

# INTERSECTION 161

## Western Avenue (SR-213)/220<sup>th</sup> Street Improvement(s)

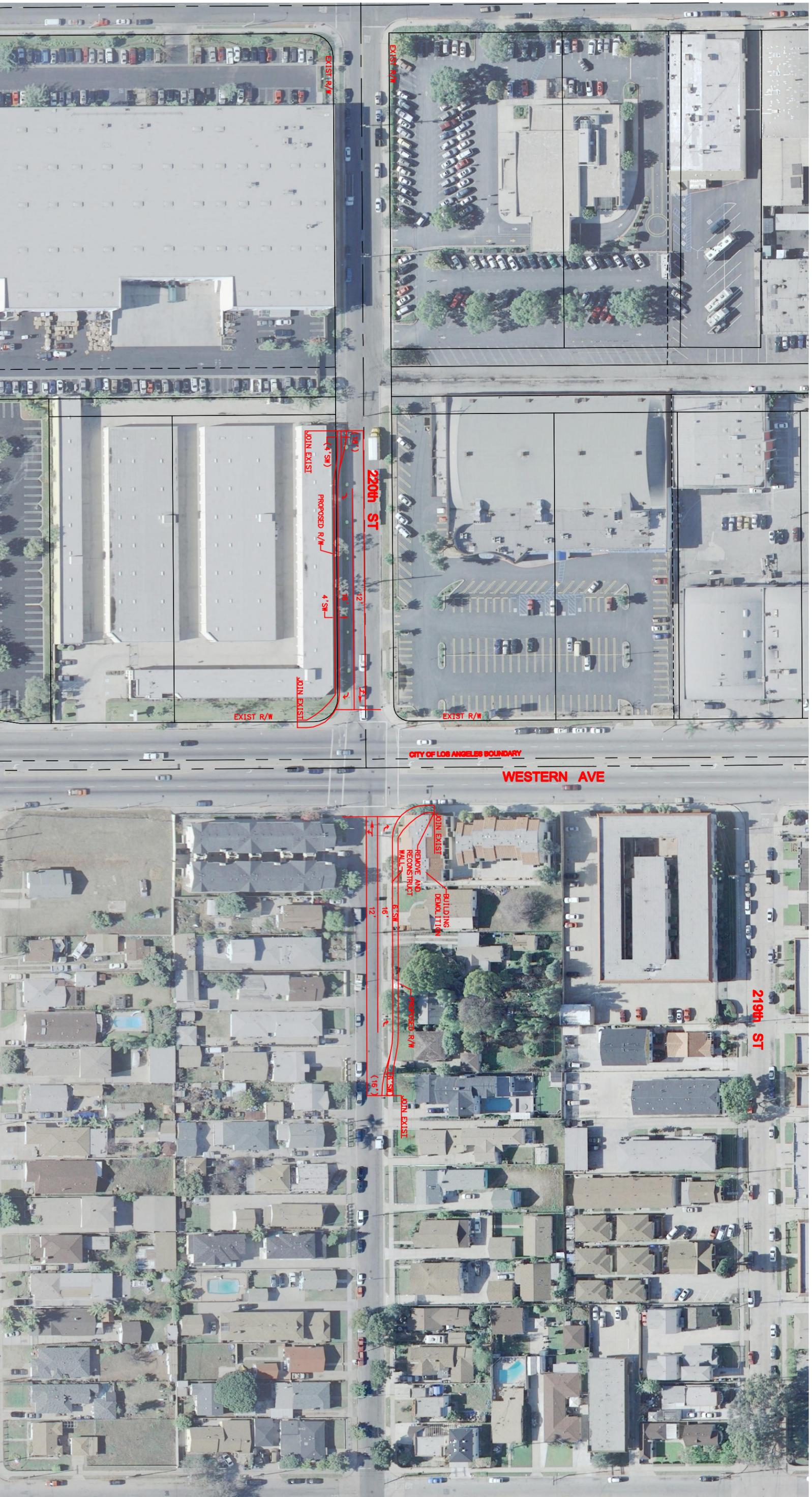
### Forecast Near-Term Conditions Intersection LOS Summary

	Weekday AM Peak Hour	Weekday Mid-Day Peak Hour	Weekday PM Peak Hour	Weekend Mid-Day Peak Hour
Without Improvement(s)	12.5 – B	6.4 – A	<b><i>110.7 – F</i></b>	7.3 – A
With Improvement(s)	9.2 – A	5.1 – A	28.6 – C	5.4 – A

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

#### Recommended Improvements:

- Widen the eastbound 220th Street approach from one shared left-turn/through/right-turn lane to consist of one shared left-turn/through lane and one right-turn lane.
- Widen the westbound 220th Street approach from one shared left-turn/through/right-turn lane to consist of one shared left-turn/through lane and one right-turn lane.
- Implementation of the recommended improvements at the Western Avenue (SR-213)/220th Street intersection will require City acquisition of approximately 12-feet of right-of-way on the eastbound 220th Street approach and departure to provide adequate alignment of eastbound 220th Street through lanes and City acquisition of approximately 12-feet of right-of-way on the westbound 220th Street approach and departure to provide adequate alignment of westbound through lanes.



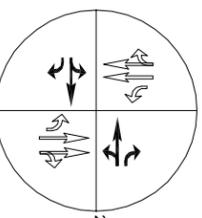
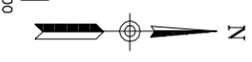
**MITIGATIONS:**  
 EB - ADD RIGHT TURN AND SHARED  
 WB - ADD RIGHT TURN AND SHARED  
 LEFT/THRU LANE  
 LEFT/THRU LANE

WESTERN AVE.

LEGEND:

- EXISTING LANE
- NEW IMPROVEMENT

SCALE: 1" = 100'



220th ST.

**INTERSECTION 161  
 WESTERN AVE/220th ST**

CITYWIDE TRAFFIC ANALYSIS MITIGATION MEASURES

**PBF CONSULTING**

PLANNING ■ DESIGN ■ CONSTRUCTION

14725 ALTON PARKWAY  
 IRVINE, CALIFORNIA 92618-4027  
 949.472.3505 • FAX 949.837.8007 • www.pbf.com

REV.	DATE	DESCRIPTION	BY	CHECKED

**CITY OF TORRANCE  
 PUBLIC WORKS DEPARTMENT**

DRAWN: D. CHANLEY

DESIGNED: D. CHANLEY

PROJECT ENGINEER: \_\_\_\_\_

APPROVER: \_\_\_\_\_

SCALE: AS SHOWN SHEET 1 OF 1

PLAN NO. \_\_\_\_\_

DATE \_\_\_\_\_

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

**Location:** Intersection 161: Western Ave/220th St

**Date:** 2/22/2008

**Mitigation:** Widen the EB 220th St approach to consist of one shared left-turn/through lane and one right-turn lane. Widen WB 220th St approach to one shared left-turn/through lane and one right-turn lane.

**Estimated by:** D. Alvarado

	DESCRIPTION OF WORK	UNIT PRICE	QUANTITY	COST
1	Mobilization	10.00% (\$2,000 Min)		\$103,000
2	Clear & Grub	\$10,000.00 / AC	0.09	\$1,000
3	Remove Striping	\$10.00 / LF	600	\$6,000
4	Remove Curb & Gutter	\$15.00 / LF	727	\$11,000
5	Remove Median Curb	\$30.00 / LF		\$0
6	Remove PCC Sidewalk	\$3.50 / SF	6,720	\$24,000
7	Remove Pavement	\$4.00 / SF		\$0
8	Remove Wall	\$50.00 / LF	109	\$5,500
9	Remove Channel	\$15.00 / LF		\$0
10	Remove/Replace Chain Link Fence	\$50.00 / LF	120	\$6,000
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	17	\$51,000
15	Sawcut	\$1.00 / LF	778	\$800
16	Relocate Street Light	\$7,500.00 / EA		\$0
17	Relocate Traffic Signal System	\$300,000.00 / EA	0.5	\$150,000
18	Signal Phase Modification	\$10,000.00 / EA		\$0
19	Relocate Freeway Sign (2 post)	\$1,000.00 / EA		\$0
20	Relocate Sign (1 Post)	\$300.00 / EA	3	\$900
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	3	\$75,000
24	Relocate Catch Basin	\$9,000.00 / EA	1	\$9,000
25	Relocate Fire Hydrant	\$2,500.00 / EA	1	\$2,500
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		\$0
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	4	\$12,000
32	Adjust Manhole to Grade	\$1,000.00 / EA	5	\$5,000
33	Adjust Water Meter	\$2,000.00 / EA	1	\$2,000
34	Adjust Water Valve	\$500.00 / EA		\$0
35	Adjust Minor Above Ground Utilities	\$500.00 / EA	5	\$3,000
36	Modify Driveway	\$5,000.00 / EA	5	\$25,000
37	Earthwork	\$40.00 / CY	1,308	\$52,000
38	Construct PCC Pavement	\$15.00 / SF		\$0
39	Construct AC Pavement	\$14.00 / SF	7,062	\$99,000
40	Construct AC Overlay	\$3.00 / SF		\$0
41	Construct Slurry Seal	\$0.25 / SF		\$0
42	Construct Striping & Marking	\$4.00 / LF	600	\$2,000
43	Construct AC Dike	\$7.00 / LF		\$0
44	Construct Curb & Gutter	\$40.00 / LF	693	\$28,000
45	Construct Concrete Barrier	\$50.00 / LF		\$0
46	Construct Median Curb	\$20.00 / LF		\$0
47	Construct Median Concrete	\$10.00 / SF		\$0
48	Construct Median/Parkway Landscaping	\$10.00 / SF		\$0
49	Construct PCC Sidewalk	\$10.00 / SF	4,071	\$41,000
50	Construct Access Ramp	\$5,000.00 / EA	2	\$10,000
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	109	\$8,000
58	Building/Structure Demolition (3-Story Bldg)	\$10.00 / SF	10,500	\$105,000
59	Traffic Control (\$5,000 min)	8%	1	\$59,000
60	Drainage Items	10%	1	\$79,000
61	SWPPP Plan and Implementation	6%	1	\$52,000
	<b>CONSTRUCTION SUBTOTAL</b>			<b>\$1,027,200</b>
	Right-of-Way	100 / SF	3,066	\$307,000
	Right-of-Way Management	5 / %		\$15,000
	<b>RIGHT-OF-WAY SUBTOTAL</b>			<b>\$322,000</b>
	<b>TOTAL CONSTRUCTION &amp; RIGHT-OF-WAY COST</b>			<b>\$1,350,000</b>
	Preliminary Project Development (10% of total Construction/RW cost)			\$135,000
	Design Engineering/Administration Costs (15% of total Construction/RW cost) (\$10,000 min)			\$203,000
	Construction Engineering Costs/Administration (10% of total Construction/RW cost) (\$5,000 min)			\$135,000
	Contingency (20% of Total Construction/RW cost) (\$5,000 min)			\$270,000
	<b>TOTAL PROJECT COSTS</b>			<b>\$2,093,000</b>