	0.88	0.88	0.88	0.00	0.00	0.02	0.02
Century Blvd	La Brea Ave to Prairie Ave	0.50	800	800	80	80	510	501	0.86	0.86	0.88	0.88	0.87	0.87	0.01	0.01	0.06	0.05
	La Cienega Blvd to I-405	0.09	2,400	2,400	240	240	2,620	2,572	0.15	0.15	0.19	0.18	0.17	0.17	0.01	0.01	0.45	0.41
	I-405 to Inglewood Ave	0.41	2,400	2,400	240	240	1,806	1,773	0.70	0.70	0.74	0.74	0.73	0.73	0.01	0.01	0.32	0.29
	Inglewood Ave to Hawthorne Blvd	0.50	2,400	2,400	240	240	1,773	1,741	0.86	0.86	0.90	0.89	0.88	0.88	0.01	0.01	0.36	0.33
	Hawthorne Blvd to Prairie Ave	0.50	2,400	2,400	240	240	1,319	1,295	0.86	0.86	0.87	0.87	0.87	0.86	0.00	0.00	0.08	0.07
	Prairie Ave to Crenshaw Blvd	1.00	2,400	2,400	240	240	1,731	1,699	1.71	1.71	1.78	1.78	1.76	1.76	0.02	0.02	0.64	0.58
Imperial Hwy	Crenshaw Blvd to Van Ness Ave	0.50	2,400	2,400	240	240	1,441	1,415	0.86	0.86	0.87	0.87	0.87	0.87	0.01	0.00	0.13	0.12
	Prairie Ave to Crenshaw Blvd	1.00	2,400	2,400	240	240	1,090	1,300	1.71	1.71	1.73	1.74	1.72	1.73	0.00	0.01	0.06	0.15
		0.50	2,400	2,400	240	240	1,207	1,293	0.86	0.86	0.87	0.87	0.86	0.86	0.00	0.00	0.05	0.07
City of LA ITS Improvements																		
Centinela Ave	I-10 to Oean Park Blvd	0.32	1,600	1,600	48	48	1,392	1,965	0.55	0.55	0.60	0.74	0.59	0.72	0.01	0.02	0.12	0.69
	Ocean Park Blvd to National Blvd	0.32	1,600	1,600	48	48	1,788	2,721	0.55	0.55	0.68	1.24	0.66	1.16	0.01	0.08	0.43	3.49
	National Blvd Palms Blvd	0.77	2,400	2,400	72	72	1,800	1,563	1.32	1.32	1.38	1.35	1.37	1.35	0.01	0.00	0.21	0.10
	Palms Blvd to Venice Blvd	0.56	2,400	2,400	72	72	1,684	1,690	0.96	0.96	1.00	1.00	0.99	0.99	0.00	0.00	0.11	0.11
Sawtelle Blvd	I-10 to National Blvd	0.39	1,500	1,500	45	45	881	1,538	0.67	0.67	0.69	0.79	0.68	0.77	0.00	0.01	0.02	0.32
	National Blvd to Palms Blvd	0.64	1,500	1,500	45	45	881	1,538	1.10	1.10	1.12	1.29	1.12	1.26	0.00	0.02	0.03	0.52
	Palms Blvd to Venice Blvd	0.56	1,500	1,500	45	45	825	907	0.96	0.96	0.98	0.98	0.98	0.98	0.00	0.00	0.02	0.03
Sepulveda Blvd	I-10 to National Blvd	0.32	1,600	1,600	48	48	1,849	1,901	0.55	0.55	0.70	0.71	0.68	0.70	0.02	0.02	0.51	0.58
	National Blvd to Palms Blvd	0.68	1,600	1,600	48	48	1,512	1,503	1.16	1.16	1.30	1.30	1.29	1.28	0.02	0.02	0.39	0.38
	Palms Blvd to Venice Blvd	0.52	1,600	1,600	48	48	1,605	1,059	0.89	0.89	1.02	0.91	1.01	0.91	0.02	0.00	0.40	0.05
Overland Ave	I-10 to Palms Blvd	0.63	1,600	1,600	48	48	1,767	1,428	1.07	1.07	1.31	1.17	1.28	1.16	0.03	0.01	0.79	0.27
	Palms Blvd to Venice Blvd	0.49	1,600	1,600	48	48	1,749	1,306	0.84	0.84	1.02	0.90	1.00	0.89	0.02	0.01	0.59	0.14
La Cienega Blvd	Adams Blvd to Jefferson Blvd	0.41	2,400	2,400	72	72	2,504	2,663	0.70	0.70	0.83	0.86	0.82	0.85	0.01	0.02	0.58	0.79
	Jefferson Blvd to Rodeo Rd	0.33	2,400	2,400	72	72	2,548	2,496	0.57	0.57	0.67	0.66	0.66	0.65	0.01	0.01	0.51	0.46
La Brea Ave	I-10 to Adams Blvd	0.13	1,600	1,600	48	48	2,579	2,743	0.21	0.21	0.43	0.49	0.41	0.46	0.02	0.03	1.04	1.42
	Adams Blvd to Jefferson Blvd	0.54	1,600	1,600	48	48	2,408	2,551	0.92	0.92	1.63	1.81	1.55	1.71	0.08	0.10	3.16	4.22
	Jefferson Blvd to Rodeo Rd	0.27	2,400	2,400	72	72	2,392	2,918	0.46	0.46	0.53	0.61	0.52	0.59	0.01	0.02	0.30	0.82
National Blvd	Centinela Ave to Sawtelle Blvd	0.86	1,500	1,500	45	45	1,030	901	1.47	1.47	1.52	1.50	1.51	1.49	0.01	0.00	0.09	0.05
	Sawtelle Blvd to I-405	0.89	1,500	1,500	45	45	1,432	937	1.53	1.53	1.72	1.56	1.70	1.56	0.02	0.00	0.51	0.06
	I-405 to Sepulveda Blvd	0.89	1,500	1,500	45	45	1,418	928	1.53	1.53	1.71	1.56	1.69	1.56	0.02	0.00	0.48	0.06
	Sepulveda Blvd to I-10	0.63	1,500	1,500	45	45	1,418	928	1.07	1.07	1.20	1.09	1.19	1.09	0.01	0.00	0.34	0.04
Venice Blvd	Centinela Ave to Sepulveda Blvd	1.13	2,400	2,400	72	72	1,880	2,112	1.93	1.93	2.04	2.10	2.03	2.08	0.01	0.02	0.38	0.68
	Sepulveda Blvd to Overland Ave	0.71	2,400	2,400	72	72	1,786	1,695	1.22	1.22	1.28	1.27	1.27	1.26	0.01	0.01	0.19	0.14
	Overland Ave to Culver Blvd	1.00	2,400	2,400	72	72	2,091	2,312	1.71	1.71	1.86	1.94	1.85	1.91	0.02	0.02	0.58	0.95
	Culver Blvd to National Blvd	0.29	2,400	2,400	72	72	2,936	2,857	0.49	0.49	0.65	0.64	0.64	0.62	0.02	0.02	0.90	0.78
	National Blvd to La Cienega Blvd	0.71	2,400	2,400	72	72	2,355	1,991	1.22	1.22	1.39	1.31	1.38	1.30	0.02	0.01	0.75	0.32
			Average Intersection Volume		Avg. No Project ICU		Avg. w/ Project ICU		Avg. Δ ICU		Baseline Link Delay		Fut. w/ Project Link Delay		Δ Link Delay		Δ VHD Total	
Rosecrans Av	Sepulveda Blvd to Hawthorne Blvd	4.00	4,720		1.12		1.03		0.09		12.39		11.84		-0.55		-43.02	
Total Arterial and Freeway Improvements - PM Peak Hour Change in VHD																	-731	
Total Arterial and Freeway Improvements - Daily Change in VHD																	-5,847	