

INTERSECTION 83

Hawthorne Boulevard (SR-107)/Carson Street Improvement(s)

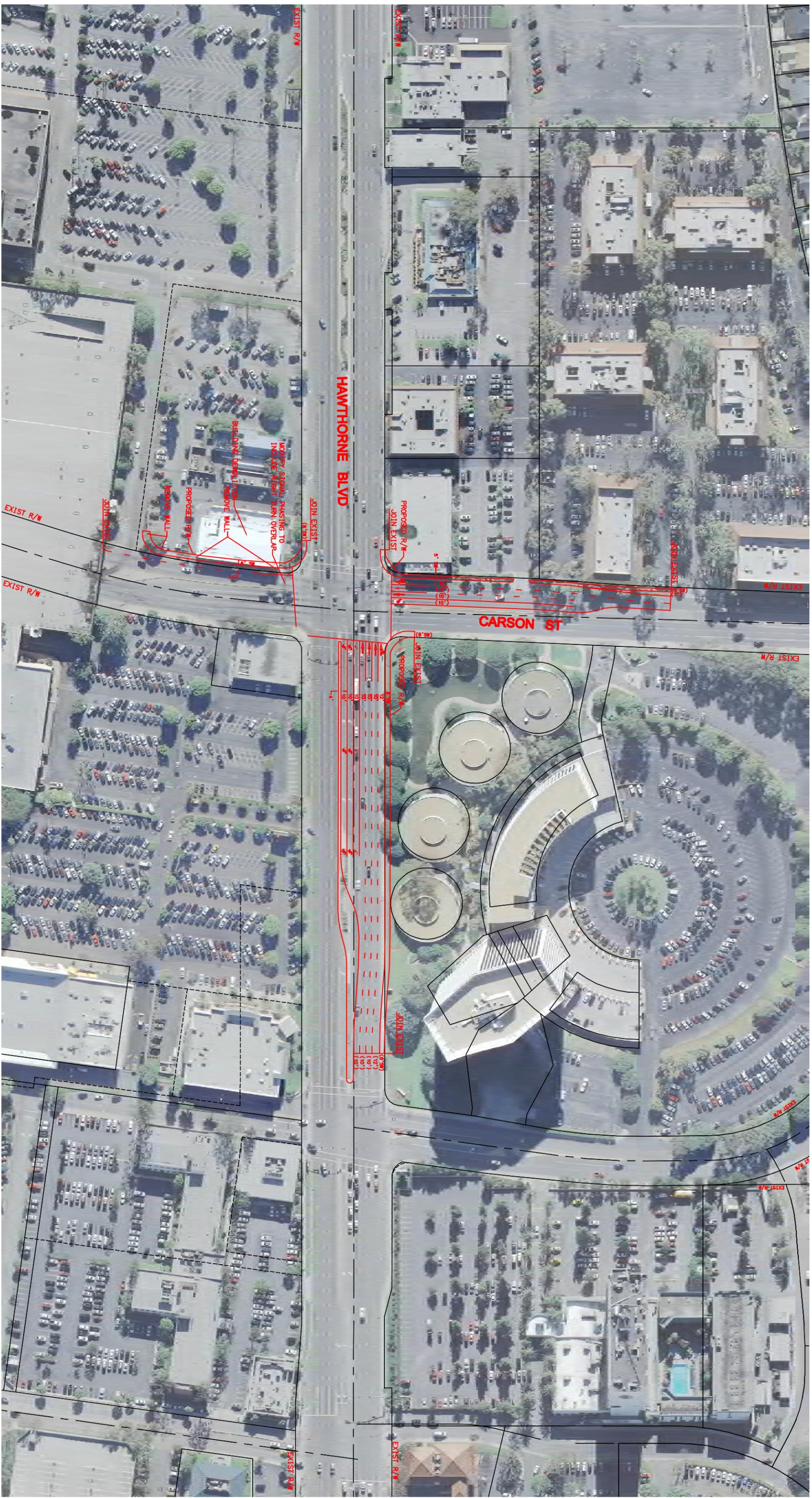
Forecast Near-Term Conditions Intersection LOS Summary

	Weekday AM Peak Hour	Weekday Mid-Day Peak Hour	Weekday PM Peak Hour	Weekend Mid-Day Peak Hour
Without Improvement(s)	33.2 – C	46.7 – D	96.0 – F	76.1 – E
With Improvement(s)	29.8 – C	35.7 – D	42.6 – D	38.2 – D

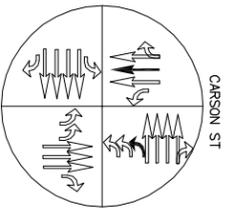
Note: Delay shown in seconds per vehicle; Deficient intersection operation shown in *bold italics*.

Recommended Improvements:

- Widen the southbound Hawthorne Boulevard (SR-107) approach from two left-turn lanes, three through lanes, and one shared through/right-turn lane to consist of three left-turn lanes, three through lanes, and one shared through/right-turn lane.
- Widen the eastbound Carson Street approach from one left-turn lane, one through lane, and one shared through/right-turn lane to consist of one left-turn lane, two through lanes, and one shared through/right-turn lane.
- Modify the westbound Carson Street traffic signal phasing to include a right-turn overlap, which will preclude U-turn movement from southbound to northbound Hawthorne Boulevard.
- Implementation of the improvements identified at the Hawthorne Boulevard (SR-107)/Carson Street intersection will require City acquisition of approximately 12-foot of right-of-way on the southbound Hawthorne Boulevard (SR-107) approach to provide adequate alignment of southbound Hawthorne Boulevard (SR-107) through lanes and City acquisition of approximately 12-foot of right-of-way on the eastbound Carson Street approach and departure to provide adequate alignment of eastbound Carson Street through lanes.



MITIGATIONS:
 SB - ADD LEFT TURN
 EB - ADD THRU LANE
 WB - MODIFY SIGNAL PHASING TO INCLUDE RIGHT TURN OVERLAP



LEGEND:
 EXISTING LANE
 NEW IMPROVEMENT

INTERSECTION 83
HAWTHORNE BLVD/CARSON ST
 CITYWIDE TRAFFIC ANALYSIS MITIGATION MEASURES

PLAN ■ **DESIGN** ■ **CONSTRUCTION**

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REV.	DATE	DESCRIPTION	BY	CHECKED

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

APPROVED: _____ DATE _____

DESIGNED: D. CHANLEY

SCALE: AS SHOWN SHEET 1 OF 1

**CITY OF TORRANCE CITYWIDE TRAFFIC ANALYSIS MITIGATION MEASURES
PRELIMINARY COST ESTIMATES**

Location: Intersection 83: Hawthorne Blvd & Carson St

Date: 3/7/2008

Mitigation: Widen the SB Hawthorne Blvd approach to consist of three left-turn lanes, three through lanes and one shared through/right-turn lane. Widen the EB Carson St approach to consist of one left-turn lane, two through lanes, and one shared through/right-turn lane. Lastly, modify the WB Carson St signal phasing to include a right-turn overlap.

Estimated by: D. Chanley

	DESCRIPTION OF WORK	UNIT PRICE	QUANTITY	COST
1	Mobilization	10.00% (\$2,000 Min)		\$166,000
2	Clear & Grub	\$10,000.00 / AC		\$0
3	Remove Striping	\$10.00 / LF	1,220	\$12,000
4	Remove Curb & Gutter	\$15.00 / LF	1,580	\$24,000
5	Remove Median Curb	\$30.00 / LF		\$0
6	Remove PCC Sidewalk	\$3.50 / SF	11,070	\$39,000
7	Remove Pavement	\$4.00 / SF		\$0
8	Remove Wall	\$50.00 / LF	200	\$10,000
9	Remove Channel	\$15.00 / LF		\$0
10	Remove/Replace Chain Link Fence	\$50.00 / LF		\$0
11	Remove/Replace Wrought Iron Fence	\$10.00 / LF		\$0
12	Remove/Replace Survey Monument	\$800.00 / EA		\$0
13	Reconstruct Metal Beam Guard Rail	\$70.00 / LF		\$0
14	Remove & Relocate Tree	\$3,000.00 / EA	8	\$24,000
15	Sawcut	\$1.00 / LF	1,520	\$1,500
16	Relocate Street Light	\$7,500.00 / EA	6	\$45,000
17	Relocate Traffic Signal System	\$300,000.00 / EA	0.75	\$225,000
18	Signal Phase Modification	\$10,000.00 / EA	1.0	\$10,000
19	Relocate Freeway Sign (2 post)	\$1,000.00 / EA		\$0
20	Relocate Sign (1 Post)	\$300.00 / EA	4	\$1,200
21	Reconstruct Overhead Sign	\$50,000.00 / EA		\$0
22	Relocate Call Box	\$2,000.00 / EA		\$0
23	Relocate Power Pole	\$25,000.00 / EA		\$0
24	Relocate Catch Basin	\$9,000.00 / EA	1	\$9,000
25	Relocate Fire Hydrant	\$2,500.00 / EA	6	\$15,000
26	Relocate Bus Shelter	\$2,000.00 / EA		\$0
27	Relocate Bus Bench	\$600.00 / EA		\$0
28	Relocate Monument Sign	\$5,000.00 / EA	6	\$30,000
29	Relocate Utility Boxes	\$500.00 / EA		\$0
30	Relocate Main Water Valve	\$10,000.00 / EA		\$0
31	Relocate Utility Vault	\$3,000.00 / EA	22	\$66,000
32	Adjust Manhole to Grade	\$1,000.00 / EA	6	\$6,000
33	Adjust Water Meter	\$2,000.00 / EA	8	\$16,000
34	Adjust Water Valve	\$500.00 / EA	9	\$4,500
35	Adjust Minor Above Ground Utilities	\$500.00 / EA	19	\$10,000
36	Modify Driveway	\$5,000.00 / EA	1	\$5,000
37	Earthwork	\$40.00 / CY	1,945	\$78,000
38	Construct PCC Pavement	\$15.00 / SF		\$0
39	Construct AC Pavement	\$14.00 / SF	10,500	\$147,000
40	Construct AC Overlay	\$3.00 / SF		\$0
41	Construct Slurry Seal	\$0.25 / SF		\$0
42	Construct Striping & Marking	\$4.00 / LF	1,220	\$5,000
43	Construct AC Dike	\$7.00 / LF		\$0
44	Construct Curb & Gutter	\$40.00 / LF	1,550	\$62,000
45	Construct Concrete Barrier	\$50.00 / LF		\$0
46	Construct Median Curb	\$20.00 / LF	1,450	\$29,000
47	Construct Median Concrete	\$10.00 / SF	7,370	\$74,000
48	Construct Median/Parkway Landscaping	\$10.00 / SF		\$0
49	Construct PCC Sidewalk	\$10.00 / SF	11,275	\$113,000
50	Construct Access Ramp	\$5,000.00 / EA	3	\$15,000
51	Construct Retaining Wall	\$50.00 / SF		\$0
52	Construct Storm Drain Main	\$100.00 / LF		\$0
53	Construct RCB	\$1,000.00 / LF		\$0
54	Construct Headwall	\$5,000.00 / EA		\$0
55	Construct Concrete V-Ditch	\$15.00 / LF		\$0
56	Construct Bridge Widening	\$500.00 / SF		\$0
57	Construct Wall	\$70.00 / LF		\$0
58	Building/Structure Demolition (3-Story Bldg)	\$10.00 / SF	11,060	\$111,000
59	Traffic Control (\$5,000 min)	8%	1	\$95,000
60	Drainage Items	10%	1	\$128,000
61	SWPPP Plan and Implementation	6%	1	\$84,000
	CONSTRUCTION SUBTOTAL			\$1,660,200
	Right-of-Way	100 / SF	9,570	\$957,000
	Right-of-Way Management	5 / %		\$48,000
	RIGHT-OF-WAY SUBTOTAL			\$1,005,000
	TOTAL CONSTRUCTION & RIGHT-OF-WAY COST			\$2,666,000
	Preliminary Project Development (10% of total Construction/RW cost)			\$267,000
	Design Engineering/Administration Costs (15% of total Construction/RW cost) (\$10,000 min)			\$400,000
	Construction Engineering Costs/Administration (10% of total Construction/RW cost) (\$5,000 min)			\$267,000
	Contingency (20% of Total Construction/RW cost) (\$5,000 min)			\$534,000
	TOTAL PROJECT COSTS			\$4,134,000