

Appendix 4.2-4
Intersections Analysis, April 2008



Memorandum

■
Suite 301
517 Fourth Avenue
San Diego, California
92101

To: Carey Fernandes, AICP
DUDEK

From: Dave Sorenson, T.E.
Kimley-Horn and Associates, Inc.

Date: April 30, 2008

Subject: Analysis of Intersections with Significant Chula Vista Bayfront Traffic

The Chula Vista Bayfront Master Plan (CVBMP) Traffic Impact Analysis (TIA) (March 2008) examined operations at 39 intersections in or around the Bayfront Master Plan area in the City of Chula Vista. These intersections were selected by forecasting the distribution of Bayfront Master Plan traffic based on modeled land uses and roadways incorporated in the City of Chula Vista General Plan Update. Concurrence on the study area was provided by City of Chula Vista staff. The intersections analyzed in the traffic study are the most impacted by the Bayfront Master Plan and were analyzed with each phase of the proposed project as well as build-out of the proposed project, assuming forecast year 2030 conditions.

The City of Chula Vista's traffic study guidelines require that all Congestion Management Plan arterial segments, including Reasonably Significant Arterials, carrying 800 or more daily trips or 50 or more directional peak-hour trips be analyzed¹. Chula Vista does not have any of these facilities near the study area. The City's guidelines state that roadways and intersections outside of these facilities be analyzed based on direction provided by the City. Therefore, the study area was scoped per City of Chula Vista traffic study guidelines.

Intersections Outside of the Study Area

Through the course of preparing the traffic impact study, various refinements to land uses, intensity of use, and geographical location of use within the project

¹ *Guidelines for Traffic Impact Studies in the City of Chula Vista* (February 2001)



created a slightly different traffic assignment than was anticipated when the study was scoped. Following these refinements, it was determined that additional intersections, particularly to the east of I-5, may carry significant project traffic, but were not added to the CVBMP TIA since they were previously analyzed in the Urban Core Specific Plan TIA with more intense traffic scenarios and were determined to operate at an acceptable level of service under those scenarios. This memorandum analyzes level of service conditions at those intersections with 50 or more peak-hour directional trips, but that were not included in the CVBMP TIA.

In order to develop the distribution and assignment of trips from the Bayfront Master Plan area, select zone model runs were conducted in 2005, using the City of Chula Vista General Plan Update land uses. These model runs were used to distribute project traffic through both study intersections analyzed in the TIA and the additional intersections included in this memorandum. Some adjustments were made to the select zone distribution to account for specific project land uses and locations within the CVBMP and the proposed CVBMP roadway network.

The CVBMP is forecast to generate 79,317 daily trips, including 5,251 in the a.m. peak-hour and 7,324 in the p.m. peak-hour². Applying these trips to Chula Vista intersections based on the distribution determined from the select zone analysis yielded a total of eight intersections that were not analyzed in the CVBMP TIA, but handle a minimum of 50 peak-hour directional CVBMP project trips in either the a.m. or p.m. peak-hour. These intersections are identified on **Figure A**.

Traffic Assignment to Intersections

Figure B shows the peak-hour traffic assignment at each of these eight intersections, based on the distribution methodology and project trip generation discussed above. As shown on the figure, each of these intersections carry at least 50 peak-hour directional project trips.

Intersection Level of Service

The Urban Core Specific Plan TIA assumed implementation of land uses in the Chula Vista General Plan Update for the CVBMP area. These land uses were forecast to generate 152,654 daily trips. The proposed project is forecast to generate just over half as many trips, at 79,317 daily trips. Therefore, the

² Table 4-8, *Chula Vista Bayfront Master Plan Traffic Impact Analysis* (March 2008)



volumes analyzed in the Urban Core Specific Plan TIA were higher than would be anticipated with the proposed project and are conservative. As a result, the intersection level of service calculated by that study represents conditions that are worse than would be forecast with the proposed project. Thus, if an intersection was shown to be operating at an acceptable level of service in the Urban Core Specific Plan TIA, it would also operate at an acceptable level of service with the proposed project.

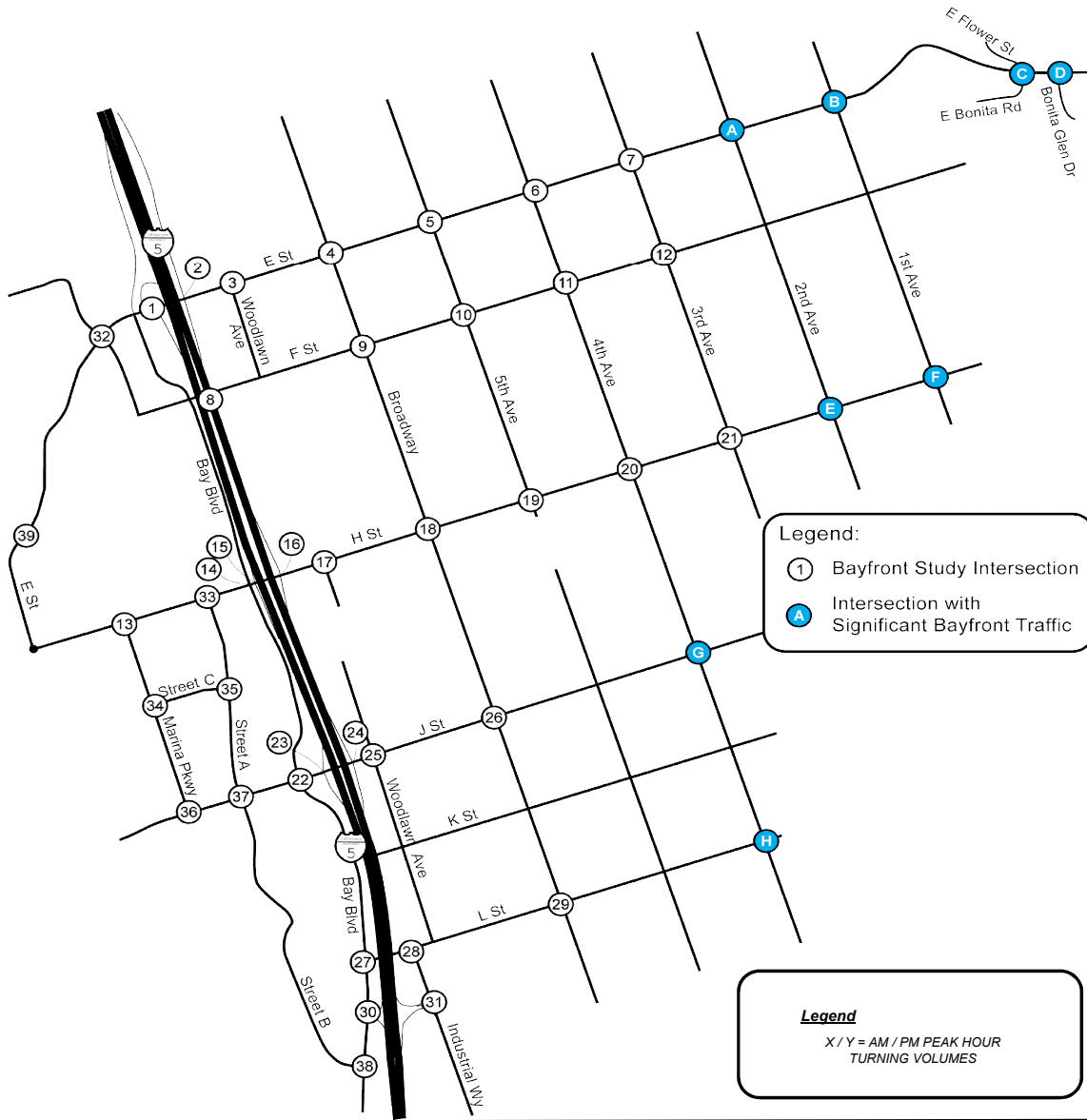
Figure C shows the forecast year 2030 build-out level of service at each of the intersections shown in Figure A, as calculated by the Urban Core Specific Plan TIA. As shown in Figure C, the eight intersections were shown to operate at an acceptable level of service in both peak-hours. Since the forecast CVBMP traffic is less than what was assumed in the Urban Core Specific Plan TIA, it can be concluded that all eight intersections would operate at an acceptable level of service with the addition of all CVBMP traffic. Therefore, there is no project impact (direct or cumulative) at these intersections.

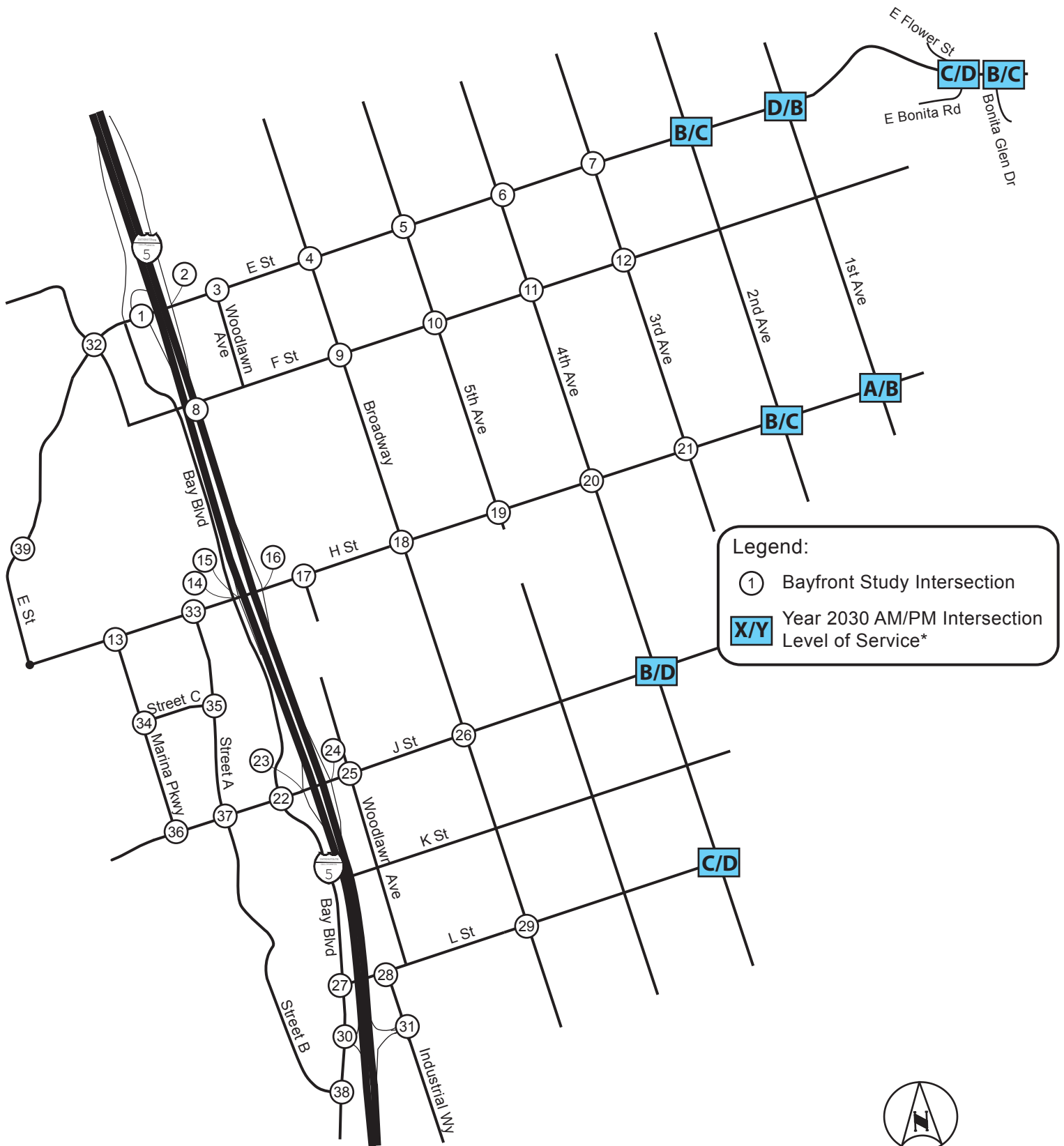


FIGURE A
Intersections with Significant Bayfront Traffic

Chula Vista Bayfront Master Plan

<p>A</p> <p>↻ 30 / 31</p> <p>2nd Ave</p> <p>↑ 103 / 108</p> <p>E St</p> <hr/> <p>17 / 34 ↻</p> <p>60 / 119 ↻</p> <p>14 / 27 ↻</p> <p>23 / 24 ↻</p>	<p>B</p> <p>↻ 26 / 28</p> <p>1st Ave</p> <p>↑ 53 / 56</p> <p>E St</p> <hr/> <p>16 / 31 ↻</p> <p>31 / 61 ↻</p> <p>14 / 27 ↻</p> <p>23 / 24 ↻</p>	<p>C</p> <p>E Flower St</p> <p>↑ 53 / 56</p> <p>E St</p> <p>Bonita Rd</p> <hr/> <p>31 / 61 ↻</p> <p>E Bonita Rd</p>	<p>D</p> <p>↻ 3 / 3</p> <p>↑ 43 / 45</p> <p>Bonita Rd</p> <hr/> <p>2 / 4 ↻</p> <p>25 / 50 ↻</p> <p>4 / 8 ↻</p> <p>Bonita Glen Rd</p> <p>7 / 7 ↻</p>
<p>E</p> <p>↻ 7 / 7</p> <p>2nd Ave</p> <p>↑ 53 / 56</p> <p>H St</p> <hr/> <p>4 / 8 ↻</p> <p>31 / 61 ↻</p> <p>4 / 8 ↻</p> <p>7 / 7 ↻</p>	<p>F</p> <p>↻ 3 / 3</p> <p>1st Ave</p> <p>↑ 46 / 49</p> <p>H St</p> <hr/> <p>2 / 4 ↻</p> <p>27 / 54 ↻</p> <p>2 / 4 ↻</p> <p>3 / 3 ↻</p>	<p>G</p> <p>↻ 3 / 3</p> <p>4th Ave</p> <p>↑ 40 / 42</p> <p>J St</p> <hr/> <p>2 / 4 ↻</p> <p>23 / 46 ↻</p> <p>4 / 8 ↻</p> <p>7 / 7 ↻</p>	<p>H</p> <p>↻ 7 / 7</p> <p>4th Ave</p> <p>↑ 17 / 17</p> <p>L St</p> <hr/> <p>4 / 8 ↻</p> <p>10 / 19 ↻</p> <p>25 / 50 ↻</p> <p>43 / 45 ↻</p>





* Source: Chula Vista Urban Core Traffic Impact Analysis (October 2005)