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<th>Traffic Signal</th>
<th>Turn Lane</th>
<th>Existing (LRDP Added)</th>
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<th>Critical Movement</th>
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Figure 4-3D

Existing and LRDP PM Intersection Lane Configurations, Traffic Control, and Volumes - Mount Zion
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<th>Intersection</th>
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<th>Peak Hour</th>
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<th>LOS</th>
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<td></td>
<td></td>
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<td>11 / 12</td>
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</tr>
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<td>B</td>
</tr>
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<td>58. Geary Boulevard / Broderick Street</td>
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<td></td>
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<td>PM</td>
<td>20</td>
<td>B</td>
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</tr>
</tbody>
</table>

Notes:
1. AWS = All-way stop controlled; SSS = Side Street stop controlled; Signal = Signal controlled
2. Delay reported as seconds per vehicle. For signalized intersections, a combined weighted average delay for the various movements within the intersection is reported. For SSS intersections, the highest average delay for an approach is reported. For AWS intersection, the combined weighted average delay of the intersection is reported, followed by the highest average delay for an approach.
3. For signalized intersections, LOS based on average intersection delay, based on the methodology in the Highway Capacity Manual, 2000. For an unsignalized intersection, LOS is based on the worst approach which is indicated in parentheses.
4. Bold indicates unacceptable operations per UCSF LOS standards

4.2.4 Mission Center

Existing Plus LRDP conditions peak hour turning movement volumes for the Mission Center campus site are shown on Figure 4-4A, 4-4B, 4-4C, and 4-4D. Table 4-5 presents intersection levels of service and delay for the AM and PM peak hours for the Existing and Existing Plus LRDP scenarios.
Figure 4-4A

Existing and LRDP AM Intersection Lane Configurations, Traffic Control, and Volumes-
Mission Center
Existing and LRDP AM Intersection Lane Configurations, Traffic Control, and Volumes - Mission Center
Figure 4-4C

Existing and LRDP PM Intersection Lane Configurations, Traffic Control, and Volumes-Mission Center
Figure 4-4D

Existing and LRDP PM Intersection Lane Configurations, Traffic Control, and Volumes—Mission Center
In general, the addition of LRDP-generated traffic would result in minor changes in the average delay per vehicle at the study intersections, and most study intersections would continue to operate at the same service levels as under Existing conditions.
As presented in Chapter 2, 14 of the 15 study intersections operate at acceptable levels of service (LOS D or better) under both AM and PM peak hour conditions under Existing conditions. These 14 intersections would continue to operate acceptably under Existing Plus LRDP conditions; therefore, the LRDP would have a less-than-significant impact at these 14 intersections.

The following intersection operates at unacceptable levels of service (LOS E or F) under Existing conditions, and would continue to operate at the same LOS under Existing Plus LRDP conditions:

- Intersection #61: 13th Street / South Van Ness Avenue (AM)

This intersection operated unacceptably under Existing conditions; therefore, the LRDP’s contribution to the intersection’s critical movements was identified to determine if the LRDP caused a significant impact at the intersection.

The 13th Street/South Van Ness Avenue (Intersection #61) signalized intersection operates at LOS E in the AM peak hour under Existing and Existing Plus LRDP conditions. The critical southbound through movement operates at LOS F during the AM peak. The LRDP would add 14 vehicle trips to the critical southbound through movement, which represents a one percent increase from Existing conditions. While the southbound through movement is expected to operate at LOS F under Existing Plus LRDP conditions, the LRDP’s contribution would not be considered significant. The other critical movements at the intersection – eastbound right turn and westbound left turn – are not expected to receive an increase in vehicular traffic due to the LRDP. Therefore, the LRDP’s impact at this intersection would be considered less than significant.

4.2.5 Summary of Traffic Impacts

No significant impacts are identified under Existing Plus LRDP conditions. The LRDP would not cause intersections operating acceptably (LOS D or better) under Existing conditions to degrade to unacceptable operations (LOS E or F) with the addition of LRDP-generated traffic. The LRDP would add traffic to intersections operating unacceptably under Existing conditions; however, LRDP-generated traffic would not increase traffic by five percent or more on critical movements operating at LOS E or F at these intersections. Therefore, the LRDP would have a less-than-significant impact to traffic operations.

4.3 TRANSIT IMPACTS

LRDP horizon project transit trips were estimated based on existing travel surveys of UCSF staff and visitors and available transit data as described in Chapter 3. Transit trips by transit mode are assigned to specific transit routes using the trip distribution percentages as shown in Chapter 3. The sections below describe the estimated AM and PM peak hour trips traveling to and from each campus site by transit route and provider.

As discussed in Section 4.1.2, the LRDP would have a significant effect on the environment if project demand for public transit causes the need for development or expansion of mass transit facilities, the development of which would cause significant environmental impacts. LRDP impacts on public transit are analyzed relative to this standard of significance. In addition, for informational purposes, the analysis of public transit impacts on Muni relative to the City of San Francisco’s crowding standard of 85 percent is discussed below.
4.3.1 Parnassus Heights

The increase in Parnassus Heights campus site peak hour transit trips generated by the LRDP are described in Table 4-6. These net new peak hour transit trips are expected to use a combination of local and regional transit services and UCSF shuttle service.

### Table 4-6: NET NEW PEAK HOUR TRANSIT TRIPS – PARNASSUS HEIGHTS

<table>
<thead>
<tr>
<th>Transit Route</th>
<th>AM Peak Hour</th>
<th></th>
<th></th>
<th>PM Peak Hour</th>
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<tr>
<td></td>
<td>In</td>
<td>Out</td>
<td>Total</td>
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<td>Out</td>
<td>Total</td>
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<td>4</td>
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<td>4</td>
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<td>3</td>
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<td>2</td>
<td>3</td>
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<td>5</td>
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<td><strong>192</strong></td>
<td><strong>68</strong></td>
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<td><strong>168</strong></td>
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</tbody>
</table>

Notes:
1. Peak hour trips account for external trips only. Some transit users may use multiple transit modes on a single trip (e.g. BART+Muni, AC Transit+Muni, Muni+UCSF Shuttle, etc.). The table accounts for the total number of trips on each system, therefore transfer trips are counted multiple times.

Source: Adavant Consulting, 2014
As shown in Table 4-6, approximately 200 and 170 new transit trips are expected during the AM and PM peak hour, respectively. About 50 percent of transit users will use a UCSF shuttle and about 30 percent will use Muni to commute to and from the campus site, while the remaining transit riders will use BART, AC Transit, Caltrain, SamTrans, or Golden Gate Transit.

4.3.1.1 SF Muni

Existing Muni transit stops are located within a half-mile of the center of the campus site, with multiple stops located through the campus on Parnassus Avenue and adjacent to the campus site on Ninth Avenue, Irving Street and Lincoln Way. Major stop relocations adjacent to the campus site are not anticipated at this time. As part of the Parnassus Avenue Streetscape Plan, UCSF proposes that Muni consolidate the three transit stops on Parnassus Avenue into two transit stops in order to improve Muni’s operating efficiency and provide more flexibility with respect to curb space allocation. As summarized in Chapter 2, the Transit Effectiveness Project (TEP) proposes to reduce headways for the following routes: 43 Masonic, 44 O’Shaughnessy, and 71/71L Haight-Noriega.

The Muni trips as assigned in Table 4-6 were added to the load of the lines that serve the campus site at their maximum load point. Table 4-7 shows the maximum load point and capacity utilization for the transit routes with the LRDP-generated transit trips added to them to reflect the Existing Plus LRDP scenario.
### TABLE 4-7: TRANSIT CAPACITY UTILIZATION – PARNASSUS HEIGHTS

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<tr>
<th>Direction</th>
<th>Existing</th>
<th>Existing Plus LRDP</th>
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<td></td>
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<td>6 – Parnassus</td>
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<td>Inbound</td>
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<td>Outbound</td>
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<td>572</td>
</tr>
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<td>--</td>
<td>--</td>
</tr>
<tr>
<td>36 – Teresita</td>
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<td></td>
</tr>
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<td>42</td>
<td>90</td>
</tr>
<tr>
<td>Outbound</td>
<td>50</td>
<td>90</td>
</tr>
<tr>
<td>43 – Masonic</td>
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<td></td>
</tr>
<tr>
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<td>378</td>
</tr>
<tr>
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</tr>
<tr>
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<td>Outbound</td>
<td>222</td>
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</tr>
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<td></td>
</tr>
<tr>
<td>Inbound</td>
<td>300</td>
<td>378</td>
</tr>
<tr>
<td>Outbound</td>
<td>131</td>
<td>344</td>
</tr>
<tr>
<td>N – Judah</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inbound</td>
<td>1,792</td>
<td>1904</td>
</tr>
<tr>
<td>Outbound</td>
<td>544</td>
<td>1904</td>
</tr>
<tr>
<td>PM Peak Hour</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 – Parnassus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inbound</td>
<td>156</td>
<td>378</td>
</tr>
<tr>
<td>Outbound</td>
<td>252</td>
<td>378</td>
</tr>
<tr>
<td>16X – Noriega Express</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inbound</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Outbound</td>
<td>253</td>
<td>517</td>
</tr>
<tr>
<td>36 – Teresita</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inbound</td>
<td>62</td>
<td>90</td>
</tr>
<tr>
<td>Outbound</td>
<td>30</td>
<td>90</td>
</tr>
<tr>
<td>43 – Masonic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inbound</td>
<td>160</td>
<td>315</td>
</tr>
<tr>
<td>Outbound</td>
<td>240</td>
<td>315</td>
</tr>
<tr>
<td>44 – O’Shaughnessy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inbound</td>
<td>180</td>
<td>420</td>
</tr>
<tr>
<td>Outbound</td>
<td>353</td>
<td>420</td>
</tr>
<tr>
<td>66 – Quintara</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inbound</td>
<td>18</td>
<td>135</td>
</tr>
<tr>
<td>Outbound</td>
<td>48</td>
<td>135</td>
</tr>
<tr>
<td>71/ 71L – Haight-Noriega/Limited</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inbound</td>
<td>258</td>
<td>378</td>
</tr>
<tr>
<td>Outbound</td>
<td>324</td>
<td>378</td>
</tr>
<tr>
<td>N – Judah</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inbound</td>
<td>880</td>
<td>1904</td>
</tr>
<tr>
<td>Outbound</td>
<td>1,773</td>
<td>2131</td>
</tr>
</tbody>
</table>

Note: Pass. = Passenger; Util. = Utilization

**Bold:** > 85% Capacity Utilization

Source: Adavant Consulting, Fehr & Peers, 2014

The estimated number of LRDP-generated Muni trips is about a two-percent increase in ridership traveling to and from the Parnassus Heights campus site, which would not require the expansion of transit service or facilities. As shown in Table 4-7, the 43 Masonic Inbound and N Judah Inbound during the AM peak hour and the 71/71L – Haight-Noriega/Limited Outbound during the PM peak hour operate above 85 percent capacity utilization, which represents Muni’s crowding standard. The LRDP adds 7, 22, and 4...
new peak hour trips to these currently crowded lines, respectively, which are approximately two percent increases in demand or less, which are all within daily fluctuations in demand.

As described in Section 1.2.6, as a matter of course in managing campus operations, UCSF monitors transportation conditions at all campus sites, and, in relation to the proposed 2014 LRDP, would continue to do so in particular at the four UCSF campus sites where development is proposed. As the Parnassus Heights campus site develops, UCSF would monitor vehicle traffic conditions, transit operations, and shuttle ridership within and surrounding the campus site. This monitoring program would be informed by the annual UCSF Employee Transportation Survey, the existing UCSF shuttle program monitoring, UCSF staff, students, and patients and visitors, and campus site observations by Transportation Services staff, and ongoing coordination with SFMTA staff.

The results of the various monitoring efforts would be used to inform when and whether UCSF would:

- Implement additional TDM strategies that seek to minimize the number of single occupancy vehicle trips (SOV) generated by the LRDP;
- Revise UCSF Shuttle system operations; and/or
- Introduce or enhance campus-wide or specific measures to reduce conflicts with Muni service.

Should the need for additional shuttle service be triggered by increased ridership due to shifts in travel mode or demand generated by the LRDP, UCSF Transportation Services would first review that the additional service would not negatively affect Muni operations. Once implemented, the additional service would be monitored to the same standard as that identified above. Further, should conflicts between shuttle service and Muni service arise, UCSF Transportation Services would coordinate with SFMTA staff to resolve these conflicts and ensure UCSF shuttles do not negatively affect Muni operations. Additionally, none of the specific proposals of the LRDP would reduce access to or reconfigure transit stops in a way that would degrade transit service to the campus site; therefore the new transit trips generated by the LRDP would result in a less-than-significant impact.

### 4.3.1.2 Regional Transit Service

UCSF staff, patrons and students are anticipated to continue to use BART, AC Transit, Caltrain, SamTrans, and Golden Gate Transit for regional transit service through the LRDP horizon year. Regional service stations are likely to remain at existing locations, over half a mile away, and can be accessed by other transit modes such as SF Muni and the UCSF shuttle.

Less than 20 additional regional transit trips are expected during each AM and PM peak hours. This increase would not require the expansion of regional transit service or facilities; therefore the new regional transit trips generated by the LRDP would result in a less-than-significant impact.

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11 UCSF monitors its shuttle ridership demand by conducting monthly audits to capture boarding data, and the data is used to continually adjust shuttle operations to meet peak ridership demand. The monthly audits are conducted for one entire week (five business days) on all routes, throughout the entire day. In addition, UCSF conducts an annual UCSF Transportation Survey that is distributed to all members of our community. The data is used to measure and benchmark the efficacy of the existing TDM programs, and assist in designing new programs.
4.3.1.3 UCSF Shuttle

As part of the Parnassus Avenue Streetscape Plan, UCSF will reorganize UCSF shuttle operations by centralizing pick-up and drop-off locations. Existing shuttle stations located at the campus site gateways will be relocated to the center of the campus site on Parnassus Avenue, fronting the campus library in the westbound direction and the Clinical Sciences building in the eastbound direction. The LRDP does not propose specific changes to shuttle service headways, although UCSF Transportation Services may change headways based on shifting shuttle demand as LRDP projects are constructed and occupied at each respective campus site.

An additional approximately 120 AM peak hour shuttle person trips and 100 PM peak hour shuttle person trips, an approximately 15 percent increase during both peak hours are anticipated through the LRDP horizon year. This increased ridership would require an additional 5-7 shuttles during the AM and PM peak hours, an approximately 10-15 percent increase compared to the existing shuttle service at the Parnassus Heights campus site. As described in Section 4.3.1.1, UCSF Transportation Services would monitor shuttle conditions to ensure the shuttle loading zone would be adequate to accommodate the additional service and that the shuttle service would not conflict with Muni operations.

The increased shuttle trips would not require the expansion of UCSF shuttle service or facilities beyond what would be expected through the regular monitoring by UCSF Transportation Services, nor would the increased shuttle demand cause a substantial conflict among autos, bicyclists, pedestrians, and transit vehicles. Therefore, the new UCSF shuttle trips generated by the LRDP would result in a less-than-significant impact.
4.3.2 Mission Bay

The increase in Mission Bay campus site peak hour transit trips generated by the LRDP are described in Table 4-8. These net new peak hour transit trips are expected to use a combination of local and regional transit services and UCSF shuttle service.

<table>
<thead>
<tr>
<th>Transit Route</th>
<th>AM Peak Hour</th>
<th></th>
<th>PM Peak Hour</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In</td>
<td>Out</td>
<td>Total(^1)</td>
<td>In</td>
</tr>
<tr>
<td><strong>SF Muni</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T Third Street</td>
<td>569</td>
<td>44</td>
<td>614</td>
<td>55</td>
</tr>
<tr>
<td>10 Townsend</td>
<td>36</td>
<td>3</td>
<td>39</td>
<td>3</td>
</tr>
<tr>
<td>22 Fillmore</td>
<td>275</td>
<td>10</td>
<td>285</td>
<td>12</td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td>880</td>
<td>57</td>
<td>937</td>
<td>70</td>
</tr>
<tr>
<td><strong>BART</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eastbound</td>
<td>224</td>
<td>16</td>
<td>240</td>
<td>19</td>
</tr>
<tr>
<td>Southbound</td>
<td>468</td>
<td>22</td>
<td>490</td>
<td>29</td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td>692</td>
<td>38</td>
<td>730</td>
<td>48</td>
</tr>
<tr>
<td><strong>AC Transit</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eastbound</td>
<td>103</td>
<td>5</td>
<td>108</td>
<td>7</td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td>103</td>
<td>5</td>
<td>108</td>
<td>7</td>
</tr>
<tr>
<td><strong>Caltrain</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southbound</td>
<td>147</td>
<td>9</td>
<td>156</td>
<td>11</td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td>147</td>
<td>9</td>
<td>156</td>
<td>11</td>
</tr>
<tr>
<td><strong>SamTrans</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Routes 292</td>
<td>25</td>
<td>1</td>
<td>26</td>
<td>2</td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td>25</td>
<td>1</td>
<td>26</td>
<td>2</td>
</tr>
<tr>
<td><strong>Golden Gate Transit</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northbound</td>
<td>26</td>
<td>2</td>
<td>28</td>
<td>2</td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td>26</td>
<td>2</td>
<td>28</td>
<td>2</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sub-Total</td>
<td>74</td>
<td>6</td>
<td>80</td>
<td>6</td>
</tr>
<tr>
<td><strong>UCSF and MBTMA Shuttles</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All Mission Bay Shuttles</td>
<td>1,039</td>
<td>75</td>
<td>1,114</td>
<td>105</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2,986</td>
<td>193</td>
<td>3,178</td>
<td>251</td>
</tr>
</tbody>
</table>

Notes:
1. Peak hour trips account for external trips only. Some transit users may use multiple transit modes on a single trip (e.g. BART+Muni, AC Transit+Muni, Muni+UCSF Shuttle, etc.). The table accounts for the total number of trips on each system, therefore transfer trips are counted multiple times.

Source: Adavant Consulting, Fehr & Peers, 2014

As shown in Table 4-8, approximately 3,000 new transit trips are expected during the AM and PM peak hours. Approximately 30-percent of all transit trips, about 900 AM peak hour trips and 800 PM peak hour trips, will commute to and from the campus site by SF Muni and approximately 35-percent will use the UCSF and MBTMA shuttles. The remaining 35-percent of new transit trips will be on BART, AC Transit, Caltrain, SamTrans, and Golden Gate Transit.
4.3.2.1 SF Muni

As presented in Table 2-12, existing Muni stops are located within a half-mile to the campus site and are accessible by walking. As described in Chapter 2, the TEP proposes several changes on routes traversing through and within the vicinity of the Mission Bay campus site.

**T Third Street:** The TEP proposes to reduce the peak period headways of the T Third Street route from 9.5 minutes to 8.5 minutes.

**10 Townsend:** The TEP proposes to rename the 10 Townsend to the 10 Sansome, re-route service from Townsend Street through Mission Bay, and reduce headways during peak periods to every 6 minutes and midday headways to every 12 minutes.

**22/55 Fillmore:** The TEP proposes to re-route the 22 Fillmore by continuing its route on 16th Street between Kansas and Rhode Island Streets to the Mission Bay campus site and reduce headways to every 5.5 to 6 minutes during peak headways and every 7.5 minutes during the midday. As described in Section 2.4.3, prior to the extension of the 22 Fillmore into Mission Bay via either the Moderate or Expanded Alternative, the SFMTA proposes to implement a temporary motor coach service to coincide with the opening of Phase One Medical Center at Mission Bay between the campus site and the 16th Street BART Station for an initial service phase. The preliminary name for this interim service is the Muni line ’55.’ The route would follow 16th Street between Mission Street to Third Street and Third Street from 16th Street to Mission Bay Boulevard North.

The Muni trips as assigned in Table 4-8 were added to the load of Muni lines that serve the campus site. Specifically, the Muni trips were added to capacity utilization of the lines at the maximum load point between the campus site and the point at which the line where riders transfer to/from regional transit (i.e. 16th Street BART – 22 Fillmore, Temporary Transbay Terminal – 10 Townsend, T Third Street – Embarcadero BART). Table 4-9 and Table 4-10 show the maximum load point and capacity utilization for the transit routes with the LRDP-generated transit trips added to them to reflect the Existing Plus LRDP scenario with and without the Muni line 55 route, which is anticipated to begin service to coincide with the opening of Phase One Medical Center at Mission Bay, and is thus considered in the analysis of the LRDP projects in place at the Mission Bay Campus Site. The analysis of ridership for the scenario including the Muni line 55 route was performed using existing ridership information and can be found in Appendix F.
### TABLE 4-9: TRANSIT CAPACITY UTILIZATION (NO ROUTE 55) – MISSION BAY

<table>
<thead>
<tr>
<th>Direction</th>
<th>Existing</th>
<th>Existing Plus LRDP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AM Peak Hour</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T Third Street (to Downtown)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inbound</td>
<td>428</td>
<td>714</td>
</tr>
<tr>
<td>Outbound</td>
<td>346</td>
<td>833</td>
</tr>
<tr>
<td>T Third Street (South of Mission Bay)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inbound</td>
<td>389</td>
<td>714</td>
</tr>
<tr>
<td>Outbound</td>
<td>236</td>
<td>833</td>
</tr>
<tr>
<td>10 Townsend</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inbound</td>
<td>141</td>
<td>189</td>
</tr>
<tr>
<td>Outbound</td>
<td>117</td>
<td>189</td>
</tr>
<tr>
<td>22 Fillmore&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inbound</td>
<td>193</td>
<td>420</td>
</tr>
<tr>
<td>Outbound</td>
<td>273</td>
<td>420</td>
</tr>
</tbody>
</table>

Note: Pass. = Passenger; Util. = Utilization

**Bold:** > 85% Capacity Utilization

1. The section of the 22 Fillmore south of the Mission Bay campus site is not included in this analysis because it does not connect to a regional transit hub.

Source: Adavant Consulting, Fehr & Peers, 2014

### TABLE 4-10: TRANSIT CAPACITY UTILIZATION (WITH ROUTE 55) – MISSION BAY

<table>
<thead>
<tr>
<th>Direction</th>
<th>Existing</th>
<th>Existing Plus LRDP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AM Peak Hour</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22/55 Fillmore</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inbound</td>
<td>193</td>
<td>704</td>
</tr>
<tr>
<td>Outbound</td>
<td>273</td>
<td>704</td>
</tr>
</tbody>
</table>

Note: Pass. = Passenger; Util. = Utilization

1. Peak Hour Capacity reflects the addition of 55 Route Service with AM and PM peak hour service frequencies of approximately four buses per hour.

Source: Adavant Consulting, Fehr & Peers, 2014

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205
As shown in Table 4-9, once the estimated number of LRDP-generated Muni trips are added to the T Third Street and 10 Townsend, those Muni routes would still continue to operate satisfactorily according to Muni crowding standards (Note the 10 Inbound Townsend during the PM peak hour operated at greater than 85% capacity utilization, both with and without the LRDP-generated trips, but the LRDP does not contribute to crowding on the line in a significant way).

The 22 Fillmore would operate at greater than 85% capacity utilization with the addition of LRDP-generated trips, but as shown in Table 4-10, with the addition of the interim 55 Route, the combination of the 22 Fillmore and the 55 Route would operate at less than 85% capacity utilization during both the AM and PM peak hours.

The estimated number of LRDP-generated Muni trips traveling to and from the Mission Bay campus site would not require the expansion of transit service or facilities. Long-term funding for the 55 Route is uncertain. If Muni were to discontinue the service, UCSF would replace the transit capacity with shuttle service adequate to fill the gap in transit service. Thus, this analysis includes the 55 Route as a de facto permanent service.

As described in Section 1.2.6, as a matter of course in managing campus operations, UCSF monitors transportation conditions at all campus sites, and, in relation to the proposed 2014 LRDP, would continue to do so in particular at the four UCSF campus sites where development is proposed. Similar to the Parnassus Heights campus site, UCSF would monitor vehicle traffic conditions, transit operations, and shuttle ridership within and surrounding the Mission Bay campus site.

Should the need for additional shuttle service be triggered by increased ridership due to shifts in travel mode or demand generated by the LRDP, UCSF Transportation Services would first review that the additional service would not negatively affect Muni operations. Once implemented, the additional service would be monitored to the same standard as that identified above. Further, should conflicts between shuttle service and Muni service arise, UCSF Transportation Services would coordinate with SFMTA staff to resolve these conflicts and ensure UCSF shuttles do not negatively affect Muni operations. Additionally, none of the specific proposals of the LRDP would reduce access to or reconfigure transit stops in a way that would degrade transit service to the campus site; therefore the new transit trips generated by the LRDP would result in a less-than-significant impact.

4.3.2.2 Regional Transit Service

In addition to Muni operations for travel within San Francisco, regional transit services such as BART, AC Transit, Caltrain, SamTrans, and Golden Gate Transit were considered for the analysis. Existing stations are located over a mile away and can access the Mission Bay campus site by Muni or UCSF and MBTMA shuttles. Major service changes are not anticipated in the near-term.

The number of new LRDP-generated regional transit trips would not require the expansion of regional transit service or facilities; therefore the new regional transit trips generated by the LRDP would result in a less-than-significant impact.

4.3.2.3 UCSF and Mission Bay Transportation Management Association Shuttle Trips

The LRDP does not propose specific changes to shuttle service headways, although UCSF Transportation Services may change headways based on shifting shuttle demand as LRDP projects are constructed and occupied at each respective campus site and MBTMA may do the same as development occurs in the
Mission Bay area. With the opening of the Phase One Medical Center at Mission Bay, additional shuttle stops will be provided fronting the new hospital; however headways and service route changes are unanticipated at this time.

An additional approximately 1,110 AM peak hour shuttle person trips and 1,070 PM peak hour shuttle person trips, an approximately 90% and 185% increase in shuttle person trips during the AM and PM peak hours, respectively, are anticipated through the LRDP horizon year. This increased ridership would require approximately 70 new shuttles during the AM and PM peak hours to the Mission Bay Campus Site, which would represent a 160% increase in shuttle service to this campus site. As described in Section 4.3.2.1, UCSF Transportation Services would monitor shuttle conditions to ensure the shuttle loading zones would be adequate to accommodate the additional service and that the shuttle service would not conflict with Muni operations. If new shuttle loading zones within the Mission Bay Campus Site are required to accommodate this increased shuttle service, UCSF Transportation Services would work with the SFMTA to determine the appropriate locations for these stops and seek approval of these new stops.

The increased shuttle trips would not require the expansion of UCSF shuttle service or facilities beyond what would be expected through the regular monitoring by UCSF Transportation Services, nor would the increased shuttle demand cause a substantial conflict among autos, bicyclists, pedestrians, and transit vehicles. Therefore, the new UCSF shuttle trips generated by the LRDP would result in a less-than-significant impact.

### 4.3.2.4 LRDP Variant

The increase in Mission Bay campus site peak hour transit trips generated by the LRDP Variant are described in Table 4-11. These net new peak hour transit trips are expected to use a combination of local and regional transit services and UCSF shuttle service.

<table>
<thead>
<tr>
<th>Transit Route</th>
<th>AM Peak Hour</th>
<th>PM Peak Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In</td>
<td>Out</td>
</tr>
<tr>
<td><strong>SF Muni</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T Third Street</td>
<td>597</td>
<td>51</td>
</tr>
<tr>
<td>10 Townsend</td>
<td>38</td>
<td>3</td>
</tr>
<tr>
<td>22 Fillmore</td>
<td>273</td>
<td>10</td>
</tr>
<tr>
<td>Sub-Total</td>
<td>908</td>
<td>64</td>
</tr>
<tr>
<td><strong>BART</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eastbound</td>
<td>232</td>
<td>20</td>
</tr>
<tr>
<td>Southbound</td>
<td>474</td>
<td>23</td>
</tr>
<tr>
<td>Sub-Total</td>
<td>706</td>
<td>43</td>
</tr>
<tr>
<td><strong>AC Transit</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eastbound</td>
<td>104</td>
<td>6</td>
</tr>
<tr>
<td>Sub-Total</td>
<td>104</td>
<td>6</td>
</tr>
<tr>
<td><strong>Caltrain</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southbound</td>
<td>151</td>
<td>6</td>
</tr>
<tr>
<td>Sub-Total</td>
<td>151</td>
<td>6</td>
</tr>
<tr>
<td><strong>SamTrans</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Routes 292</td>
<td>27</td>
<td>1</td>
</tr>
</tbody>
</table>

---

207
As shown in Table 4-11, approximately 3,000 new transit trips are expected during the AM and PM peak hours. Approximately 30-percent of all transit trips, about 900 AM peak hour trips and 800 PM peak hour trips, will commute to and from the campus site by SF Muni and approximately 35-percent will use the UCSF and MBTMA shuttles. The remaining 35-percent of new transit trips will be on BART, AC Transit, Caltrain, SamTrans, and Golden Gate Transit.

4.3.2.4.1 SF Muni

Muni conditions associated with the LRDP Variant would be similar to those described above for the 2014 LRDP. The Muni trips as assigned in Table 4-11 were added to the load of Muni lines that serve the campus site. Specifically, the Muni trips were added to capacity utilization of the lines at the maximum load point between the campus site and the point at which the line where riders transfer to/from regional transit (i.e. 16th Street BART – 22 Fillmore, Temporary Transbay Terminal – 10 Townsend, T Third Street – Embarcadero BART). Table 4-12 and Table 4-13 show the maximum load point and capacity utilization for the transit routes with the LRDP Variant-generated transit trips added to them to reflect the Existing Plus LRDP Variant scenario with and without the Muni line 55 route, which is anticipated to begin service to coincide with the opening of Phase One Medical Center at Mission Bay, and is thus considered in the analysis of the LRDP projects in place at the Mission Bay campus site. The analysis of ridership for the scenario including the Muni line 55 route was performed using existing ridership information and can be found in Appendix F.
**Table 4-13: Transit Capacity Utilization (with Route 55) – Mission Bay (LRDP Variant)**

<table>
<thead>
<tr>
<th>Direction</th>
<th>Existing</th>
<th>Existing Plus LRDP Variant</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AM Peak Hour</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22/55 Fillmore</td>
<td>Inbound</td>
<td>193</td>
</tr>
<tr>
<td></td>
<td>Outbound</td>
<td>273</td>
</tr>
<tr>
<td><strong>PM Peak Hour</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22/55 Fillmore</td>
<td>Inbound</td>
<td>323</td>
</tr>
<tr>
<td></td>
<td>Outbound</td>
<td>210</td>
</tr>
</tbody>
</table>


Bold: > % 85 Capacity Utilization

1. Peak Hour Capacity reflects the addition of 55 Route Service with AM and PM peak hour service frequencies of approximately four buses per hour.

Source: Adavant Consulting, Fehr & Peers, 2014

As shown in Table 4-12, once the estimated number of LRDP Variant-generated Muni trips are added to the 10 Townsend, this Muni route would still continue to operate satisfactorily according to Muni crowding standards (Note the 10 Inbound Townsend during the PM peak hour operated at greater than 85% capacity utilization, both with and without the LRDP Variant-generated trips, but the LRDP Variant does not contribute to crowding on the line in a significant way).

The T Third Street would operate at greater than 85% capacity utilization with the addition of LRDP Variant-generated trips under the AM peak hour in the outbound direction (towards UCSF). While this is not considered a significant impact per UCSF transit standards, this would exceed Muni's crowding standards. Therefore, the following Improvement Measure has been identified:
Improvement Measure IM-TR-1: Study and Implement Uses to Minimize Transit Trips on the Muni T Third Street Line

- Development of clinical uses on Blocks 33/34 is considered a “secondary use” under the Mission Bay South Redevelopment Plan, which requires findings by the Office of Community Investment and Infrastructure that the use is consistent with the Mission Bay South Redevelopment Plan. UCSF would continue to study the amount of clinical space proposed under the LRDP Variant, and would refine the proposal before bringing it forth to the City for approval. In refining the LRDP Variant, UCSF would consider reducing the size of the clinical facilities at Blocks 33/34 to a level that will reduce the transit ridership on the T Third Street to less than the Muni’s capacity utilization of 85 percent.

The 22 Fillmore would operate at greater than 85% capacity utilization with the addition of LRDP Variant-generated trips, but as shown in Table 4-13, with the addition of the interim 55 Route, the combination of the 22 Fillmore and the 55 Route would operate at less than 85% capacity utilization during both the AM and PM peak hours.

The estimated number of LRDP Variant-generated Muni trips traveling to and from the Mission Bay campus site would not require the expansion of transit service or facilities. Long-term funding for the 55 Route is uncertain. If Muni were to discontinue the service, UCSF would replace the transit capacity with shuttle service adequate to fill the gap in transit service. Thus, this analysis includes the 55 Route as a de facto permanent service.

As described in Section 1.2.6, as a matter of course in managing campus operations, UCSF monitors transportation conditions at all campus sites, and, in relation to the proposed 2014 LRDP, would continue to do so in particular at the four UCSF campus sites where development is proposed. Similar to the Parnassus Heights campus site, UCSF would monitor vehicle traffic conditions, transit operations, and shuttle ridership within and surrounding the Mission Bay campus site.

Should the need for additional shuttle service be triggered by increased ridership due to shifts in travel mode or demand generated by the LRDP Variant, UCSF Transportation Services would first review that the additional service would not negatively affect Muni operations. Once implemented, the additional service would be monitored to the same standard as that identified for the 2014 LRDP above. Further, should conflicts between shuttle service and Muni service arise, UCSF Transportation Services would coordinate with SFMTA staff to resolve these conflicts and ensure UCSF shuttles do not negatively affect Muni operations. Additionally, none of the specific proposals of the LRDP Variant would reduce access to or reconfigure transit stops in a way that would degrade transit service to the campus site; therefore the new transit trips generated by the LRDP Variant would result in a less-than-significant impact.

4.3.2.4.2 Regional Transit Service

Regional transit conditions associated with the LRDP Variant would be similar to those described above for the 2014 LRDP. Under the LRDP Variant, the Mission Bay campus site would generate slightly more regional transit trips than the 2014 LRDP. The increase in regional transit trips would be commensurate with the percentage increase in new peak hour vehicle trips generated by the 2014 LRDP plan for the Mission Bay campus site. The number of new LRDP Variant-generated regional transit trips would not require the expansion of regional transit service or facilities; therefore the new regional transit trips generated by the LRDP Variant would result in a less-than-significant impact.
4.3.2.4.3 UCSF and Mission Bay Transportation Management Association Shuttle Trips

UCSF and MBTMA shuttle transit conditions associated with the LRDP Variant would be similar to those described above for the 2014 LRDP. Under the LRDP Variant, the Mission Bay campus site would generate slightly more shuttle trips than the LRDP. The increase in shuttle trips would be commensurate with the percentage increase in new peak hour vehicle trips generated by the 2014 LRDP plan for the Mission Bay campus site. The increased shuttle trips would not require the expansion of UCSF shuttle service or facilities beyond what would be expected through the regular monitoring by UCSF Transportation Services, nor would the increased shuttle demand cause a substantial conflict among autos, bicyclists, pedestrians, and transit vehicles. Therefore, the new UCSF shuttle trips generated by the LRDP Variant would result in a less-than-significant impact.

4.3.3 Mount Zion

The increase in Mount Zion campus site peak hour transit trips generated by the LRDP are described in Table 4-14. These new peak hour transit trips are expected to use a combination of local and regional transit services and UCSF shuttle service.

<table>
<thead>
<tr>
<th>Transit Route</th>
<th>AM Peak Hour</th>
<th>PM Peak Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In</td>
<td>Out</td>
</tr>
<tr>
<td><strong>SF Muni</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 California</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>2 Clement</td>
<td>14</td>
<td>7</td>
</tr>
<tr>
<td>24 Divisadero</td>
<td>25</td>
<td>10</td>
</tr>
<tr>
<td>38/L Geary/Limited</td>
<td>79</td>
<td>20</td>
</tr>
<tr>
<td>N Judah</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td>127</td>
<td>39</td>
</tr>
<tr>
<td><strong>BART</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eastbound</td>
<td>22</td>
<td>4</td>
</tr>
<tr>
<td>Southbound</td>
<td>17</td>
<td>1</td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td>39</td>
<td>5</td>
</tr>
<tr>
<td><strong>Caltrain</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southbound</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td><strong>SamTrans</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Routes 292</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td><strong>Golden Gate Transit</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northbound</td>
<td>13</td>
<td>2</td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td>13</td>
<td>2</td>
</tr>
<tr>
<td><strong>UCSF Shuttle</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All Mt. Zion Shuttles</td>
<td>29</td>
<td>0</td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td>29</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>216</td>
<td>43</td>
</tr>
</tbody>
</table>
Notes:
1. Peak hour trips account for external trips only. Some transit users may use multiple transit modes on a single trip (e.g. BART+Muni, AC Transit+Muni, Muni+UCSF Shuttle, etc.). The table accounts for the total number of trips on each system, therefore transfer trips are counted multiple times.

Source: Adavant Consulting, 2014

As shown in Table 4-14, approximately 260 and 160 net new transit trips are expected during the AM and PM peak hour, respectively. About 60-percent of transit users will use SF Muni and 20-percent will use BART to commute to and from the campus site, while the remaining 20-percent of transit users will use the UCSF shuttle, Caltrain, SamTrans or Golden Gate Transit.

4.3.3.1 SF Muni

As presented in Table 4-15 existing Muni stops are located within a half-mile of the campus site and are accessible by walking. As described in Chapter 2, the TEP proposes several changes on routes traversing adjacent to and within the Mount Zion campus site. The 1 California, 2 Clement, and 24 Divisadero will reduce peak period headways and a supplemental trolley coach service will be added to the 2 Clement. The TEP does not propose any change to transit stop locations within the study area. In addition, Muni proposes to convert the 38 Geary/38L Geary Limited to Bus Rapid Transit (BRT), a transit service with high service frequencies that is proposed to begin service by 2020.

The Muni trips as assigned in Table 4-14 were added to the load of the lines that serve the campus site at their maximum load point. Table 4-15 shows the maximum load point and capacity utilization for the transit routes with the LRDP-generated transit trips added to them to reflect the Existing Plus LRDP scenario.

<table>
<thead>
<tr>
<th>TABLE 4-15: TRANSIT CAPACITY UTILIZATION – MOUNT ZION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Direction</strong></td>
</tr>
<tr>
<td>AM Peak Hour</td>
</tr>
<tr>
<td>1 – California</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>2 – Clement</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>24 – Divisadero</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>38 – Geary</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>38L – Geary Limited</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>PM Peak Hour</td>
</tr>
<tr>
<td>1 – California</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>2 – Clement</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>24 – Divisadero</td>
</tr>
</tbody>
</table>
The estimated number of LRDP-generated Muni trips is about a 35 percent increase in ridership traveling to and from the Mount Zion campus site, which would not require the expansion of transit service or facilities. As shown in Table 4-15, the LRDP-generated transit trips for the 38 Geary corridor were split evenly between the 38 Geary and the 38L Geary Limited Outbound during the PM peak hour, resulting in the 38 Geary Limited outbound operating above the 85 percent capacity utilization, which represents Muni’s crowding standard. It should be noted that transit riders could choose to travel on either bus line, thus if one bus line is over 85 percent capacity utilization (38L Geary Limited) and a parallel transit line that serves the same stops and destinations is under capacity and could accommodate additional transit riders without going over 85 percent capacity utilization (38 Geary), this would not be considered significant. If the BRT were implemented, the transit capacity along the 38 Geary corridor would increase, which would in turn decrease the capacity utilization of this corridor.

As described in Section 1.2.6, as a matter of course in managing campus operations, UCSF monitors transportation conditions at all campus sites, and, in relation to the proposed 2014 LRDP, would continue to do so in particular at the four UCSF campus sites where development is proposed. Similar to the Parnassus Heights Campus Site, UCSF would monitor vehicle traffic conditions, transit operations, and shuttle ridership within and surrounding the Mount Zion Campus Site.

Should the need for additional shuttle service be triggered by increased ridership due to shifts in travel mode or demand generated by the LRDP, UCSF Transportation Services would first review that the additional service would not negatively affect Muni operations. Once implemented, the additional service would be monitored to the same standard as that identified above. Further, should conflicts between shuttle service and Muni service arise, UCSF Transportation Services would coordinate with SFMTA staff to resolve these conflicts and ensure UCSF shuttles do not negatively affect Muni operations. Additionally, none of the specific proposals of the LRDP would reduce access to or reconfigure transit stops in a way that would degrade transit service to the campus site; therefore the new transit trips generated by the LRDP would result in a less-than-significant impact.

4.3.3.2 Regional Transit Service

In addition to Muni service, Mount Zion campus site staff and patrons are anticipated to continue to travel using regional transit services such as BART, Caltrain, SamTrans, and Golden Gate Transit. Regional service stations are accessible from the Mount Zion campus site via Muni or UCSF shuttles, and Golden Gate Transit riders can walk to the nearest stop, located on Geary Boulevard and Divisadero Street.

Less than 70 additional regional transit trips are expected during each AM and PM peak hours. This increase would not require the expansion of regional transit service or facilities; therefore the new regional transit trips generated by the LRDP would result in a less-than-significant impact.
4.3.3.3 UCSF Shuttle

UCSF shuttle service operations summarized in Chapter 2 will continue to serve the Mount Zion campus site. The LRDP does not propose specific changes to shuttle service headways, although UCSF Transportation Services may change headways based on shifting shuttle demand as LRDP projects are constructed and occupied at each respective campus site.

An additional approximately 30 AM and PM peak hour shuttle person trips, an approximately 40 percent increase during both peak hours are anticipated through the LRDP horizon year.

This increased ridership would require an additional two shuttles during the AM and PM peak hours to the Mount Zion Campus Site. As described in Section 4.3.3.1, UCSF Transportation Services would monitor shuttle conditions to ensure the shuttle loading zone would be adequate to accommodate the additional service and that the shuttle service would not conflict with Muni operations.

The increased shuttle trips would not require the expansion of UCSF shuttle service or facilities beyond what would be expected through the regular monitoring by UCSF Transportation Services, nor would the increased shuttle demand cause a substantial conflict among autos, bicyclists, pedestrians, and transit vehicles. Therefore, the new UCSF shuttle trips generated by the LRDP would result in a less-than-significant impact.
4.3.4 Mission Center

The increase in Mission Center campus site peak hour transit trips generated by the LRDP are described in Table 4-16. These net new peak hour transit trips are expected to use a combination of local and regional transit services and UCSF shuttle service.

<table>
<thead>
<tr>
<th>Transit Route</th>
<th>AM Peak Hour</th>
<th></th>
<th>PM Peak Hour</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In</td>
<td>Out</td>
<td>Total(^1)</td>
<td>In</td>
</tr>
<tr>
<td><strong>SF Muni</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9/L San Bruno/Limited</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>12 Folsom/Pacific</td>
<td>10</td>
<td>0</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>14/L Mission/Limited</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>22 Fillmore</td>
<td>7</td>
<td>0</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>27 Bryant</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>33 Stanyan</td>
<td>6</td>
<td>0</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>47 Van Ness</td>
<td>7</td>
<td>0</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>49 Mission/Van Ness</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td>38</td>
<td>0</td>
<td>38</td>
<td>0</td>
</tr>
<tr>
<td><strong>BART</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eastbound</td>
<td>12</td>
<td>0</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>Southbound</td>
<td>12</td>
<td>0</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td>24</td>
<td>0</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td><strong>Caltrain</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southbound</td>
<td>6</td>
<td>0</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td>6</td>
<td>0</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td><strong>SamTrans</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Route 292</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td><strong>Golden Gate Transit</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northbound</td>
<td>4</td>
<td>0</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td>4</td>
<td>0</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td><strong>UCSF Shuttle</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All Mission Center Shuttles</td>
<td>31</td>
<td>0</td>
<td>31</td>
<td>1</td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td>31</td>
<td>0</td>
<td>31</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>105</td>
<td>0</td>
<td><strong>105</strong></td>
<td>2</td>
</tr>
</tbody>
</table>

Notes:
1. Peak hour trips account for external trips only. Some transit users may use multiple transit modes on a single trip (e.g. BART + Muni, AC Transit + Muni, Muni + UCSF Shuttle, etc.). The table accounts for the total number of trips on each system, therefore transfer trips are counted multiple times.

Source: Adavant Consulting, 2014

As shown in Table 4-16, approximately 100 net new transit trips are expected during the AM and PM peak hour. About 35-percent of transit users will use SF Muni, 30 percent will use UCSF shuttles, and 25-percent will use BART to commute to and from the campus site, while the remaining 10-percent of transit users will use AC Transit, Caltrain, SamTrans, or Golden Gate Transit.
4.3.4.1 SF Muni

As presented in Table 2-28, existing Muni stops are located within a half-mile of the campus site and are accessible by walking. As described in Chapter 2, the TEP proposes several changes on routes adjacent to the Mission Center campus site. The 9L San Bruno Limited, 14/14L Mission Limited, and 22 Fillmore will reduce peak period headways. The 12 Folsom/Pacific will be discontinued though a majority of the route will be served by rerouting the 27 Bryant and the new 11 Downtown Connector. In addition to increasing peak period headways, the 22 Fillmore will be rerouted to continue along 16th Street, connecting to Mission Bay. The TEP does not propose any change to transit stop locations within the study area.

The Muni trips as assigned in Table 4-16 were added to the load of the lines that serve the campus site at their maximum load point. Table 4-17 shows the capacity utilization for the transit routes with the LRDP-generated transit trips added to them to reflect the Existing Plus LRDP scenario.

<table>
<thead>
<tr>
<th>TABLE 4-17: TRANSIT CAPACITY UTILIZATION – MISSION CENTER</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Direction</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>AM Peak Hour</strong></td>
</tr>
<tr>
<td>9 – San Bruno</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>9L – San Bruno Limited</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>12 – Folsom/Pacific</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>14 – Mission</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>14L – Mission Limited</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>22 – Fillmore</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>27 – Bryant</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>33 – Stanyan</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>47 – Van Ness</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>49 – Mission/Van Ness</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>PM Peak Hour</strong></td>
</tr>
<tr>
<td>9 – San Bruno</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>9L – San Bruno Limited</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>12 – Folsom/Pacific</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>14 – Mission</td>
</tr>
</tbody>
</table>
### TABLE 4-17: TRANSIT CAPACITY UTILIZATION – MISSION CENTER

<table>
<thead>
<tr>
<th>Direction</th>
<th></th>
<th>Existing</th>
<th>Existing Plus LRDP</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Outbound</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14L – Mission Limited</td>
<td>Outbound</td>
<td>360</td>
<td>752</td>
<td>48%</td>
<td>1</td>
<td>361</td>
<td>48%</td>
</tr>
<tr>
<td></td>
<td>Inbound</td>
<td>293</td>
<td>627</td>
<td>47%</td>
<td>0</td>
<td>293</td>
<td>47%</td>
</tr>
<tr>
<td></td>
<td>Outbound</td>
<td>427</td>
<td>627</td>
<td>68%</td>
<td>1</td>
<td>428</td>
<td>68%</td>
</tr>
<tr>
<td>Inbound</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22 – Fillmore</td>
<td>Inbound</td>
<td>323</td>
<td>473</td>
<td>65%</td>
<td>6</td>
<td>314</td>
<td>66%</td>
</tr>
<tr>
<td></td>
<td>Outbound</td>
<td>308</td>
<td>473</td>
<td>65%</td>
<td>6</td>
<td>314</td>
<td>66%</td>
</tr>
<tr>
<td>27 – Bryant</td>
<td>Inbound</td>
<td>160</td>
<td>252</td>
<td>63%</td>
<td>0</td>
<td>160</td>
<td>63%</td>
</tr>
<tr>
<td></td>
<td>Outbound</td>
<td>116</td>
<td>252</td>
<td>63%</td>
<td>3</td>
<td>119</td>
<td>47%</td>
</tr>
<tr>
<td>33 – Stanyan</td>
<td>Inbound</td>
<td>156</td>
<td>252</td>
<td>62%</td>
<td>0</td>
<td>156</td>
<td>62%</td>
</tr>
<tr>
<td></td>
<td>Outbound</td>
<td>132</td>
<td>252</td>
<td>52%</td>
<td>6</td>
<td>138</td>
<td>55%</td>
</tr>
<tr>
<td>47 – Van Ness</td>
<td>Inbound</td>
<td>276</td>
<td>378</td>
<td>73%</td>
<td>0</td>
<td>276</td>
<td>73%</td>
</tr>
<tr>
<td></td>
<td>Outbound</td>
<td>258</td>
<td>378</td>
<td>68%</td>
<td>7</td>
<td>265</td>
<td>70%</td>
</tr>
<tr>
<td>49 – Mission/Van Ness</td>
<td>Inbound</td>
<td>353</td>
<td>705</td>
<td>50%</td>
<td>0</td>
<td>353</td>
<td>50%</td>
</tr>
<tr>
<td></td>
<td>Outbound</td>
<td>375</td>
<td>705</td>
<td>53%</td>
<td>1</td>
<td>376</td>
<td>53%</td>
</tr>
</tbody>
</table>

**Note:** Pass. = Passenger; Util. = Utilization  
**Bold:** > % 85 Capacity Utilization  
**Source:** Adavant Consulting, Fehr & Peers, 2014

The estimated number of LRDP-generated Muni trips represents less than five percent increase in ridership on any Muni line in the vicinity of the Mission Center campus site, which would not require the expansion of transit service or facilities. As described in Section 1.2.6, as a matter of course in managing campus operations, UCSF monitors transportation conditions at all campus sites, and, in relation to the proposed 2014 LRDP, would continue to do so in particular at the four UCSF campus sites where development is proposed. Similar to the Parnassus Heights Campus Site, UCSF would monitor vehicle traffic conditions, transit operations, and shuttle ridership within and surrounding the Mission Center Campus Site.

Should the need for additional shuttle service be triggered by increased ridership due to shifts in travel mode or demand generated by the LRDP, UCSF Transportation Services would first review that the additional service would not negatively affect Muni operations. Once implemented, the additional service would be monitored to the same standard as that identified above. Further, should conflicts between shuttle service and Muni service arise, UCSF Transportation Services would coordinate with SFMTA staff to resolve these conflicts and ensure UCSF shuttles do not negatively affect Muni operations. Additionally, none of the specific proposals of the LRDP would reduce access to or reconfigure transit stops in a way that would degrade transit service to the campus site; therefore the new transit trips generated by the LRDP would result in a **less-than-significant impact**.

### 4.3.4.2 Regional Transit Service

In addition to Muni service, Mission Center staff, patrons and students are anticipated to continue to use BART, AC Transit, Caltrain, SamTrans, and Golden Gate Transit for regional transit service through the LRDP horizon year. Regional service stations are likely to remain at existing locations, over half a mile away, and can be accessed by other transit modes such as SF Muni and the UCSF shuttle and by walking in the case of the 16th Street BART.
Less than 40 additional regional transit trips are expected during each AM and PM peak hours. This increase would not require the expansion of regional transit service or facilities; therefore the new regional transit trips generated by the LRDP would result in a less-than-significant impact.

4.3.4.3 UCSF Shuttle

UCSF shuttle service operations summarized in Chapter 2 will continue to serve the Mission Center campus site. With the LRDP, the shuttle stop and loading area will be shifted to 15th Street, just east of the vehicle access point. The proposed shuttle loading areas should accommodate two shuttles loading at one time. The new shuttle stop would displace three on-street spaces with parking meters. The LRDP does not propose specific changes to shuttle service headways, although UCSF Transportation Services may change headways based on shifting shuttle demand as LRDP projects are constructed and occupied at each respective campus site.

An additional approximately 30 AM and PM peak hour shuttle person trips, an approximately 60 percent increase during both peak hours are anticipated through the LRDP horizon year. This increased ridership would require an additional two shuttles during the AM and PM peak hours to the Mission Bay Campus Site. As described in Section 4.3.4.1, UCSF Transportation Services would monitor shuttle conditions to ensure the shuttle loading zone would be adequate to accommodate the additional service and that the shuttle service would not conflict with Muni operations.

The increased shuttle trips would not require the expansion of UCSF shuttle service or facilities beyond what would be expected through the regular monitoring by UCSF Transportation Services, nor would the increased shuttle demand cause a substantial conflict among autos, bicyclists, pedestrians, and transit vehicles. Therefore, the new UCSF shuttle trips generated by the LRDP would result in a less-than-significant impact.

4.4 PEDESTRIAN IMPACTS

LRDP horizon pedestrian trips were estimated based on existing travel surveys of UCSF staff and visitors as described in Chapter 3. Pedestrian trips generated by the four UCSF campus sites would include walk trips to and from nearby residences, commercial uses, and local and regional transit stops. The sections below describe the proposed modifications to pedestrian facilities surrounding the campus sites, estimated peak hour pedestrian trips, and potential conflicts to pedestrian circulation associated with each campus site.

As part of the LRDP, UCSF would design new buildings to ensure that the ground floor frontage and public realm elements do not impact the pedestrian environment. Buildings would be assessed based on their retail uses, useable open space, and active building entries to ensure they are oriented toward the sidewalk or pedestrian plazas to create a compelling public realm and promote walking as a form of travel.

4.4.1 Parnassus Heights

UCSF proposes a variety of improvements to pedestrian and transit facilities at the campus site. The Parnassus Avenue Streetscape Plan proposes to make crossing Parnassus Avenue safer and more convenient for pedestrians, reorganize and improve transit and UCSF shuttle operations, create more
usable outdoor space, and enhance the public realm. Specific improvements may include new paving, street furniture, lighting, and street trees, as well as sidewalk and crosswalk widening and better defined campus site gateways. The *Parnassus Avenue Streetscape Plan* also proposes to modify the existing UCSF shuttle stops from the gateways of the campus site to a central location fronting the campus library in the westbound direction and the Clinical Sciences Building in the eastbound direction. The improvements would occur in phases starting on the south side of Parnassus Avenue, at the west end at Fifth Avenue, and move through the core of the campus site and along the front of the New Hospital Addition, finishing at Medical Center Way. In addition to the *Streetscape Plan*, the LRDP proposes to construct new trails in the Mount Sutro Open Space Reserve.

The LRDP would add approximately 210 pedestrian trips to the surrounding streets (including 40 walk trips and 170 transit-access trips) during the AM peak hour and approximately 190 pedestrian trips (including 30 walk trips and 160 transit-access trips) during the PM peak hour. Pedestrian trips would primarily use Parnassus Avenue and Carl-Irving Streets to travel to the surrounding residential neighborhoods or to the commercial areas in the Inner Sunset and Cole Valley. LRDP-generated transit trips will begin as pedestrian trips traveling to the nearest Muni or UCSF shuttle stops. Most transit riders would use the Muni and UCSF shuttle stops within the campus site on Parnassus Avenue and Carl Street. Other transit riders would walk along Parnassus Avenue or Irving Street to Muni stops on Ninth Avenue and Lincoln Way.

The *Parnassus Avenue Streetscape Plan* proposes to consolidate the existing Muni bus stops along Parnassus Avenue through the Parnassus Heights campus site. The bus stops would be consolidated from three stops in each direction between Fourth and Hillway avenues to two stops. At Fourth Avenue, the eastbound bus stop is proposed as a far-side stop with a 60 foot bus bulb. No modification is proposed for the existing westbound near-side stop. At Hillway Avenue, both the eastbound and westbound bus stops are proposed to be far-side stops with 60 foot bus bulbs. These changes would improve transit travel times through the campus by reducing the number of stops buses would need to make. Although these changes would require some pedestrians to potentially travel a slightly greater distance to reach a transit stop, they would not impact pedestrian access as the stop spacing would still be far below the established standards.

The proposed UCSF shuttle stop changes would shift shuttle riders to the new shuttle stops located at the campus library in the westbound direction and the Clinical Sciences building in the eastbound direction. Proposed changes to buildings along Parnassus Avenue would likely shift some pedestrian traffic to the New Hospital Addition near Hillway Avenue and to the potential future housing at Parnassus and Fifth

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12 Transit access trips for the pedestrian impact discussion are calculated based on the daily trip generation presented in Table 3-3 and the AM and PM peak hour percentage of daily trips presented in Table 3-13. These are different from the total transit trips presented in Section 4.3 as the transit impact analysis double counts the riders who use multiple transit modes on a single trip (e.g. BART+Muni, AC Transit+Muni, Muni+UCSF Shuttle, etc.).

13 The SFMTA’s stop spacing policy is that bus stops should be: between 800 and 1,000 feet on grades less than 10 percent; between 500 and 600 feet on grades between 10 and 15 percent; and between 300 and 400 feet on grades greater than 15 percent. The existing distance between the two stops is relatively small at approximately 500 feet. A pedestrian emerging from a building between these stops would have a maximum walking distance of approximately 250 feet. After the stop consolidation, the maximum walking distance to the Hillway Avenue stops would only increase to approximately 550 feet which is well within the established threshold. The stops to the east of the Hillway Avenue stops are approximately 600 feet away, but this distance would not be affected by the proposal.
avenues. The proposed streetscape plan would accommodate the new pedestrian trips generated by the LRDP in addition to the shifts in pedestrian traffic that would occur in the future. Overall, the LRDP would improve pedestrian accessibility on the campus site frontage through the Parnassus Avenue Streetscape Plan and new trails in the Reserve. The immediate area surrounding the Parnassus Heights campus site includes robust pedestrian facilities that provide access to nearby neighborhoods, commercial uses, and transit stops. The LRDP would not create substantial conflicts between pedestrians and autos, bicyclists, or transit vehicles. Therefore, the LRDP’s impact to pedestrian circulation and facilities at the Parnassus Heights campus site would be less than significant.

4.4.2 Mission Bay

The LRDP proposes the extension of several streets through the campus site including Nelson Rising Lane east of Fourth, Fifth, and Sixth streets south of Mission Bay Boulevard South, and Owens Street south of 16th Street. These streets would be designed with sidewalks, curb cuts, and crosswalks that minimize conflicts between vehicles and pedestrians and meet San Francisco’s Better Streets Plan standards. In addition to these street extensions, UCSF is upgrading existing sidewalks along 16th Street and constructing a new public pedestrian plaza on Fourth Street between 16th and Mariposa streets in coordination with on-going construction. Beyond the campus site, no improvements to the pedestrian facilities in the area are proposed.

The LRDP would add approximately 2,840 pedestrian trips to the streets surrounding the Mission Bay campus site (including 500 walk trips and 2,340 transit-access trips) during the AM peak hour and approximately 2,440 pedestrian trips (including 430 walk trips and 2,010 transit-access trips) during the PM peak hour. The new pedestrian trips would be distributed throughout the North, South, and East Campuses, along the many roadways and pedestrian alleyways crossing through the campus site. Pedestrian trips leaving the campus site to residential and commercial destinations would primarily occur along 16th and Mariposa streets to the west, along Third and Minnesota streets to the south, and along Third, Fourth, and Seventh streets to the north. Muni transit riders would travel along Third Street to the T Third Street light rail line stops on Third Street and Gene Friend Way or Mariposa Street, and along 16th and Connecticut streets to the 22 Fillmore stop at 18th and Connecticut streets. Caltrain riders would travel north along Fourth Street to the station at Fourth and King streets. UCSF shuttle riders would stay within the campus site and use shuttle stops located on Fourth or Owens streets, MBTMA shuttle riders would walk to shuttle stops along Owens Street and Mission Bay Boulevard South.

As described in Section 4.3, the TEP proposes several changes on routes traversing through and within the vicinity of the Mission Bay campus site. The proposed Muni route 55 and changes to the 22 Fillmore would extend Muni service along 16th Street to proposed stops on 16th Street within the campus site. The TEP would change the 10 Townsend to the 10 Sansome and modify this route to travel through Mission Bay along Mission Bay Boulevard to Seventh Street. These proposed changes would shorten the walking distance for transit riders and reduce travel time to the transit stops for each of these routes. Although pedestrian volumes are currently relatively low due to the developing nature of the Mission Bay neighborhood, existing pedestrian facilities are designed to accommodate higher pedestrian volumes than the LRDP would generate in the future, including the 12 to 15 foot wide sidewalks and crosswalks.

The immediate area surrounding the Mission Bay campus site includes existing or proposed pedestrian facilities that provide access to nearby neighborhoods, commercial uses, and transit stops. The LRDP would not create substantial conflicts between pedestrians and autos, bicyclists, or transit vehicles.
Therefore, the LRDPs impact to pedestrian circulation and facilities at the Mission Bay campus site would be less than significant.

4.4.2.1 LRDP Variant

Pedestrian conditions associated with the LRDP Variant would be similar to those described above for the 2014 LRDP. Under the LRDP Variant, the Mission Bay campus site would generate slightly more pedestrian trips than the 2014 LRDP. The increase in pedestrian trips would be commensurate with the percentage increase in new peak hour vehicle trips generated by the 2014 LRDP plan for the Mission Bay campus site. The LRDP Variant does not propose changes to the pedestrian environment compared to the 2014 LRDP. Similar to the 2014 LRDP, the LRDP Variant would not create substantial conflicts between pedestrians and autos, bicyclists, or transit vehicles. Therefore, the LRDP Variant's impact to pedestrian circulation and facilities at the Mission Bay campus site would be less than significant. Mount Zion

The LRDP does not propose changes to pedestrian amenities or introduce new conflicts to the pedestrian network surrounding the Mount Zion campus site. Pedestrian access to the Mount Zion campus site would remain similar to the existing configuration. Overall, the LRDP would not change pedestrian accessibility on the campus site frontage. Further, the LRDP would not conflict with proposed changes to Geary Boulevard to accommodate BRT service.

The LRDP would add approximately 250 pedestrian trips to the streets surrounding the Mount Zion campus site (including 40 walk trips and 210 transit-access trips) during the AM peak hour and approximately 140 pedestrian trips (including 40 walk trips and 100 transit-access trips) during the PM peak hour. Pedestrian trips would primarily use Divisadero Street to access nearby commercial uses and distribute across the grid street network to access the surrounding residential neighborhoods in Pacific Heights and the Western Addition. LRDP-generated transit trips will begin as pedestrian trips traveling to the Muni and Golden Gate Transit stops on Divisadero Street, Sutter Street, Geary Boulevard, or California Street. Most pedestrians will travel along Divisadero Street to these transit stops including the proposed Geary BRT stop located at Geary Boulevard and Divisadero Street. The TEP does not propose any changes to transit stop locations within the study area. UCSF shuttle riders will walk to the stop located within the center of the campus site on Sutter Street between Divisadero and Scott streets. Existing pedestrian facilities adequately accommodate existing pedestrian volumes and overcrowding is not expected to occur due to the LRDP.

The immediate area surrounding the Mount Zion campus site includes robust pedestrian facilities that provide access to nearby neighborhoods, commercial uses, and transit stops. The LRDP would not create substantial conflicts between pedestrians and autos, bicyclists, or transit vehicles. Therefore, the LRDP’s impact to pedestrian circulation and facilities at the Mount Zion campus site would be less than significant.

4.4.3 Mission Center

The LRDP does not propose changes to pedestrian amenities or introduce new conflicts to the pedestrian network surrounding the Mission Center campus site. Pedestrian access to the Mission Center campus site would remain similar to the existing configuration. Overall, the LRDP would not change pedestrian accessibility on the campus site frontage.
The LRDP would add approximately 100 pedestrian trips to the streets surrounding the Mission Center campus site (including 10 walk trips and 90 transit-access trips) during the AM peak hour and approximately 90 pedestrian trips (including 10 walk trips and 80 transit-access trips) during the PM peak hour. Pedestrian trips would primarily use 15th Street to access the surrounding street grid network and connect to residential and commercial neighborhoods in Mission and SoMa. LRDP-generated transit trips will begin as pedestrian trips traveling along 15th, 16th, Folsom, and Harrison streets to the nearest BART Station at 16th and Mission streets, and Muni bus routes on Mission Street, Folsom Street, 16th Street, or 11th Street.

The TEP would discontinue the 12 Folsom/Pacific and replace it with the 27 Bryant adjacent to the campus site. The TEP does not propose any change to transit stop locations within the study area. The LRDP proposes to relocate the current UCSF shuttle stop from the parking lot to the north side of 15th Street midblock. This relocated shuttle stop, and the UCSF shuttle riders, is not expected to hinder pedestrian mobility on 15th Street as the 15 foot wide sidewalks could handle the expected pedestrian traffic. Existing pedestrian facilities surrounding the Mission Center campus site adequately accommodate existing pedestrian volumes and overcrowding is not expected to occur due to the LRDP.

The immediate area surrounding the Mission Center campus site includes robust pedestrian facilities that provide access to nearby neighborhoods, commercial uses, and transit stops. The LRDP would not create substantial conflicts between pedestrians and autos, bicyclists, or transit vehicles. Therefore, the LRDP’s impact to pedestrian circulation and facilities at the Mission Center campus site would be less than significant.
4.5 BICYCLE IMPACTS

LRDP horizon bicycle trips were estimated based on existing travel surveys of UCSF staff and visitors as described in Chapter 3. Bicycle trips generated by the four UCSF campus sites would include trips to and from nearby residences and commercial uses. The sections below describe the estimated peak hour bicycle trips, proposed bicycle parking expansion, and potential conflicts to bicycle circulation associated with each campus site.

4.5.1 Parnassus Heights

As discussed in Chapter 2, the area around the Parnassus Heights campus site has a number of streets with bicycle lanes and streets designated as bicycle routes, including Parnassus Avenue, Kirkham Street, Sixth Avenue, and Seventh Avenue. In addition, there are several Class I bicycle paths and Class III routes in nearby Golden Gate Park. The Parnassus Heights campus site is within convenient bicycling distance of residential and commercial areas in the Sunset, Richmond, and Haight neighborhoods and many other neighborhoods to the east via the Golden Gate Park Panhandle and "Wiggle" bicycle route. Within the campus site, The Parnassus Avenue Streetscape Plan proposes to convert the current Class III bicycle lane to a Class II bicycle lane on steep portion of Parnassus Avenue, from Fifth Avenue to Third Avenue. The SF Bike Plan does not include any short- or long-term improvements in the study area.

The LRDP is expected to increase bicycle demand in the area by approximately 20 new trips during both the AM and PM peak hours. These trips would primarily occur on designated bicycle facilities in addition to other popular routes such as Irving and Carl streets, which connect to surrounding neighborhoods through the San Francisco Bike Route network. The increased bicycle demand would be accommodated at the campus site through additional bicycle parking provided as a part of UCSF’s TDM program. In the near-term, UCSF plans to add one new bicycle cage and 20 new bicycle racks at the Parnassus Heights Campus Site. This would increase bicycle parking capacity and generally improve bicycle conditions on the campus site.

The expected increase in bicycle traffic would not represent a level that adversely affects bicycle facilities on the campus site, nor would the LRDP create substantial conflicts between bicyclists and pedestrians, autos, or transit vehicles. Thus, the LRDP’s impact to bicycle facilities and circulation at the Parnassus Heights campus site would be considered less than significant.

4.5.2 Mission Bay

As discussed in Chapter 2, the area around the Mission Bay campus site has a number of streets with bicycle lanes and streets designated as bicycle routes, including King Street, 16th Street, Mariposa Street, Fourth Street, and Seventh Street. The Mission Bay campus site is within convenient bicycling distance of residential and commercial areas in the Mission, Potrero Hill, Dogpatch, South of Market, and other downtown San Francisco neighborhoods. The LRDP does not propose changes to the bicycle circulation network surrounding the Mission Bay campus site. The Bike Plan includes a planned bikeway near/along Mission Creek between Fourth Street and Harrison Street, which is listed as a long-term project in the Bike Plan. In addition, an expansion of the Bay Area Bike Share program is currently being evaluated and could include a new station at Fourth Street near Rock Hall on the Mission Bay campus site. The proposed implementation of this expansion is the fall of 2014.
The LRDP is expected to increase bicycle demand in the area by 276 new trips during the AM peak hour and 214 new trips during the PM peak hour. These trips would primarily occur on the designated bicycle facilities connecting to the campus site, which connect to surrounding neighborhoods through the San Francisco Bike Route network. The increased bicycle demand would be accommodated through the existing on-campus site parking supply in addition to new bicycle parking locations in future buildings and the potential Bay Area Bike Share station. In the near-term, UCSF plans to add one additional bicycle cage and 10 bicycle racks at the Mission Bay Campus Site. This would increase bicycle parking capacity and generally improve bicycle conditions on the campus site.

The expected increase in bicycle traffic would not represent a level that adversely affects bicycle facilities on the campus site, nor would the LRDP create substantial conflicts between bicyclists and pedestrians, autos, or transit vehicles. Thus, the LRDP’s impact to bicycle facilities and circulation at the Mission Bay campus site would be considered less than significant.

4.5.2.1 LRDP Variant

Bicycle conditions associated with the LRDP Variant would be similar to those described above for the 2014 LRDP. Under the LRDP Variant, the Mission Bay campus site would generate slightly more bicycle trips than the 2014 LRDP. The increase in bicycle trips would be commensurate with the percentage increase in new peak hour vehicle trips generated by the 2014 LRDP plan for the Mission Bay campus site. The LRDP Variant does not propose changes to the bicycle environment compared to the LRDP. Similar to the 2014 LRDP, the expected increase in bicycle traffic would not represent a level that adversely affects bicycle facilities on the campus site, nor would the LRDP Variant create substantial conflicts between bicyclists and pedestrians, autos, or transit vehicles. Thus, the LRDP Variant’s impact to bicycle facilities and circulation at the Mission Bay campus site would be considered less than significant.

4.5.3 Mount Zion

As discussed in Chapter 2, the area around the Mount Zion campus site has several streets with bicycle lanes and streets designated as bicycle routes, including Post Street and Clay Street. The Mount Zion campus site is within convenient bicycling distance of residential and commercial areas in the Western Addition, Pacific Heights, and other downtown San Francisco neighborhoods. The LRDP does not propose changes to the bicycle circulation network surrounding the Mount Zion campus site. The SF Bike Plan does not include any short- or long-term improvements in the study area.

The LRDP is expected to slightly increase bicycle demand in the area, including approximately 20 new trips during the AM peak hour and 10 new trips during the PM peak hour. These trips would primarily occur on the designated bicycle facilities connecting to the campus site, which connect to surrounding neighborhoods through the San Francisco Bike Route network. The increased bicycle demand would be accommodated through the existing on-campus site parking supply in addition to new bicycle parking provided as a part of UCSF’s TDM program. In the near-term, UCSF plans to add eight additional bicycle racks at the Mount Zion Campus Site. This would increase bicycle parking capacity and generally improve bicycle conditions on the campus site.

The expected increase in bicycle traffic would not represent a level that adversely affects bicycle facilities on the campus site, nor would the LRDP create substantial conflicts between bicyclists and pedestrians, autos, or transit vehicles. Thus, the LRDP’s impact to bicycle facilities and circulation at the Mount Zion campus site would be considered less than significant.
4.5.4 Mission Center

As discussed in Chapter 2, the area around the Mission Center campus site has a number of streets with bicycle lanes and streets designated as bicycle routes, including Folsom Street, Harrison Street, 17th Street, 14th Street, and 11th Street. The Mission Center campus site is within convenient bicycling distance of residential and shopping areas in the Mission, South of Market, and other downtown San Francisco neighborhoods. The LRDP does not propose changes to the bicycle circulation network surrounding the Mission Center campus site. The SF Bike Plan includes planned short-term improvements to add bicycle lanes from Ninth Street to 11th Street for Bicycle Route 25 on Howard Street.

As noted in Section 2.6.6, parcel delivery vehicles occasionally block the northbound bicycle lane on Folsom Street in front of the Mission Center campus site due to the lack of a curbside loading zone. Folsom Street is a popular bicycle route to Downtown San Francisco and bicyclists currently must pass the loading vehicles in the vehicle travel lane. While this is not considered a significant impact, the following Improvement Measure has been identified:

**Improvement Measure IM-TR-2: Add Curbside Loading Zone on Folsom Street**

UCSF could work with the SFMTA to add a curbside loading zone on Folsom Street, adjacent to the existing Mission Center building. A 50 foot loading zone would require the removal of approximately two parking spaces on Folsom Street. This loading zone will improve conditions for bicyclists whom may have their path currently blocked due to vehicles loading in the northbound bicycle lane.

The LRDP is expected to slightly increase bicycle demand in the area, including approximately 15 new trips during both the AM and PM peak hours. These trips would primarily occur on the designated bicycle facilities connecting to the campus site, which connect to surrounding neighborhoods through the San Francisco Bike Route network. The increased bicycle demand would be accommodated through the existing on-site bike parking supply in addition to any new bicycle parking provided as a part of UCSF’s TDM program. In the near-term, UCSF plans to add four new bicycle racks at the Mission Center Campus Site. This would increase bicycle parking capacity and generally improve bicycle conditions on the campus site.

The LRDP proposes to reconfigure vehicle access to the campus site by designating the Harrison Street driveway to inbound only and the 15th Street driveway to outbound only. This reconfigured access, in addition to the increase in vehicle trips described in Section 4.2, would increase the number of conflicts between vehicles and bicycles using the Harrison Street Class II bicycle lanes. As noted Section 2.6.5, Harrison Street adjacent to the campus site is a popular bicycling route to and from Downtown San Francisco. While this is not considered a significant impact, the following Improvement Measure has been identified:

**Improvement Measure IM-TR-3: Implement High-Visibility Bicycle Lanes on Harrison Street**

UCSF could work with the SFMTA to implement measures to increase the visibility of southbound bicyclists for vehicles entering the Mission Center campus site from Harrison Street. This could include implement high-visibility green skip striping across the conflict zone in front of the Mission Center campus site driveway along Harrison Street.
The expected increase in bicycle traffic would not represent a level that adversely affects bicycle facilities in the area. With the proposed Improvement Measures in place, the LRDP would not create substantial conflicts between bicyclists and pedestrians, autos, or transit vehicles. Thus, the LRDP’s impact to bicycle facilities and circulation at the Mission Center campus site would be considered *less than significant*.
4.6 LOADING IMPACTS

4.6.1 Commercial Loading

The San Francisco Planning Code requires that land uses, such as medical offices and hospitals, provide off-street loading spaces according to the following schedule shown in Table 4-15.

<table>
<thead>
<tr>
<th>Use or Activity</th>
<th>Gross Floor Area of Structure or Use (sq. ft.)</th>
<th>Number of Off-Street Freight Loading Spaces Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retail stores, wholesaling, manufacturing, live/work units in newly constructed structures, and all other uses primarily engaged in the handling of goods.</td>
<td>0 - 10,000</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>10,001 - 60,000</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>60,001 - 100,000</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>over 100,000</td>
<td>3 plus 1 for each additional 80,000 sq. ft.</td>
</tr>
<tr>
<td>Offices, hotels, apartments, live/work units not included above, and all other uses not included above</td>
<td>0 - 100,000</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>100,001 - 200,000</td>
<td>1</td>
</tr>
<tr>
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<td>200,001 - 500,000</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>over 500,000</td>
<td>3 plus 1 for each additional 400,000 sq. ft.</td>
</tr>
</tbody>
</table>

Source: San Francisco Planning Code Section 152.1, Fehr & Peers, 2014

Loading supply was estimated based on the criteria above. Table 4-19 shows the existing and future loading requirements from Table 152 of the San Francisco Planning Code Article 1.5, Section 150 for the four UCSF campus sites. As shown, the existing and proposed loading supply exceeds the code at each of the campus sites.

While Table 4-19 shows that the existing loading supply does not meet the LRDP horizon year required loading supply, it should be noted that the UCSF campus sites are unique, and their loading demands, and thus supply should be monitored over time to ensure that an appropriate amount of supply is provided at each campus site.

The demand for loading spaces through the LRDP horizon year was described in Chapter 3, and was calculated based on surveys from the Parnassus Heights campus site and methods described in the SF Guidelines. It is expected that the estimated LRDP supply should be adequate for the estimated demand, however, as mentioned above, the campus sites are unique and should be monitored over time. Commercial loading conditions for the 2014 LRDP and LRDP Variant is considered a less-than-significant impact if UCSF continues to monitor loading operations and provide appropriate supply.
TABLE 4-19: EXISTING AND FUTURE LOADING REQUIREMENTS – ALL CAMPUSES

<table>
<thead>
<tr>
<th>Campus</th>
<th>Loading Spaces (Truck/Freight)</th>
<th>Building Size (Goods Handling)</th>
<th>Building Size (Other)</th>
<th>Off-Street Loading Requirements</th>
<th>Total Required Minus Existing Supply</th>
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</thead>
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<tr>
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<tr>
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</tr>
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<td>46,825</td>
<td>1,879,875</td>
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<td>7</td>
</tr>
<tr>
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<td>4,325</td>
<td>771,875</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Mission Center</td>
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<td>288,675</td>
<td>0</td>
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</tr>
<tr>
<td>Subtotal</td>
<td>24</td>
<td>89,875</td>
<td>6,205,525</td>
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<td>23</td>
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<tr>
<td>Future</td>
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<tr>
<td>Parnassus Heights</td>
<td>11</td>
<td>35,230</td>
<td>3,440,247</td>
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<tr>
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<td>944,424</td>
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<td>Mission Center</td>
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<td>Subtotal</td>
<td>24</td>
<td>109,558</td>
<td>9,345,748</td>
<td>3</td>
<td>32</td>
</tr>
</tbody>
</table>

Notes:
1. Assumes 25% of Campus Community is considered “Goods Handling” per San Francisco Planning Code Section 152.1. Remaining GSF uses “Other” criteria.

Source: UCSF, Fehr & Peers, 2014

4.6.2 Passenger Loading/Unloading

This section describes the LRDP passenger loading impacts. As presented in Chapter 3, the LRDP would add approximately 310 and 250 total passenger loading trips during the AM and PM peak hours, respectively at the four campus sites. This represents an approximate growth of 50-percent during the peak hours. Figure 4-5 through Figure 4-8 show the LRDP proposed parking and loading locations.

The SF Guidelines methodology in which peak hour loading arrivals is converted into passenger car equivalents, then compared to supply was used in order to determine whether additional loading areas were recommended at each campus site with the LRDP in place. The analysis, as summarized in Table 4-20 relies on passenger loading demand at each campus site from Table 3-34 and the existing passenger loading supply at each campus site, as presented in Chapter 2.
Figure 9: Parnassus Heights Proposed Parking & Loading Plan

Figure 4-5

Proposed Parking & Loading Plan - Parnassus Heights
Proposed Parking & Loading Plan - Mount Zion

1. 2420 Sutter St Garage (Owned)
2. 1701 Divisadero Garage (Owned)
3. Scott/Bush Lot (Owned)
4. 2325 Post St Garage/Osher (Owned)
5. 2300 Sutter St Garage (Non-UCSF Public Parking)
6. 2355 Post St Lot (Non-UCSF Public Parking)
7. 2186 Geary Blvd Lot (Non-UCSF Public Parking)
8. 2120 Geary Blvd Lot (Non-UCSF Public Parking)
9. 1550 Scott Lot (Non-UCSF Public Parking)

- Loading/Service Area
- Passenger Loading
MISSION CENTER BUILDING
SITE FOR NEW BUILDING AND PARKING GARAGE

Main Entrances
Bicycle Parking
Loading/Service Area
Passenger Loading
Main Entrances

Figure 23: Mission Center Building Proposed Plan

Figure 4-8
Proposed Parking & Loading Plan - Mission Center
TABLE 4-20: ESTIMATED PASSENGER LOADING ZONE LENGTH

<table>
<thead>
<tr>
<th>Campus Site</th>
<th>Existing Supply (feet)</th>
<th>Existing Demand1 (feet)</th>
<th>LRDP Horizon Year Demand1 (feet)</th>
<th>Delta (feet)</th>
<th>Additional Required Horizon Year Loading Supply</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AM</td>
<td>PM</td>
<td>AM</td>
<td>PM</td>
<td>AM</td>
</tr>
<tr>
<td>Parnassus Heights</td>
<td>340</td>
<td>460</td>
<td>416</td>
<td>485</td>
<td>25</td>
</tr>
<tr>
<td>Mission Bay</td>
<td>400</td>
<td>110</td>
<td>94</td>
<td>405</td>
<td>348</td>
</tr>
<tr>
<td>Mount Zion</td>
<td>265</td>
<td>193</td>
<td>93</td>
<td>259</td>
<td>125</td>
</tr>
<tr>
<td>Mission Center</td>
<td>25</td>
<td>8</td>
<td>6</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>770</td>
<td>609</td>
<td>1160</td>
<td>923</td>
<td>390</td>
</tr>
</tbody>
</table>

Notes:
1. Demand presented in feet based on methodology presented in SF Guidelines, Vehicular Space Needs for Hotel Guest Loading/Unloading Activities, Appendix D and observations of existing passenger loading activity at the campus sites.
2. Negative values presented as zero.
Source: Fehr & Peers, 2014

4.6.2.1 Parnassus Heights

As shown in Table 4-20, there is an existing deficit of passenger loading supply to accommodate the existing peak hour demand at the Parnassus Heights campus site. This finding is supported by observations made of very active loading areas that on occasion generate queues of vehicles awaiting entry. It should be noted that this deficit appears to be exacerbated during peak times by some vehicles not adhering to all peak hour parking and loading regulations. As part of the LRDP, the Streetscape Plan, which seeks to alleviate parking and loading congestion among other goals will be implemented. In addition to the Parnassus Avenue Streetscape Plan, as part of the New Hospital Addition, a new passenger loading loop, larger than the current Moffitt Loop and sized to compensate for the existing deficit of passenger loading supply, will be designed in coordination with UCSF Transportation Services. The loop will be provided off of Parnassus Avenue in front of the New Hospital Addition.

The combination of the Parnassus Avenue Streetscape Plan and new passenger loading loop at the New Hospital Addition will be sufficient to accommodate the estimated LRDP demand, therefore the LRDP’s impact to passenger loading is considered less than significant.

4.6.2.2 Mission Bay

Table 4-20 shows that the existing passenger loading supply is sufficient for the estimated LRDP loading needs during the PM peak hour and in need of an additional five feet to be sufficient for the AM peak hour. As part of the LRDP, additional passenger loading supply will be implemented in the form of driveway loops in front of the Women’s, Cancer, and Children’s Hospital on the south side of campus, as shown on Figure 4-6. As shown on the figure, visitors and patrons may access the new northern passenger loading loop from Sixteenth Street and the new southern passenger loading loop from Mariposa Street. As described in Chapter 2, existing loading areas provide a sufficient amount of space for passenger and vehicle loading.

233
The combination of the new passenger loading loops at the Women’s, Cancer, and Children’s Hospital and adequate existing supply will be sufficient to accommodate the estimated LRDP demand, therefore the LRDP’s impact to passenger loading is considered less than significant.

4.6.2.2.1 LRDP Variant

Passenger loading conditions associated with the LRDP Variant would be similar to those described above for the 2014 LRDP. Under the LRDP Variant, the Mission Bay campus site would generate slightly more passenger loading trips than the 2014 LRDP. The increase in passenger loading trips would be commensurate with the percentage increase in new peak hour vehicle trips generated by the 2014 LRDP plan for the Mission Bay campus site. If the LRDP Variant at the Mission Bay campus site moves forward to the design phase, passenger loading will be designed to accommodate the loading demand in a similar manner to other zones on the Mission Bay campus site. This passenger loading zone would be subject to review and coordination between the UCSF Transportation Services and the SFMTA. Therefore the LRDP Variant’s impact to passenger loading is considered less than significant.

4.6.2.3 Mount Zion

Table 4-20 shows that the existing passenger loading supply is sufficient for the estimated LRDP loading needs during both the AM and PM peak hours. This is despite an expected increase in peak demand of approximately 60 feet during the AM peak hour and 30 feet during the PM peak hour. As noted in the Section 2.5.6, the loading area fronting the Scott Street facility appears to currently be at capacity, as multiple passenger vehicles were seen occupying metered parking spots. While this is not considered a significant impact, the following Improvement Measure has been identified:

Improvement Measure IM-TR-4: Add Passenger Loading to Scott Street

UCSF could work with the SFMTA to add a curbside passenger loading zone on Scott Street. An additional 50 foot loading zone would require the removal of approximately three metered parking spaces on Scott Street. This loading zone will reduce overflow for passenger loading on Scott Street.

As development of the LRDP proceeds at the campus site, UCSF may work with the SFMTA to further increase the amount of passenger loading supply by converting existing on-street parking meter spaces to passenger loading supply based on need and conditions at the time of development. The existing supply will be sufficient to accommodate the estimated LRDP demand, therefore the LRDP’s impact to passenger loading is considered less than significant.

4.6.2.4 Mission Center

Table 4-20 shows that the existing passenger loading supply is sufficient for the estimated LRDP loading needs during both the AM and PM peak hours. This is despite a marginal expected increase in peak demand of approximately five feet during the AM and PM peak hours.

The existing supply will be sufficient to accommodate the estimated LRDP demand, therefore the LRDP’s impact to passenger loading is considered less than significant.
4.7 PARKING ANALYSIS

The 2014 LRDP parking demand was estimated based on information about existing parking utilization and travel surveys of UCSF staff and visitors as described in Chapter 3. The sections below describe the changes in parking supply and parking utilization for each campus site under the 2014 LRDP buildout.

4.7.1 Changes in Parking Supply

The 2014 LRDP calls for additional parking to be provided on campus sites at Parnassus Heights, Mission Bay, Mount Zion, and Mission Center, as warranted by the proposed development. The precise quantity of any new parking would be determined as projects are proposed. The following list describes the currently proposed changes in parking supply; a quantitative summary is presented in Table 4-21. As shown in the table, the number of parking spaces owned by UCSF at the four campus sites would increase by approximately 4,150 spaces (about 83 percent) by year 2040. The majority of the new parking spaces (3,800) would be provided at the Mission Bay campus site.

Parnassus Heights

- Upon demolition of the Laboratory of Radiobiology building, the remaining surface pad may be improved, then used for approximately 30 contractor-only spaces sometime between 2014 and 2019.
- Upon demolition of the MR 4 building, the remaining lot may be graded and improved and used for approximately 30 contractor-only spaces sometime between 2014 and 2019.
- About 20 parking spaces at the Surge surface lot would be converted from permit holder to contractor-only parking sometime between 2014 and 2019.
- Upon demolition of the Koret Vision building, the remaining surface pad may be improved, then used for approximately 30 contractor-only spaces sometime between 2031 and 2035.

Mission Bay

- The 621-space 10-level garage structure at Owens Street, south of 16th Street, would open for service to the public in February 2015, as Phase One Medical Center becomes operational.
- A new 429-space surface parking lot adjacent to the new Owens Street garage would also be built, which would also open in conjunction with the Phase One Medical Center.
- Approximately 160 existing surface parking spaces located in the North Campus would be eliminated as the existing parking lots are replaced by new buildings.
- A new parking garage would be built on Block 18B in the North Campus containing approximately 1,540 parking spaces. The ground floor of the garage would be sized to accommodate about 60 UCSF shuttle buses.
- About 500 new spaces would be provided within Blocks 33 and 34, east of Third Street.
An expansion of the Owens Street garage would be constructed as part of the Phase Two Medical Center, sometime after 2035, to replace the 429-space Phase One surface lot that would be replaced by new hospital buildings, and to accommodate the additional expected demand. The new structure would be built to the south of the Phase One garage and is planned to be the same size and have the same capacity of the Phase One garage of 621 independently accessible spaces. However, for purposes of a conservative analysis, it is assumed that up to 1,300 spaces could be developed in Phase Two, to account for the potential for valet parking in both the existing and proposed structures.

**Mount Zion**

- A 185-space garage would be constructed as part of a new clinical and/or research building to be located on Scott Street, on the east side of the main block. The parking could be provided in the building, underground, or off-site.

**Mission Center**

- A new UCSF building would be constructed at the existing surface parking lot to the east of the existing Mission Center building. A five-story, approximately 96,000-gsf parking structure would also be built between the existing and new buildings, with up to 294 parking spaces.
As shown in Table 4-21, over 90 percent of the new parking spaces (3,800) to be provided as part of the 2014 LRDP by 2040 would be built at the Mission Bay campus site. This increase is directly related to the expected growth in staff, patients and visitors that would occur at that site. As previously described in Table 3-1, the weekday daily population through the LRDP horizon year/2040 at the Mission Bay campus
site would grow to approximately 22,840 people, over four times the current value. As indicated in Table 4-21, parking supply at the Mission Bay campus site is expected to grow at a lower rate than population, with overall future parking supply representing about 3.4 times the existing number of spaces currently provided on campus.

As shown in Inset 4, UCSF currently provides an average of 0.36 parking spaces per person or 1.14 parking spaces per 1,000 gross square feet of development. These values represent a reduction from previous plans such as the 1996 LRDP and the 1999 Mission Bay Campus Master Plan which called for higher parking supply ratios, based on the information about travel demand patterns that were available at the time. As shown in the figure, under the 2014 LRDP, UCSF would provide an average of 0.22 parking spaces per person or 0.91 parking spaces per 1,000 gross square feet of development, a 20 to 38 percent reduction over current values. These ratios are consistent with those presented in the Mission Bay South Design for Development plan, which calls for an average maximum parking supply ratio of approximately 1.3 spaces per 1,000 gross square feet of Commercial Industrial (including life sciences and biotechnology research) development.

Inset 4: UCSF Mission Bay Campus Site Average Parking Supply Ratios by Scenario

4.7.2 Year 2015 Parking Utilization at Mission Bay

Table 4-22 summarizes the existing and year 2015 off-street parking supply and occupancy at the UCSF parking facilities at the Mission Bay campus site.
### TABLE 4-22: EXISTING AND 2015 OFF-STREET PARKING SUPPLY AND OCCUPANCY AT MISSION BAY

<table>
<thead>
<tr>
<th></th>
<th>Existing</th>
<th>LRDP Peak Parking Demand Growth</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Supply (spaces) 1</td>
<td>Peak Parking Utilization 2</td>
<td>Supply (spaces) 1</td>
</tr>
<tr>
<td>Mission Bay</td>
<td>1,579</td>
<td>85%</td>
<td>1,059</td>
</tr>
</tbody>
</table>

Notes:
1. Off-street parking spaces provided at UCSF garages and surface lots in Mission Bay.
2. Mid-morning to early afternoon, see Table 2-18.
3. Staff, patients and visitor demand.

Source: Advant Consulting, 2014

As shown in Table 4-22, with the opening of Phase One Medical Center and the completion of the Mission Hall Building by 2015, the future parking utilization at the UCSF parking facilities would be below but close to of its maximum capacity, with a potential campus-wide surplus of about 230 spaces.

#### 4.7.3 Year 2040 Parking Utilization

As described in the previous sections, the available on-street parking is well occupied at the four campus sites, and has therefore not been considered as a resource for the future parking utilization analysis, which has focused instead on the availability of off-street parking.

Table 4-23 summarizes the existing and future off-street parking supply and occupancy at the four major campus sites by 2040. The parking supply shown in the table represents the number of spaces managed by UCSF at each site, except for Mount Zion, where six privately owned public parking garages and surface lots nearby have also been added, as they have traditionally served the campus site’s parking needs.
As shown in Table 4-23 the future parking utilization at the Parnassus and Mount Zion campus sites would be at their physical capacity (99 percent utilization), while the utilization at the UCSF facilities at the Mission Bay and Mission Center campus sites would be above their maximum proposed physical capacity. The expected future parking demand (staff, patients and visitors, as applicable) at the Mission Bay and Mission Center campus sites would be approximately 430 and 100 spaces, respectively, above the future planned supply, respectively.

### 4.7.4 Parking Impacts

The parking demand at the Mission Bay and Mission Center campus sites by 2040 would result in a potential shortfall in parking supply of about 430 and 100 spaces, respectively. However, as part of the implementation of the 2014 LRDP or LRDP Variant at the Mission Bay campus site, UCSF would monitor parking demand at each phase of development and adjust parking supply as demand warrants. Should the demand for parking exceed on-site supply, priority for on-site parking where clinical activities occur would be given to patients, visitors and essential health care providers, and if necessary, UCSF could look to secure off-site parking to satisfy that demand. That additional parking supply could be provided on campus sites, if available, or elsewhere in the vicinity. All four campus sites are well served by the UCSF shuttle system and public transit. As the proposed 2014 LRDP projects develop, UCSF would continue to implement and improve its Travel Demand Management (TDM) program to educate faculty, staff, and students about alternative transportation and transit options in order to reduce auto usage and parking demand. Thus, the parking impacts under LRDP build-out would be **less than significant**.
4.8 CONSTRUCTION IMPACTS

Implementation of the LRDP would occur using a coordinated, phased construction schedule that would preserve UCSF’s operations during the construction period. The construction of LRDP projects will occur in phases beginning with the demolition of the Laboratory of Radiobiology at the Parnassus Heights campus site through to the construction of Phase Two Medical Center at the Mission Bay campus site.

The construction impact assessment for each campus site presented below is based on currently available information from UCSF, and professional knowledge of typical construction practices citywide. Prior to construction, as part of the construction application phase, UCSF and their construction contractor(s) would meet with the Department of Public Works (“DPW”) and SFMTA staff to develop and review truck routing plans for demolition, disposal of excavated materials, materials delivery and storage, as well as staging for construction vehicles. For any work in the public right-of-way, the construction contractor would be required to meet the City of San Francisco’s Regulations for Working in San Francisco Streets, (the Blue Book), including those regulations regarding sidewalk and lane closures, and would meet with SFMTA staff to determine if any special traffic permits would be required.14 Prior to construction, the project contractor would coordinate with Muni’s Street Operations and Special Events Office to coordinate construction activities and reduce any impacts to transit operations.

The sections below describe the estimated LRDP construction impacts by campus site.

4.8.1 Parnassus Heights

Construction of the LRDP projects at the Parnassus Heights campus site would occur in phases expected to begin in 2014 through the LRDP horizon year in 2035. The implementation of cushioning actions and demolition of the Laboratory of Radiobiology would begin in 2014. Much of the other demolition projects would occur between 2015 and 2017, then again between 2025 and 2034. The construction of additional housing on the Fifth Avenue and Parnassus Avenue site is expected to begin in 2017 and the construction of new housing on the Proctor site is anticipated to begin in 2031.

14 The SFMTA Blue Book, 7th Edition, is available online through SFMTA (www.sfmta.com)
### TABLE 4-24: PARNASSUS HEIGHTS PROPOSED CONSTRUCTION DATA

<table>
<thead>
<tr>
<th>Construction Project</th>
<th>Construction Characteristics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gross Square Feet</td>
<td>Housing Units</td>
</tr>
<tr>
<td><strong>Projects Complete by 2020 (Construction 2015 through 2019)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demolish Medical Research 4 Building</td>
<td>12,100</td>
<td>--</td>
</tr>
<tr>
<td>Renovate/Reuse UC Hall- Phase One</td>
<td>--</td>
<td>105</td>
</tr>
<tr>
<td>Demolish Laboratory of Radiobiology</td>
<td>18,200</td>
<td>--</td>
</tr>
<tr>
<td>Build Housing on Fifth and Parnassus Site</td>
<td>--</td>
<td>45</td>
</tr>
<tr>
<td>Demolish the Woods Building</td>
<td>3,900</td>
<td>--</td>
</tr>
<tr>
<td>Demolish the Surge Building</td>
<td>11,400</td>
<td>--</td>
</tr>
<tr>
<td>Parnassus Avenue Streetscape Improvements - Phase One</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td><strong>Projects Complete by 2025 (Construction 2020 through 2024)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parnassus Avenue Streetscape Improvements - Phase Two</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td><strong>Projects Complete by 2031 (Construction 2025 through 2030)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Hospital Addition</td>
<td>308,000</td>
<td>--</td>
</tr>
<tr>
<td>Demolish the LPPI Building and Three Support Buildings</td>
<td>107,200</td>
<td>--</td>
</tr>
<tr>
<td><strong>Projects Complete by 2036 (Construction 2031 through 2035)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demolish the Proctor Building</td>
<td>9,900</td>
<td>--</td>
</tr>
<tr>
<td>Build Housing on Proctor Site</td>
<td>--</td>
<td>32</td>
</tr>
<tr>
<td>Renovate Moffitt Hospital</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Demolish the Koret Vision Research Building</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Convert Millberry Union Towers to Housing</td>
<td>--</td>
<td>83</td>
</tr>
<tr>
<td>Renovate/Reuse UC Hall Phase Two</td>
<td>--</td>
<td>64</td>
</tr>
<tr>
<td>Demolish the Environmental Health and Safety Building</td>
<td>6,200</td>
<td>--</td>
</tr>
</tbody>
</table>

Source: UCSF, 2014

As discussed in Chapter 3 most construction projects will contribute 10 or less truck trips per workday. In some cases, a project will contribute 10 to 20 daily truck trips on average.

Some construction projects will result in a parking loss due to construction staging and/or restrictions and limit pedestrian access through the duration of construction; however project construction is temporary and will not result in a long term impact. The UC Hall renovation and construction of housing on Fifth and Parnassus avenues will require disrupting connectivity on the south side of Parnassus Avenue; therefore pedestrians will be directed to the north side of Parnassus Avenue to avoid conflicts with construction.
work. The rest of the LRDP projects that require construction activities at the Parnassus Heights campus site will take place within the campus site and should not disrupt connectivity along Parnassus Avenue or other campus site perimeter streets.

It is anticipated that the addition of the worker-related vehicle- or transit-trips would not substantially affect transportation conditions, as impacts on local intersections or the transit network would be temporary in nature. Construction workers who drive to the construction sites and potential temporary parking restrictions along building frontages on Parnassus Avenue would cause a temporary increase in parking demand. Construction workers would park within nearby off-street parking facilities that currently have availability during the day (e.g., Kezar Stadium Parking Lot) or in satellite parking lots in which UCSF would temporary parking spaces. Additionally, the demolition of buildings accessed via Koret Way will increase the amount of contractor spaces at the campus site, as the building pads could be used as surface parking spaces.

UCSF would coordinate with various City departments such as SFMTA and DPW through the Transportation Advisory Staff Committee (TASC) to develop coordinated plans that would address construction-related vehicle routing and pedestrian movements adjacent to the construction area for the duration of construction. While construction of individual LRDP elements would by definition be temporary, the LRDP would require consideration of the effect of construction activities on existing and future transportation facilities (e.g. sidewalks, Muni service and facilities, roadways, bicycle routes, etc.) and existing and future adjacent land uses. Therefore, due to the need for on-going coordination and monitoring, the LRDP construction-related transportation impacts would be considered significant.

**Mitigation Measure TR-1a: Construction Coordination and Monitoring Measures**

**Traffic Control Plan for Construction** – In order to reduce potential conflicts between construction activities and pedestrians, transit and autos during construction activities at the Parnassus Heights campus site, UCSF shall require construction contractor(s) to prepare a traffic control plan for major phases of project construction (e.g. demolition, construction, or renovation of individual buildings). UCSF and their construction contractor(s) will meet with relevant City agencies to coordinate feasible measures to reduce traffic congestion, including temporary transit stop relocations (e.g. Parnassus Avenue) and other measures to reduce potential traffic and transit disruption and pedestrian circulation effects during major phases of construction of the LRDP projects. For any work within the public right-of-way, the contractor would be required to comply with the City of San Francisco’s Regulations for Working in San Francisco Streets, which establish rules and permit requirements so that construction activities can be done safely and with the least possible interference with pedestrians, bicyclists, transit, and vehicular traffic.

In the event that the construction timeframes of the major phases and other development projects adjacent to the Parnassus Heights campus site overlap, UCSF should coordinate with City Agencies through the TASC and the adjacent developers to minimize the severity of any disruption to adjacent land uses and transportation facilities from overlapping construction transportation impacts. UCSF, in conjunction with the adjacent developer, shall propose a construction traffic control plan that includes measures to reduce potential construction traffic conflicts, such as staggering start and end times, coordinated material drop offs, collective worker parking and transit to job site and other measures.
Reduce SOV Mode Share for Construction Workers – In order to minimize parking demand and vehicle trips associated with construction workers, UCSF shall require the construction contractor to include in the Traffic Control Plan for Construction methods to encourage walking, bicycling, carpooling, and transit access to the campus sites by construction workers in the coordinated plan.

Project Construction Updates for Adjacent Residents and Businesses – In order to minimize construction impacts on access for nearby residences, institutions, and businesses, UCSF shall provide nearby residences and adjacent businesses with regularly-updated information regarding project construction, including construction activities, peak construction vehicle activities (e.g., concrete pours), travel lane closures, and lane closures via a newsletter and/or website.

Mitigation Measure TR-1a would reduce the LRDP’s significant impacts related to construction-related transportation impacts to less-than-significant levels.
### 4.8.2 Mission Bay

Construction of the LRDP projects would occur in phases expected to begin in 2016 with development of Block 15 and the Surcharging Project on Block 14 and end with the construction of Phase Two Medical Center at Mission Bay beyond 2035.

<table>
<thead>
<tr>
<th>Construction Project</th>
<th>Gross Square Feet</th>
<th>Housing Units</th>
<th>Housing Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Projects Complete in 2015</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mission Hall (Block 25A)</td>
<td>264,800</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Phase One Medical Center</td>
<td>869,000</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td><strong>Projects Complete by 2020 (Construction 2015 through 2019)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Block 15 housing</td>
<td>418,200</td>
<td>523</td>
<td>398,700</td>
</tr>
<tr>
<td>Block 33</td>
<td>275,000</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Block 33/34 Parking Garage</td>
<td>167,500</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Cancer Outpatient</td>
<td>124,500</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Surcharging - Blocks 15 &amp; 18</td>
<td>42,700</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td><strong>Projects Complete by 2025 (Construction 2020 through 2024)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Block 23A</td>
<td>232,200</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Block 34</td>
<td>225,000</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Block 18 Parking Garage-Phase One</td>
<td>271,000</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td><strong>Projects Complete by 2031 (Construction 2025 through 2030)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Block 16</td>
<td>289,000</td>
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<tr>
<td>Block 25B</td>
<td>323,000</td>
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<tr>
<td><strong>Projects Complete by 2036 (Construction 2031 through 2035)</strong></td>
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<td></td>
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<tr>
<td>Block 18</td>
<td>193,000</td>
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<tr>
<td>Block 18 Parking Garage-Phase Two</td>
<td>271,000</td>
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</tr>
<tr>
<td>Phase Two Medical Center</td>
<td>793,500</td>
<td>--</td>
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</tbody>
</table>

Source: UCSF, 2014

As discussed in Chapter 3, most construction projects will generate no more than 40 daily truck trips on average. The peak construction trip generation will be approximately 90 truck trips on average per workday during the construction of Phase Two Medical Center at Mission Bay. Most truck trips will enter/exit the campus site using Mission Bay Boulevard North, Nelson Rising Lane, Owens Street, and 16th Street, Fourth Street, and generally, construction projects will not result in a parking, vehicular (including transit), or pedestrian impact as locations are internal to the campus site and alternative connectivity routes will be provided.
It is anticipated that the addition of the worker-related vehicle- or transit-trips would not substantially affect transportation conditions, as impacts on local intersections or the transit network would be temporary in nature. Construction workers who drive to the site and potential temporary parking restrictions along frontages where construction and/or staging are occurring would cause a temporary increase in parking demand. Construction workers would park within nearby off-street parking facilities that currently have availability during the day (e.g., Third Street Garage, Owens Street Garage) or in temporary surface parking lots within undeveloped blocks.

It is anticipated that construction activity of the LRDP projects may overlap with the construction activity of other proposed and/or planned projects in the area, notably the proposed Golden State Warriors basketball arena north of 16th Street and east of Third Street (construction estimated to begin in 2016 for a 2018-2019 season opening) and the proposed mixed-used residential and office development at Seawall Lot 337, north of Mission Rock Street and east of Third Street (construction estimated to begin in 2016 and continue in phases through 2021).

The construction activities associated with these nearby projects would affect access, traffic operations and pedestrian movements on Third Street. It is anticipated that the construction manager for each project would be required to work with the various departments of the City to develop a detailed and coordinated plan that would address construction vehicle routing, traffic control and pedestrian movement adjacent to the construction area for the duration of the overlap in construction activity.

UCSF would coordinate with various City departments such as SFMTA and DPW through the TASC to develop coordinated plans that would address construction-related vehicle routing and pedestrian movements adjacent to the construction area for the duration of construction. While construction of individual LRDP elements would by definition be temporary, the LRDP would require consideration of the effect of construction activities on existing and future transportation facilities (e.g. sidewalks, Muni service and facilities, roadways, bicycle routes, etc.) and existing and future adjacent land uses. Therefore, due to the need for on-going coordination and monitoring, the LRDP construction-related transportation impacts would be considered significant.

Mitigation Measure TR-1b: Construction Coordination and Monitoring Measures

Traffic Control Plan for Construction – In order to reduce potential conflicts between construction activities and pedestrians, transit and autos during construction activities at the Mission Bay campus site, UCSF shall require construction contractor(s) to prepare a traffic control plan for major phases of project construction (e.g. demolition, construction, or renovation of individual buildings). UCSF and their construction contractor(s) will meet with relevant City agencies to coordinate feasible measures to reduce traffic congestion, including temporary transit stop relocations and other measures to reduce potential traffic and transit disruption and pedestrian circulation effects during major phases of construction of the LRDP projects. For any work within the public right-of-way, the contractor would be required to comply with the City of San Francisco’s Regulations for Working in San Francisco Streets, which establish rules and permit requirements so that construction activities can be done safely and with the least possible interference with pedestrians, bicyclists, transit, and vehicular traffic.

In the event that the construction timeframes of the major phases and other development projects adjacent to the Mission Bay campus site overlap, such as the adjacent proposed development at Mission Bay Blocks 29-32, UCSF should coordinate with City Agencies through
the TASC and the adjacent developers to minimize the severity of any disruption to adjacent land uses and transportation facilities from overlapping construction transportation impacts. UCSF, in conjunction with the adjacent developer, shall propose a construction traffic control plan that includes measures to reduce potential construction traffic conflicts, such as staggering start and end times, coordinated material drop offs, collective worker parking and transit to job site and other measures.

Reduce SOV Mode Share for Construction Workers – In order to minimize parking demand and vehicle trips associated with construction workers, UCSF shall require the construction contractor to include in the Traffic Control Plan for Construction methods to encourage walking, bicycling, carpooling, and transit access to the campus sites by construction workers in the coordinated plan.

Project Construction Updates for Adjacent Residents and Businesses – In order to minimize construction impacts on access for nearby residences, institutions, and businesses, UCSF shall provide nearby residences and adjacent businesses with regularly-updated information regarding project construction, including construction activities, peak construction vehicle activities (e.g., concrete pours), travel lane closures, and lane closures via a newsletter and/or website.

Mitigation Measure TR-1b would reduce the LRDP’s significant impacts related to construction-related transportation impacts to less-than-significant levels.

4.8.2.1 LRDP Variant

Construction conditions associated with the LRDP Variant would be similar to those described above for the 2014 LRDP. UCSF would coordinate with various City departments such as SFMTA and DPW through the TASC to develop coordinated plans that would address construction-related vehicle routing and pedestrian movements adjacent to the construction area for the duration of construction. While construction of individual LRDP Variant elements would by definition be temporary, the LRDP Variant would require consideration of the effect of construction activities on existing and future transportation facilities (e.g. sidewalks, Muni service and facilities, roadways, bicycle routes, etc.) and existing and future adjacent land uses. Therefore, due to the need for on-going coordination and monitoring, the LRDP Variant construction-related transportation impacts would be considered significant.

Mitigation Measure TR-1c: Construction Coordination and Monitoring Measures

Traffic Control Plan for Construction – In order to reduce potential conflicts between construction activities and pedestrians, transit and autos during construction activities at the Mission Bay campus site, UCSF shall require construction contractor(s) to prepare a traffic control plan for major phases of project construction (e.g. demolition, construction, or renovation of individual buildings). UCSF and their construction contractor(s) will meet with relevant City agencies to coordinate feasible measures to reduce traffic congestion, including temporary transit stop relocations and other measures to reduce potential traffic and transit disruption and pedestrian circulation effects during major phases of construction of the LRDP projects. For any work within the public right-of-way, the contractor would be required to comply with the City of San Francisco's Regulations for Working in San Francisco Streets, which establish rules and permit requirements so that construction activities can be done safely and with the least possible interference with pedestrians, bicyclists, transit, and vehicular traffic.
In the event that the construction timeframes of the major phases and other development projects adjacent to the Mission Bay campus site overlap, such as the adjacent proposed development at Mission Bay Blocks 29-32, UCSF should coordinate with City Agencies through the TASC and the adjacent developers to minimize the severity of any disruption to adjacent land uses and transportation facilities from overlapping construction transportation impacts. UCSF, in conjunction with the adjacent developer, shall propose a construction traffic control plan that includes measures to reduce potential construction traffic conflicts, such as staggering start and end times, coordinated material drop offs, collective worker parking and transit to job site and other measures.

Reduce SOV Mode Share for Construction Workers – In order to minimize parking demand and vehicle trips associated with construction workers, UCSF shall require the construction contractor to include in the Traffic Control Plan for Construction methods to encourage walking, bicycling, carpooling, and transit access to the campus sites by construction workers in the coordinated plan.

Project Construction Updates for Adjacent Residents and Businesses – In order to minimize construction impacts on access for nearby residences, institutions, and businesses, UCSF shall provide nearby residences and adjacent businesses with regularly-updated information regarding project construction, including construction activities, peak construction vehicle activities (e.g., concrete pours), travel lane closures, and lane closures via a newsletter and/or website.

Mitigation Measure TR-1c would reduce the LRDP Variant’s significant impacts related to construction-related transportation impacts to less-than-significant levels.
4.8.3 Mount Zion

Construction of the LRDP projects would occur in phases expected to begin in 2015 with the renovation and reuse of the existing hospital.

<table>
<thead>
<tr>
<th>Construction Project</th>
<th>Construction Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gross Square Feet</td>
</tr>
<tr>
<td>Projects Complete by 2020 (Construction 2015 through 2019)</td>
<td></td>
</tr>
<tr>
<td>Main Hospital - Renovation</td>
<td>--</td>
</tr>
<tr>
<td>Demo 3 buildings</td>
<td>85,000</td>
</tr>
<tr>
<td>Construct additional parking</td>
<td>78,000</td>
</tr>
<tr>
<td>New office/research building</td>
<td>257,000</td>
</tr>
<tr>
<td>Demolish or retrofit the &quot;N&quot; building (2255 Post Street)</td>
<td>7,500</td>
</tr>
</tbody>
</table>

Source: UCSF, 2014

As discussed in Chapter 3, construction projects will generate no more than 30 daily truck trips on average. Most truck trips will enter/exit the campus site using Sutter Street, Post Street, and Scott Street. Some construction projects will result in a parking loss due to construction staging and/or restrictions and limit pedestrian access through the duration of construction; however project construction is temporary and will not result in a long term impact. The demolition of the Hellman, Harold Brunn Institute, and the Dialysis Center buildings, construction of a new medical office and/or research building and additional parking, and renovation/reuse of the existing hospital on the block north of Post Street and west of Scott Street require disrupting connectivity on the south side of Sutter Street, the north side of Post Street, and/or the west side of Scott Street; therefore pedestrians will be directed to the north side of Sutter Street, the south side of Post Street, and/or the east side of Scott Street to avoid conflicts with construction work. Construction work that affects the frontage of Post Street may require that a portion of the existing Class II bicycle lane between Scott and Divisadero streets be converted temporarily to a Class III bicycle route for the duration of construction activities in the vicinity.

It is anticipated that the addition of the worker-related vehicle- or transit-trips would not substantially affect transportation conditions, as impacts on local intersections or the transit network would be temporary in nature. Construction workers who drive to the construction sites and potential temporary parking restrictions along building frontages on Sutter Street, Post Street, and Scott Street would cause a temporary increase in parking demand. Construction workers would park within nearby off-street parking facilities that currently have availability during the day (e.g., 2300 Sutter Street Garage, 2186 and 2120 Geary Boulevard surface lots).

It is anticipated that construction activity of the LRDP projects may overlap with the construction activity of other proposed and/or planned projects in the area, notably the proposed Geary Boulevard BRT project, as described in Chapter Two. The construction activity of the LRDP projects and the Geary
Boulevard BRT project within the vicinity of the campus site should be coordinated, specifically with regard to construction worker parking and staging, although it is unlikely that they will have an effect on each other due to the distance between the campus site and Geary Boulevard, and to the comparative lack of disruption to the transportation network infrastructure required by the BRT project when compared to other major transportation projects.

UCSF would coordinate with various City departments such as SFMTA and DPW through the TASC to develop coordinated plans that would address construction-related vehicle routing and pedestrian movements adjacent to the construction area for the duration of construction. While construction of individual LRDP elements would by definition be temporary, the LRDP would require consideration of the effect of construction activities on existing and future transportation facilities (e.g. sidewalks, Muni service and facilities, roadways, bicycle routes, etc.) and existing and future adjacent land uses. Therefore, due to the need for on-going coordination and monitoring, the LRDP construction-related transportation impacts would be considered significant.

**Mitigation Measure TR-1d: Construction Coordination and Monitoring Measures**

**Traffic Control Plan for Construction** – In order to reduce potential conflicts between construction activities and pedestrians, transit and autos during construction activities at the Mount Zion campus site, UCSF shall require construction contractor(s) to prepare a traffic control plan for major phases of project construction (e.g. demolition, construction, or renovation of individual buildings). UCSF and their construction contractor(s) will meet with relevant City agencies to coordinate feasible measures to reduce traffic congestion, including temporary transit stop relocations (e.g. Sutter Street), and other measures to reduce potential traffic and transit disruption and pedestrian circulation effects during major phases of construction of the LRDP projects. For any work within the public right-of-way, the contractor would be required to comply with the City of San Francisco’s Regulations for Working in San Francisco Streets, which establish rules and permit requirements so that construction activities can be done safely and with the least possible interference with pedestrians, bicyclists, transit, and vehicular traffic.

In the event that the construction timeframes of the major phases and other development projects adjacent to the Mount Zion campus site overlap, UCSF should coordinate with City Agencies through the TASC and the adjacent developers to minimize the severity of any disruption to adjacent land uses and transportation facilities from overlapping construction transportation impacts. UCSF, in conjunction with the adjacent developer, shall propose a construction traffic control plan that includes measures to reduce potential construction traffic conflicts, such as staggering start and end times, coordinated material drop offs, collective worker parking and transit to job site and other measures.

**Reduce SOV Mode Share for Construction Workers** – In order to minimize parking demand and vehicle trips associated with construction workers, UCSF shall require the construction contractor to include in the Traffic Control Plan for Construction methods to encourage walking, bicycling, carpooling, and transit access to the campus sites by construction workers in the coordinated plan.

**Project Construction Updates for Adjacent Residents and Businesses** – In order to minimize construction impacts on access for nearby residences, institutions, and businesses, UCSF shall provide nearby residences and adjacent businesses with regularly-updated information regarding
project construction, including construction activities, peak construction vehicle activities (e.g., concrete pours), travel lane closures, and lane closures via a newsletter and/or website.

**Mitigation Measure TR-1d** would reduce the LRDP’s **significant impacts** related to construction-related transportation impacts to **less-than-significant** levels.

### 4.8.4 Mission Center

Construction of the LRDP projects would occur in phases expected to begin in 2022 with the construction of a new parking garage in what is currently surface parking on the eastern portion of the campus site block.

<table>
<thead>
<tr>
<th>Construction Project</th>
<th>Gross Square Feet</th>
<th>Housing Units</th>
<th>Housing Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Mission Center Building</td>
<td>100,000</td>
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<td>--</td>
</tr>
<tr>
<td>Mission Center Parking Garage</td>
<td>96,000</td>
<td>--</td>
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</tr>
</tbody>
</table>

**TABLE 4-27: MISSION CENTER PROPOSED CONSTRUCTION DATA**

Source: UCSF, 2014

As discussed in Chapter 3, construction projects will generate no more than 15 daily truck trips on average. Most truck trips will enter/exit the campus site using 15th Street and/or Harrison Street and generally, construction projects will not result in a parking, vehicular (including transit), or pedestrian impact as construction and staging will occur on the campus site. Additionally, it is not expected that access to or operations of the SF Muni Maintenance Yard (H. Welton Flynn Motor Coach Division) directly south of the campus site will be affected as its main vehicle access point is on Harrison Street, facing away from the campus site. The construction of the new parking garage would result in the temporary displacement of approximately 224 existing employee parking spaces. UCSF will investigate temporary additional off-site parking supply in advance of construction of the new parking garage.

It is anticipated that the addition of the worker-related vehicle- or transit-trips would not substantially affect transportation conditions, as impacts on local intersections or the transit network would be temporary in nature. Construction workers who drive to the construction sites and potential temporary parking restrictions along frontages where construction and/or staging are occurring would cause a temporary increase in parking demand. Construction workers would park within nearby off-street parking facilities that currently have availability during the day (e.g., 3111 17th Street surface lot) or in satellite parking lots in which UCSF would provide temporary parking spaces.

UCSF would coordinate with various City departments such as SFMTA and DPW through the TASC to develop coordinated plans that would address construction-related vehicle routing and pedestrian movements adjacent to the construction area for the duration of construction. While construction of individual LRDP elements would by definition be temporary, the LRDP would require consideration of the effect of construction activities on existing and future transportation facilities (e.g. sidewalks, Muni service and facilities, roadways, bicycle routes, etc.) and existing and future adjacent land uses. Therefore, due to
the need for on-going coordination and monitoring, the LRDP construction-related transportation impacts would be considered *significant*.

**Mitigation Measure TR-1e: Construction Coordination and Monitoring Measures**

**Traffic Control Plan for Construction** – In order to reduce potential conflicts between construction activities and pedestrians, transit and autos during construction activities at the Mission Center campus site, UCSF shall require construction contractor(s) to prepare a traffic control plan for major phases of project construction (e.g. demolition, construction, or renovation of individual buildings). UCSF and their construction contractor(s) will meet with relevant City agencies to coordinate feasible measures to reduce traffic congestion, including temporary transit stop relocations, and other measures to reduce potential traffic and transit disruption and pedestrian circulation effects during major phases of construction of the LRDP projects. For any work within the public right-of-way, the contractor would be required to comply with the City of San Francisco’s Regulations for Working in San Francisco Streets, which establish rules and permit requirements so that construction activities can be done safely and with the least possible interference with pedestrians, bicyclists, transit, and vehicular traffic.

In the event that the construction timeframes of the major phases and other development projects adjacent to the Mission Center campus site overlap, UCSF should coordinate with City Agencies through the TASC and the adjacent developers to minimize the severity of any disruption to adjacent land uses and transportation facilities from overlapping construction transportation impacts. UCSF, in conjunction with the adjacent developer, shall propose a construction traffic control plan that includes measures to reduce potential construction traffic conflicts, such as staggering start and end times, coordinated material drop offs, collective worker parking and transit to job site and other measures.

**Reduce SOV Mode Share for Construction Workers** – In order to minimize parking demand and vehicle trips associated with construction workers, UCSF shall require the construction contractor to include in the Traffic Control Plan for Construction methods to encourage walking, bicycling, carpooling, and transit access to the campus sites by construction workers in the coordinated plan.

**Project Construction Updates for Adjacent Residents and Businesses** – In order to minimize construction impacts on access for nearby residences, institutions, and businesses, UCSF shall provide nearby residences and adjacent businesses with regularly-updated information regarding project construction, including construction activities, peak construction vehicle activities (e.g., concrete pours), travel lane closures, and lane closures via a newsletter and/or website.

**Mitigation Measure TR-1e** would reduce the LRDP’s *significant impacts* related to construction-related transportation impacts to *less-than-significant* levels.
5 CUMULATIVE CONDITIONS

This chapter presents the transportation impact analysis of the LRDP under Year 2015 conditions for the Mission Bay Campus Site and Year 2040 conditions for all four study campus sites. Year 2015 conditions describe the anticipated operating conditions of the transportation network once Phase One Medical Center at Mission Bay and Mission Hall are operational. Year 2040 conditions assess the long-term impacts of the LRDP, whose horizon year is 2035, in combination with projected development within San Francisco and the rest of the Bay Area, as well as implementation of planned transportation infrastructure projects.

The geographic context for the analysis of Year 2040 transportation impacts includes the local roadway and transit network in the vicinity of four UCSF campus sites included in this study. The discussion of 2040 transportation impacts assesses the degree to which the LRDP would affect the transportation network in conjunction with other reasonably foreseeable projects.

5.1 FORESEEABLE NEARBY DEVELOPMENT PROJECTS AND TRANSPORTATION NETWORK CHANGES

5.1.1 Approach

Year 2040 conditions traffic volumes were estimated based on cumulative development and growth identified by the SFCTA SF-CHAMP travel demand model, using model output that represents Existing conditions and model output for Year 2040 conditions. The Year 2040 traffic volumes include the additional vehicle-trips generated by the LRDP. Year 2015 traffic volumes were estimated based on the addition of traffic generated by foreseeable nearby development projects to the existing transportation network in addition to Phase One Medical Center at Mission Bay and Mission Hall traffic volumes. The foreseeable nearby development projects and transportation network changes included in each scenario are described below.

5.1.2 Year 2015 Conditions

The following development projects and infrastructure projects are included in the Year 2015 conditions Mission Bay campus site analysis.

5.1.2.1 Foreseeable Nearby Development Projects

Reasonably foreseeable development projects that were considered in the Year 2015 conditions analysis include planned development projects in the Eastern Neighborhoods and ongoing construction and new planned development in the Mission Bay Plan Areas, as incorporated into the SF-CHAMP travel demand model. It also includes the opening of the Phase One Medical Center and Mission Hall at the Mission Bay campus site.
5.1.2.2 Transportation Network Changes

The Mission Bay Redevelopment Plan calls for changes to the existing roadway network in the study area which would be in place by 2015. These changes are described under Mission Bay Existing Plus LRDP conditions, Section 4.2.2.

5.1.3 Year 2040 Conditions

The Year 2040 traffic impact analysis takes into consideration the following foreseeable development projects and transportation improvements.

5.1.3.1 Foreseeable Development Projects

Examples of reasonably foreseeable development projects that were considered in the Year 2040 analysis include the following:

- Candlestick Point-Hunters Point Shipyard Development Plan (Approved – Case No. 2007.0946E)
- Treasure Island and Yerba Buena Island Redevelopment Plan (Approved – Case No. 2007.0903E)
- California Pacific Medical Center Long Range Development Plan (Approved – Case No. 2005.0555E)
- Mission Bay Redevelopment Plan (Approved – Case No. 96.771E)
- Development associated with neighborhoods plans including the Eastern Neighborhoods Plan (Approved – Case No. 2004.0160E), Western SoMa Plan (Approved – Case No. 2008.0877E), Market-Octavia Plan (Approved – Case No. 2003.0347E), and Rincon Hill Plan (Approved – Case No. 2000.1081E)
- Central SoMa Plan (Case No. 2011.1356E)
- Seawall Lot 337 and Pier 48 Mixed-Use Project (Pending approval – Case No. 2013.0208E)
- Pier 70 Mixed-Use Project (Pending approval – Case No. Not yet assigned)

In addition to the above projects, the Golden State Warriors Project at Mission Bay Blocks 29-32 is in the early stages of environmental review. The details for this project were not available at the time of this study and are therefore discussed qualitatively in the Year 2040 traffic analysis section found in Section 5.2.3.

5.1.3.2 Transportation Network Changes

In addition to the transportation network changes described for Year 2015 conditions, the following transportation network changes are also incorporated into the Year 2040 analysis:

- **Transit Effectiveness Project (TEP)** (Approved) – The TEP is aimed at improving reliability, reducing travel times, providing more frequent service, and updating Muni bus routes and rail lines to better match current travel patterns. TEP recommendations include new routes and route realignments, more service on busy routes, and elimination or consolidation of certain routes or route segments with low ridership. The TEP recommendations were unanimously endorsed by the
SFMTA Board of Directors in October 2008, and the EIR was certified by the San Francisco Planning Commission in March 2014. The TEP Implementation Strategy anticipates that many of the improvements would be implemented sometime between Fiscal Year 2014 and Fiscal Year 2019, subject to funding sources and resource availability. A description of the TEP improvements that relate to each campus site are included in Chapter 2.

- **San Francisco Bicycle Plan** (Approved) – The San Francisco Bicycle Plan aims to expand the City’s bicycle network through the addition of 34 miles of Class II bicycle lanes, 75 miles of on-street Class III bicycle routes, improved bicycle parking, and a variety of programs to improve bicycle access and safety. A description of the improvements that relate to each campus site are included in Chapter 2.

- **Van Ness BRT Project** (Approved) – Similar to the Geary BRT, this project proposes to increase bus service frequency by giving buses a dedicated travel lane and create high-quality bus stations along Van Ness Avenue between Mission Street and Lombard Street. The SFCTA and the SFMTA Boards approved a Locally Preferred Alternative for the Van Ness BRT project in May and June 2012. The Locally Preferred Alternative includes dedicated center-running bus lanes separated from traffic from Mission to Lombard Streets, which will be used by Muni Routes 49 and 47, and by Golden Gate Transit. This configuration will eliminate most left turns, include transit signal priority optimization to reduce travel times, and provide new pedestrian and streetscape improvements throughout the corridor. The Federal Transit Administration issued a Record of Decision in December 2013 determining that environmental review requirements have been met. BRT construction is expected to begin as early as 2015 with BRT service beginning on the corridor in 2018.

- **Central Subway Project** (Approved) - The Central Subway Project is the second phase of the Third Street light rail line (i.e., T Third), which opened in 2007. Construction of the underground segment from Bryant to Clay Street is currently underway, and the Central Subway will extend the T Third line northward from its current terminus at Fourth and King streets to a surface station south of Bryant Street and go underground at a portal under I-80. From there it will continue north to stations at Moscone Center, Union Square where it will provide passenger connections to the Powell Street Station and BART— and in Chinatown, where the line will terminate at Stockton and Clay streets. Construction of the Central Subway is scheduled to be completed in 2017, and revenue service is scheduled for 2019. This project would improve transit service between the Mission Bay campus site and Downtown.

- **Transit Center District Plan** (Approved) - Adopted in summer 2012, the Transit Center District Plan (TCDP) builds on the City’s 1985 Downtown Plan to create new land use, urban form, building design, and public realm improvements in and around the new Transbay Transit Center that is currently under construction. The TCDP includes changes to the transportation network, including conversions of one-way streets to two-way traffic (i.e., Howard and Folsom streets), reductions in travel lanes, provision of new transit-only lanes, sidewalk widening, bulb-out installations, creation of new multi-use paths, and other improvements.

- **Geary BRT Project** (Pending Approval) – This project proposes to increase bus service frequency by giving buses a dedicated travel lane and create high-quality bus stations along Geary
Boulevard from Downtown to the Outer Richmond. The staff-recommended alternative prepared in January 2014 includes side-running bus lanes separated from traffic from Gough Street to Palm Street in the Richmond District and center-running bus lanes from Palm Street to 27th Avenue. This configuration, along with elimination of most left turns, transit signal priority and traffic signal optimization will help reduce travel time on the corridor, and new pedestrian and streetscape improvements will be implemented throughout the corridor. The Geary Boulevard BRT is slated to be completed by 2018. This project would improve transit service to the Mount Zion Campus Site while reducing vehicle traffic lanes adjacent to the Campus Site from three lanes in each direction to two lanes in each direction.

**Caltrain Electrification Program (Pending Approval)** - Caltrain will be implementing a Modernization Program that will electrify the railway to provide upgraded performance and allow more efficient operations and a higher capacity. The Program is scheduled to be complete by 2019. Currently Caltrain crosses 16th Street at grade at the intersection of 16th Street/Seventh/Mississippi streets. There are currently ten trains per hour during peak periods and the Modernization Program will allow the number of trains to increase to 12 trains per hour. Additionally, Caltrain is anticipating a “blended system” which will see California High Speed Rail trains running alongside Caltrain on the same tracks. However, the future of the High Speed Rail system is currently unknown due to legal and funding challenges. If the blended system is built, it may require a grade separation at 16th/Seventh/Mississippi Street. Electrification of Caltrain (and the associated improved travel times and frequencies) as well as the introduction of High Speed Rail may improve transit access for the UCSF Mission Bay Campus Site.

- **Central SoMa Plan** (Pending Approval) – The San Francisco Planning Department is in the process of developing an integrated community vision for the southern portion of the Central Subway rail corridor, in an area located generally between Townsend and Market streets along Fourth Street, between Second and Sixth streets. The plan’s goal is to integrate transportation improvements for pedestrians, bicycles, and transit to intensified land uses in the corridor.

- **Second Street Improvement Project** (Pending Approval) – The San Francisco DPW, SFMTA, and the Planning Department have been working with community members on design improvements on Second Street between Market and King streets. The preferred concept would reduce the number of travel lanes from two to one travel lane in each direction, limit general parking, and relocate some commercial loading spaces and passenger loading/unloading zones.

**5.2 YEAR 2040 TRAFFIC IMPACTS**

This section presents the traffic analysis for Year 2040 conditions for each of the four campus sites. Year 2015 traffic conditions are presented for the Mission Bay campus site only. Consistent with the significance criteria presented in Section 4.1, the LRDP was determined to have a significant impact at an intersection if LRDP-generated trips would contribute considerably to the deterioration of intersection conditions (LOS E or F) under future year conditions.
## 5.2.1 Parnassus Heights

The weekday AM and PM peak hour Year 2040 traffic volumes and travel lane configurations at the study intersections are presented on Figures 5-1A and 5-1B. Table 5-1 presents the Existing and Year 2040 Plus LRDP intersection operating conditions for the weekday AM and PM peak hours. Under Year 2040 Plus LRDP conditions, 8 of the 23 study intersections are projected to operate at LOS E or LOS F conditions (as compared to 5 of the 23 study intersections operating at LOS E or LOS F under Existing conditions). The LRDP's contributions to the 2040 traffic volumes at the critical movements operating poorly (i.e., at LOS E or LOS F) for the 8 intersections operating at LOS E or LOS F under Year 2040 conditions were calculated to determine whether the LRDP's contributions to the LOS E or LOS F operating conditions under Year 2040 conditions would be considered significant.

### Table 5-1: Peak Hour Intersection Level of Service Comparison - Parnassus Heights

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<thead>
<tr>
<th>Intersection</th>
<th>Traffic Control</th>
<th>Peak Hour</th>
<th>Existing Vehicle Delay (seconds)</th>
<th>LOS</th>
<th>Year 2040 Plus LRDP Vehicle Delay (seconds)</th>
<th>LOS</th>
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<tr>
<td>1. Oak Street-Fell Street-Kezar Drive / Stanyan Street</td>
<td>Signal</td>
<td>AM</td>
<td>45</td>
<td>D</td>
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### TABLE 5-1: PEAK HOUR INTERSECTION LEVEL OF SERVICE COMPARISON - PARNASSUS HEIGHTS

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<td>B / C</td>
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<td>15</td>
<td>C</td>
</tr>
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<td>19. Parnassus Avenue / Hill Point Avenue</td>
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<td>AM PM</td>
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<td>C</td>
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<td></td>
<td></td>
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<td>13 / 14</td>
<td>B / B</td>
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<td>23. Kirkham Street / Fifth Avenue</td>
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**Notes:**

1. AWS = All-way stop controlled; SSS = Side Street stop controlled; Signal = Signal controlled
2. Delay reported as seconds per vehicle. For signalized intersections, a combined weighted average delay for the various movements within the intersection is reported. For SSS intersections, the highest average delay for an approach is reported. For AWS intersection, the combined weighted average delay of the intersection is reported, followed by the highest average delay for an approach.
3. For signalized intersections, LOS based on average intersection delay, based on the methodology in the Highway Capacity Manual, 2000. For unsignalized intersection, LOS is based on the worst approach which is indicated in parentheses.
4. **Bold** indicates LOS E or F operations.

**Source:** Fehr & Peers, 2014.
Cumulative (2040) Intersection Lane Configurations, Traffic Control, and Volumes-Parnassus Heights

Figure 5-1A
Cumulative (2040) Intersection Lane Configurations, Traffic Control, and Volumes—Parnassus Heights
The Oak Street – Fell Street – Kezar Drive/Stanyan Street (Intersection #1) signalized intersection operates at LOS E in the PM peak hour under Year 2040 Plus LRDP conditions. The critical southbound left turn movement operates at LOS F during the PM peak. The LRDP would add zero vehicle trips to the critical southbound left turn movement, which represents no increase from Year 2040 conditions. While this movement is expected to operate at LOS F under Year 2040 Plus LRDP conditions, the LRDP’s contribution would not be considered significant. The other critical movement at the intersection – the westbound through – is expected to operate at LOS F and the LRDP would add six vehicle trips, which represents less than one percent increase from Year 2040 conditions. Therefore, the LRDP’s impact at this intersection would be considered less than significant.

The Lincoln Way/Ninth Avenue (Intersection #2) signalized intersection operates at LOS F in the PM peak hour under Year 2040 Plus LRDP conditions. The critical southbound through movement operates at LOS F during the PM peak. The LRDP would add three vehicle trips to this critical movement, which represents a one percent increase from Year 2040 conditions. The other critical movement at the intersection – the westbound through – is expected to operate at LOS F and the LRDP would add nine vehicle trips, which represents less than one percent increase from Existing conditions. While these movements are expected to operate unacceptably under Year 2040 Plus LRDP conditions, the LRDP’s contribution would not be considered significant. Therefore, the LRDP’s impact at this intersection would be considered less than significant.

The Lincoln Way/Fourth Avenue (Intersection #4) unsignalized intersection operates at LOS F in the AM peak hour under Year 2040 Plus LRDP conditions. The westbound left turn movement operates at LOS F during the AM peak. The LRDP would add three vehicle trips to this critical movement, which represents a one percent increase from Year 2040 conditions. While the westbound left turn is expected to operate at LOS F under Year 2040 Plus LRDP conditions, the LRDP’s contribution would not be considered significant. In addition, the increase in traffic does not warrant a signal according to the Caltrans signal warrant for unsignalized intersections in urban areas (Warrant 3). Therefore, the LRDP’s impact at this intersection would be considered less than significant.

The Lincoln Way/Fourth Avenue (Intersection #4) unsignalized intersection operates at LOS E in the PM peak hour under Year 2040 Plus LRDP conditions. The westbound left turn movement operates at LOS E during the PM peak. The LRDP would add three vehicle trips to this critical movement, which represents a one percent increase from Year 2040 conditions. While the westbound left turn is expected to operate at LOS E under Year 2040 Plus LRDP conditions, the LRDP’s contribution would not be considered significant. In addition, the increase in traffic does not warrant a signal according to the Caltrans signal warrant for unsignalized intersections in urban areas (Warrant 3). Therefore, the LRDP’s impact at this intersection would be considered less than significant.

The Irving Street/Second Avenue (Intersection #10) unsignalized intersection operates at LOS E in the PM peak hour under Year 2040 Plus LRDP conditions. The westbound shared through/right turn movement operates at LOS E during the PM peak. The LRDP would add eight vehicle trips to this movement, which represents a two percent increase from Year 2040 conditions. While the westbound shared through/right turn movement is expected to operate at LOS E under Year 2040 Plus LRDP conditions, the LRDP’s contribution would not be considered significant. In addition, the increase in traffic does not warrant a signal according to the Caltrans signal warrant for unsignalized intersections in urban areas (Warrant 3). Therefore, the LRDP’s impact at this intersection would be considered less than significant.
The Irving Street/Arguello Boulevard (Intersection #11) unsignalized intersection operates at LOS F in the PM peak hour under Year 2040 Plus LRDP conditions. The northbound approach operates at LOS F during the PM peak. The LRDP would add a total of 17 vehicle trips to this movement, which represents a seven percent increase from Year 2040 conditions. Since the northbound approach is expected to operate at LOS F under Year 2040 Plus LRDP conditions, the LRDP’s contribution would be significantly considerable. However, the increase in traffic does not warrant a signal according to the Caltrans signal warrant for unsignalized intersections in urban areas (Warrant 3). Therefore, the LRDP’s impact at this intersection would be considered **less than significant**.

The Judah Street-Parnassus Avenue/Fifth Avenue (Intersection #15) unsignalized intersection operates at LOS F in the PM peak hour under Year 2040 Plus LRDP conditions. The northbound approach operates at LOS F during the PM peak. The LRDP would add a total of two vehicle trips to this approach, which represents a one percent increase from Year 2040 conditions. While the northbound approach is expected to operate at LOS F under Year 2040 Plus LRDP conditions, the LRDP’s contribution would not be considered significant. In addition, the increase in traffic does not warrant a signal according to the Caltrans signal warrant for unsignalized intersections in urban areas (Warrant 3). Therefore, the LRDP’s impact at this intersection would be considered **less than significant**.

The Parnassus Avenue/Stanyan Street (Intersection #20) signalized intersection operates at LOS E in the AM peak hour under Year 2040 Plus LRDP conditions. The critical northbound through movement operates at LOS F during the PM peak. The LRDP would add three vehicle trips to the critical northbound through movement, which represents a one percent increase from Year 2040 conditions. While this movement is expected to operate at LOS F under Year 2040 Plus LRDP conditions, the LRDP’s contribution would not be considered significant. The other critical movement at the intersection – the eastbound through – is expected to operate at LOS F and the LRDP would add no vehicle trips. Therefore, the LRDP’s impact at this intersection would be considered **less than significant**.

The Kirkham Street/Seventh Avenue (Intersection #21) signalized intersection operates at LOS F in the AM peak hour under Year 2040 Plus LRDP conditions. The critical northbound through movement operates at LOS F during the PM peak. The LRDP would add 12 vehicle trips to the critical northbound through movement, which represents a two percent increase from Year 2040 conditions. While this movement is expected to operate at LOS F under Year 2040 Plus LRDP conditions, the LRDP’s contribution would not be considered significant. The other critical movement at the intersection – the eastbound through – is expected to operate at LOS F and the LRDP would add one vehicle trip, which is an increase of less than one percent from Year 2040 conditions. Therefore, the LRDP’s impact at this intersection would be considered **less than significant**.

UCSF already implements a robust campus-wide TDM program and proposes to expand its TDM program under the 2014 LRDP. The proposed expanded TDM strategies, described in the Project Description (Section 1.2.5) and listed again below, were developed as part of an internal planning process that resulted in identifying feasible TDM measures that UCSF could implement that could reasonably result in a reduction in single-occupant vehicle (SOV) trips. In order to accomplish these goals, UCSF would implement some or all of the following:

- Expand UCSF Vanpool Program (add new vanpools and subsidize costs to attract new riders);
- Develop more robust UCSF Carpool Matching and convert additional parking spaces to carpool only;
Enhance existing City CarShare pods on campus sites and participate in the city’s new Medical Center Rideshare program;

Increase supply and access to bicycle parking and showers/lockers;

Enhance shuttle system with Wifi and Next Bus;

Limit parking for non-faculty tenants in new housing;

Gradually increase cost of employee parking, over time; and

Promote flexible work schedules, as possible.

Additional TDM strategies that were considered, but rejected as infeasible include the following:

Extending UCSF shuttle service to new Park-and-Ride locations in the North Bay, South Bay, and East Bay;

Expanding and/or extending UCSF shuttle service to the Fourth and King Caltrain Station, the Embarcadero BART/Ferry, and Civic Center BART; and

Free or discounted Muni passes for students, staff, and faculty.

Although the LRDP is not projected to cause any new significant impacts to traffic circulation at the Parnassus Heights Campus Site, the improvement measure below could be implemented to lessen the effect of SOV vehicles in the project vicinity.

**Improvement Measure IM-TR-5a: Implement Additional TDM Strategies to Reduce Single Occupancy Vehicle Trips to the Parnassus Heights Campus Site**

- UCSF shall continue to investigate and implement TDM measures targeted at reducing SOV trips. Although UCSF has already identified those TDM measures it can feasibly implement and has included those measures as part of the proposed 2014 LRDP, more measures may be developed or become evident over the 20 year-horizon of the LRDP.

### 5.2.2 Mission Bay (Year 2015)

The weekday AM and PM peak hour Year 2015 Plus Phase One Medical Center and Mission Hall (Phase One MC and MH) traffic volumes and travel lane configuration at the study intersections are presented on Figures 5-2A and 5-2B. Table 5-2 presents the Year 2015 and Year 2015 Plus Phase One MC and Mission Hall intersection operating conditions for the weekday AM and PM peak hours. With the exception of Mission Bay Boulevard / Seventh Street, 16th Street / Vermont Avenue, Mariposa Street / Fourth Street, and Mariposa Street / I-280 Northbound Ramps, all intersections under Year 2015 conditions are expected to operate at the same level of service as under Existing conditions.
Figure 5-2A

Year 2015 Plus Phase 1 MC Intersection Lane Configurations, Traffic Control, and Volumes—Mission Bay
Year 2015 Plus Phase 1 MC Intersection Lane Configurations, Traffic Control, and Volumes - Mission Bay
### TABLE 5-2: PEAK HOUR INTERSECTION LEVEL OF SERVICE COMPARISON - MISSION BAY

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### TABLE 5-2: PEAK HOUR INTERSECTION LEVEL OF SERVICE COMPARISON - MISSION BAY

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Notes:
1. AWS = All-way stop controlled; SSS = Side Street stop controlled; Signal = Signal controlled
2. Delay reported as seconds per vehicle. For signalized intersections, a combined weighted average delay for the various movements within the intersection is reported. For SSS intersections, the highest average delay for an approach is reported. For AWS intersection, the combined weighted average delay of the intersection is reported, followed by the highest average delay for an approach.
3. For signalized intersections, LOS based on average intersection delay, based on the methodology in the Highway Capacity Manual, 2000. For an unsignalized intersection, LOS is based on the worst approach which is indicated in parentheses.
4. Bold indicates LOS E or F operations
5. Intersection is signalized under Year 2015 Plus Phase One MC and Mission Hall condition


Under Year 2015 Plus Phase One MC and Mission Hall conditions, one of the 21 study intersections are projected to operate at LOS E or LOS F conditions (as compared to three of the 21 study intersections operating at LOS E or LOS F under Existing conditions). The Phase One MC and Mission Hall contributions to the Year 2015 traffic volumes at the critical movements operating poorly (i.e., at LOS E or LOS F) for the one intersection operating at LOS E or LOS F under Year 2015 conditions was calculated to determine whether the Phase One MC and Mission Hall contributions to the LOS E or LOS F operating conditions under Year 2015 conditions would be considered significant.

The King Street/Third Street (Intersection #24) signalized intersection operates at LOS E in the PM peak hour under Year 2015 Plus Phase One MC and Mission Hall conditions. The critical eastbound left turn movement operates at LOS F during the PM peak. The Phase One MC and Mission Hall would add 17 vehicle trips to the critical eastbound left turn movement, which represents a two percent increase from Year 2015 conditions. The other critical movements at this intersection – northbound through and westbound through – operate at LOS C and E, respectively, during the PM peak. Since the northbound through movement is expected to operate at LOS C, the Phase One MC and MH’s contribution would not be considered significant. The Phase One MC and Mission Hall would add no vehicle trips to the westbound through movement. While the eastbound left critical movement is expected to operate at LOS F under Year 2015 Plus Phase One MC and Mission Hall conditions, the Phase One MC and MH’s contribution would not be considered significant. Therefore, the Phase One MC and MH’s impact at this intersection would be considered less than significant.

#### 5.2.3 Mission Bay (Year 2040)

As presented in Section 2.4.3, the SFMTA has proposed two transit enhancement treatment visions for 16th Street. The treatments are referred to as the Moderate and Expanded Alternatives in the TEP EIR. The Moderate Alternative proposes a number of physical changes to the portion of the rerouted 22 Fillmore in the vicinity of the Mission Bay campus site including new and relocated transit stops, transit bulbs, and new traffic signals at Connecticut and Missouri streets. The Expanded Alternative includes these features as well as the conversion of a lane of mixed-flow lane of traffic to a transit-only lane along 16th Street in both directions through the campus site. The Expanded Alternative also includes the prohibition of left
turns at Bryant, Potrero (westbound only), Utah, San Bruno, Kansas, Rhode Island, De Haro, Carolina, Wisconsin, Arkansas, Connecticut, and Missouri streets. The Mission Bay Year 2040 traffic analysis includes both the Moderate Alternative and Expanded Alternative.

The weekday AM and PM peak hour Year 2040 traffic volumes and travel lane configuration at the study intersections are presented on Figures 5-3A and 5-3B. Table 5-3 presents the Existing and Year 2040 Plus LRDP intersection operating conditions for the weekday AM and PM peak hours. Under Year 2040 Plus LRDP conditions with the Moderate Alternative, four of the 21 study intersections are projected to operate at LOS E or LOS F conditions (as compared to four of the 21 study intersections operating at LOS E or LOS F under Existing conditions). The Expanded Alternative would cause an additional three intersections to operate at LOS E or F conditions due to the conversion of a mixed-flow travel lane in both directions to transit-only lanes. The LRDP’s contributions to the 2040 traffic volumes at the critical movements operating poorly (i.e., at LOS E or LOS F) for the intersections operating at LOS E or LOS F under Year 2040 conditions were calculated to determine whether the LRDP’s contributions to the LOS E or LOS F operating conditions under Year 2040 conditions would be considered significant. Year 2040 Plus LRDP conditions with the Moderate and Expanded Alternatives are described below, including a discussion of the LRDP Variant. This section also includes a qualitative discussion of the potential effects of the development of a Golden State Warriors event center at Mission Bay Blocks 29-32.
Cumulative (2040) Intersection Lane Configurations, Traffic Control, and Volumes - Mission Bay

16th Street study intersections evaluated as both two mixed-flow lanes in each direction and one mixed-flow lane and one transit only lane in each direction.
Cumulative (2040) Intersection Lane Configurations, Traffic Control, and Volumes - Mission Bay
### TABLE 5-3: PEAK HOUR INTERSECTION LEVEL OF SERVICE COMPARISON - MISSION BAY

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Traffic Control1</th>
<th>Peak Hour</th>
<th>Existing</th>
<th>Year 2040 Plus LRDP (Moderate Alternative)</th>
<th>Year 2040 Plus LRDP (Expanded Alternative)</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td></td>
<td></td>
<td>PM</td>
<td>70</td>
<td></td>
<td>E</td>
</tr>
<tr>
<td>25. King Street / Fourth Street</td>
<td>Signal</td>
<td>AM</td>
<td>43</td>
<td></td>
<td>D</td>
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<td></td>
<td></td>
<td>PM</td>
<td>53</td>
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<td>E</td>
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<tr>
<td>26. Brannan Street / Seventh Street</td>
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<td></td>
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<td>PM</td>
<td>25</td>
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<td>C</td>
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<td>27. Channel Street / Third Street</td>
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<td>AM</td>
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<td>D</td>
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<tr>
<td></td>
<td></td>
<td>PM</td>
<td>30</td>
<td></td>
<td>E</td>
</tr>
<tr>
<td>28. Channel Street / Fourth Street</td>
<td>Signal</td>
<td>AM</td>
<td>15</td>
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<td>B</td>
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<td>AM</td>
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<td>30. Mission Bay Boulevard North / Third Street</td>
<td>Signal</td>
<td>AM</td>
<td>17</td>
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<td></td>
<td></td>
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<td>C</td>
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<td></td>
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<td>32. Mission Bay Boulevard / Owens Street</td>
<td>Roundabout</td>
<td>AM</td>
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<td></td>
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<td>PM</td>
<td>22</td>
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<td>34. 16th Street / Third Street</td>
<td>Signal</td>
<td>AM</td>
<td>36</td>
<td></td>
<td>D</td>
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<td></td>
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<td>PM</td>
<td>31</td>
<td></td>
<td>C</td>
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<tr>
<td>35. 16th Street / Fourth Street</td>
<td>Signal</td>
<td>AM</td>
<td>26</td>
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<td></td>
<td></td>
<td>PM</td>
<td>27</td>
<td></td>
<td>C</td>
</tr>
<tr>
<td>36. 16th Street / Owens Street</td>
<td>Signal</td>
<td>AM</td>
<td>32</td>
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<td>C</td>
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<td></td>
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<td>PM</td>
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<td></td>
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<td>PM</td>
<td>13</td>
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<td>C</td>
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<td>39. 16th Street / Vermont Avenue</td>
<td>Signal</td>
<td>AM</td>
<td>19</td>
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<td></td>
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<tr>
<td>40. 16th Street / Potrero Avenue</td>
<td>Signal</td>
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<td>35</td>
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<td>C</td>
</tr>
<tr>
<td>41. Mariposa Street / Third Street</td>
<td>Signal</td>
<td>AM</td>
<td>52</td>
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<td>42. Mariposa Street / Fourth Street</td>
<td>Signal</td>
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<td>&lt;10</td>
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<td></td>
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<td>43. Mariposa Street / I-280 Northbound Ramps</td>
<td>Signal</td>
<td>AM</td>
<td>73</td>
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<td>E</td>
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<tr>
<td>44. Mariposa Street / I-280 Southbound Ramps</td>
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<td></td>
<td></td>
<td>PM</td>
<td>&gt;50</td>
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</tbody>
</table>
### TABLE 5-3: PEAK HOUR INTERSECTION LEVEL OF SERVICE COMPARISON - MISSION BAY

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Traffic Control¹</th>
<th>Peak Hour</th>
<th>Existing</th>
<th>Year 2040 Plus LRDP (Moderate Alternative)</th>
<th>Year 2040 Plus LRDP (Expanded Alternative)⁶</th>
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<td></td>
<td>Veh. Del.²</td>
<td>LOS³</td>
<td>Veh. Del.²</td>
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</tbody>
</table>

Notes:

1. AWS = All-way stop controlled; SSS = Side Street stop controlled; Signal = Signal controlled
2. Delay reported as seconds per vehicle. For signalized intersections, a combined weighted average delay for the various movements within the intersection is reported. For SSS intersections, the highest average delay for an approach is reported. For AWS intersection, the combined weighted average delay of the intersection is reported, followed by the highest average delay for an approach.
3. For signalized intersections, LOS based on average intersection delay, based on the methodology in the Highway Capacity Manual, 2000. For an unsignalized intersection, LOS is based on the worst approach which is indicated in parentheses.
4. **Bold** indicates LOS E or F operations
5. Intersection is signalized under Year 2040 and Year 2040 Plus LRDP conditions
6. Intersections with grayed cells in the Expanded Alternative columns operate at the same delay and LOS as in the Moderate Alternative columns.


The King Street/Third Street (Intersection #24) signalized intersection operates at LOS E in the PM peak hour under Year 2040 Plus LRDP conditions with the TEP Moderate and Expanded Alternatives. The critical eastbound left turn movement operates at LOS F during the PM peak. The LRDP would add 36 vehicle trips to the critical eastbound left turn movement, which represents a four percent increase from Year 2040 conditions. The other critical movements at this intersection – northbound left turn and westbound through – operate at LOS C and F, respectively, during the PM peak. Since the northbound left turn movement is expected to operate at LOS C, the LRDP’s contribution would not be considered significant. The LRDP would add two vehicle trips to the westbound through, which is an increase of less than one percent from Year 2040 conditions. While this critical movement is expected to operate at LOS F under Year 2040 Plus LRDP conditions, the LRDP’s contribution would not be considered significant. Therefore, the LRDP’s impact at this intersection would be considered **less than significant**.

The King Street/Fourth Street (Intersection #25) signalized intersection operates at LOS F in the PM peak hour under Year 2040 Plus LRDP conditions with the TEP Moderate and Expanded Alternatives. The critical eastbound left turn movement operates at LOS F during the PM peak. The LRDP would add no vehicle trips to the critical eastbound left turn movement. The other critical movements at this intersection – southbound through and westbound through – operate at LOS D and E, respectively, during the PM peak. Since the southbound through movement is expected to operate at LOS D, the LRDP’s contribution would not be considered significant. The LRDP would add no vehicle trips to the westbound through movement. Therefore, the LRDP’s impact at this intersection would be considered **less than significant**.

The Brannan Street/Seventh Street (Intersection #26) signalized intersection operates at LOS E in the PM peak hour under Year 2040 Plus LRDP conditions with the TEP Moderate and Expanded Alternatives. The critical northbound through movement operates at LOS F during the PM peak. The LRDP would add 163 vehicle trips to the critical northbound through movement, which represents 54 percent of the increase to Year 2040 conditions. Therefore, the LRDP’s impact at this intersection would be considered **significant**. The other critical movement at this intersection – the eastbound left turn – operates at LOS F during the PM peak. The LRDP would add no vehicle trips to the eastbound left turn. While this critical movement is
expected to operate at LOS F under Year 2040 Plus LRDP conditions, the LRDP's contribution to these movements would not be considered **significant**.

A mitigation measure (E-29), whose responsibility for implementation falls to the City was identified as part of the Mission Bay FSEIR. As part of the mitigation measure, the City would monitor the potential impact at this intersection, with the ultimate aim to re-stripe the northbound approach to provide three travel lanes, once needed. This mitigation measure would require removal of on-street parking on Seventh Street for approximately 300 feet approaching the intersection, shifting the northbound bike lane to the curb for the same distance to ensure the Class II bicycle facility on this street is not interrupted by this measure, and aligning the northbound through lanes through the intersection. The implementation of this measure by the City would improve traffic operations from LOS F to LOS C in the PM peak hour and reduce the impacts to **less-than-significant** levels.

The 16th Street/Fourth Street (Intersection #35) signalized intersection operates at LOS E in the AM peak hour under Year 2040 Plus LRDP conditions with the TEP Expanded Alternative. The critical westbound through and eastbound left turn movements operate at LOS E and LOS F, respectively, during the AM peak hour. The LRDP would add 198 vehicle trips to the westbound through movement, which represents an increase of 65 percent from Year 2040 conditions. The LRDP would add 184 vehicle trips to the critical eastbound left turn movement, which represents a 188 percent increase from Year 2040 conditions. Therefore, the LRDP's impact at this intersection with the TEP Expanded Alternative proposal for 16th Street would be considered **significant**. The other critical movement at this intersection – southbound through – operates at LOS D during the AM peak. Since the southbound through movement is expected to operate at LOS D, the LRDP's contribution to this movement would not be considered significant.

**Mitigation Measure TR-2a: Implement the Moderate Alternative of the TEP 16th Street Proposal**

Two mixed-flow travel lanes in each direction would be required to improve operations at 16th Street/Fourth Street to acceptable levels of service in the AM peak hour. As such, this mitigation measure would require that the Moderate Alternative of the TEP 16th Street proposal be implemented in order to maintain the requisite traffic carrying capacity of 16th Street for the forecasted traffic demand with the LRDP in place. The implementation of this measure would improve traffic operations from LOS E to LOS D in the AM peak hour and reduce the impacts to less-than-significant levels. The implementation of this mitigation measure will require further study and coordination with other agencies for approval and is outside the jurisdiction of UCSF. Therefore, this impact is considered **significant and unavoidable**.

Should the City of San Francisco implement the Expanded Alternative of the TEP, thereby resulting in a significant unavoidable cumulative impact on traffic conditions along 16th Street\(^{15}\), to which the proposed

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\(^{15}\) The TEP EIR, which included the expansion of the Mission Bay campus (including Phase One of the Medical Center and up to 2.65 Million gsf in the North campus), identified both project and cumulative significant and unavoidable impacts at numerous study intersections along 16th Street under the TEP's Expanded Alternative. Source: San Francisco Planning Department. 2014. *TEP Final EIR*, March 27, 2014, Available online at http://tepeir.sfpn.org. Accessed April 3, 2014. Case No. 2011.0558E. The document and supporting information may also be viewed at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA in case file 2011.0558E.
2014 LRDP would make a considerable contribution, UCSF shall implement the following mitigation measures:

**Mitigation Measure TR-3a: Implement Additional TDM Strategies to Reduce Single Occupancy Vehicle Trips**

- UCSF shall continue to investigate TDM measures targeted at reducing SOV trips. Although UCSF has already identified those TDM measures it can feasibly implement and has included those measures as part of the proposed 2014 LRDP, more measures may be developed or become evident over the 20 year-horizon of the LRDP.

- UCSF will monitor traffic conditions within and immediately surrounding the Mission Bay Campus Site as presented in Section 1.2.6. Should traffic conditions approach unacceptable levels, (LOS E or F), and should UCSF’s contribution to this cumulative impact be significant, UCSF shall implement additional TDM strategies that it investigates (beyond those identified in its existing TDM program presented in Table 2-1 and beyond those proposed in the 2014 LRDP) and finds could reasonably result in a reduction in SOV trips. The additional TDM strategies shall target a reduction in SOV trips by encouraging persons to select other modes of transportation, including: walking, bicycling, transit, car-share, carpooling, and/or to travel during non-peak periods.

The implementation of this mitigation measure could improve traffic operations along 16th Street by reducing SOV trips to and from the Mission Bay Campus Site by approximately three percent, which would represent a three percent reduction in the overall vehicle trips generated by the campus site. Therefore, any combination of or increase in expenditure to TDM strategies at the Mission Bay Campus Site could not reduce vehicular trips by the 90 to 95 percent that would be required to sufficiently lessen the impacts identified along 16th Street under the TEP Expanded Alternative. Therefore, even with the implementation of this mitigation measure, this impact would still be considered *significant and unavoidable*.

**Mitigation Measure TR-4a: Manage Parking Supply**

UCSF will continue to monitor the parking supply at the Mission Bay Campus Site so as not to oversupply parking at this campus site. As presented in Section 4.7, the trend in providing total parking supply at the Mission Bay Campus Site is negative as parking supply is expected to grow at a lower rate than total population. Monitoring the total parking supply per population at the Mission Bay Campus Site and revising the rate downward, if necessary, would improve traffic operations along 16th Street by reducing vehicular trips to and from the Mission Bay Campus Site. However, similar to Mitigation Measure TR-3a, any combination of reduced parking at the Mission Bay Campus Site could not reduce vehicular trips by the 90 to 95 percent that would be required to sufficiently lessen the impacts identified along 16th Street under the TEP Expanded Alternative. Therefore, even with the implementation of this mitigation measure, this impact would still be considered *significant and unavoidable*.

The 16th Street/Owens Street (Intersection #36) signalized intersection operates at LOS F in the AM peak hour under Year 2040 Plus LRDP conditions with the TEP Expanded Alternative. The critical eastbound through movement operates at LOS F during the AM peak. The LRDP would add 283 vehicle trips to the critical eastbound through movement, which represents a 92 percent increase from Year 2040 conditions. The other critical movements at this intersection – northbound through and westbound left turn – operate
at LOS B and F, respectively, during the AM peak. Since the northbound through movement is expected to operate at LOS B, the LRDP’s contribution would not be considered significant. The LRDP would add 121 vehicle trips to the westbound left turn movement, which represents an increase of 1,344 percent from Year 2040 conditions. Therefore, the LRDP’s impact at this intersection with the TEP Expanded Alternative proposal for 16th Street would be considered significant.

The 16th Street/Owens Street (Intersection #36) signalized intersection operates at LOS E in the PM peak hour under Year 2040 Plus LRDP conditions with the TEP Expanded Alternative. The critical northbound left turn movement operates at LOS F during the PM peak. The LRDP would add 84 vehicle trips to the critical eastbound through movement, which represents a 156 percent increase from Year 2040 conditions. The other critical movements at this intersection – eastbound through and westbound through – both operate at LOS F during the PM peak. The LRDP would add 30 vehicle trips to the eastbound through movement, which represents an increase of 11 percent from Year 2040 conditions. The LRDP would add 233 vehicle trips to the westbound through movement, which represents an increase of 47 percent from Year 2040 conditions. Therefore, the LRDP’s impact at this intersection with the TEP Expanded Alternative proposal for 16th Street would be considered significant.

Mitigation Measure TR-2b: Implement the Moderate Alternative of the TEP 16th Street Proposal

Two mixed-flow travel lanes in each direction would be required to improve operations at 16th Street/Owens Street to acceptable levels of service in the AM and PM peak hours. As such, this mitigation measure would require that the Moderate Alternative of the TEP 16th Street proposal be implemented in order to maintain the requisite traffic carrying capacity of 16th Street for the forecasted traffic demand with the LRDP in place. The implementation of this measure would improve traffic operations from LOS F to LOS D in the AM and PM peak hours and reduce the impacts to less-than-significant levels. The implementation of this mitigation measure will require further study and coordination with other agencies for approval and is outside the jurisdiction of UCSF. Therefore, this impact is considered significant and unavoidable.

Mitigation Measure TR-3b: Implement Additional TDM Strategies to Reduce Single Occupancy Vehicle Trips

- UCSF shall continue to investigate TDM measures targeted at reducing SOV trips. Although UCSF has already identified those TDM measures it can feasibly implement and has included those measures as part of the proposed 2014 LRDP, more measures may be developed or become evident over the 20 year-horizon of the LRDP.

- UCSF will monitor traffic conditions within and immediately surrounding the Mission Bay Campus Site as presented in Section 1.2.6. Should traffic conditions approach unacceptable levels, (LOS E or F), and should UCSF’s contribution to this cumulative impact be significant, UCSF shall implement additional TDM strategies that it investigates (beyond those identified in its existing TDM program presented in Table 2-1 and beyond those proposed in the 2014 LRDP) and finds could reasonably result in a reduction in SOV trips. The additional TDM strategies shall target a reduction in SOV trips by encouraging persons to select other modes of transportation, including: walking, bicycling, transit, car-share, carpooling, and/or to travel during non-peak periods.
The implementation of this mitigation measure would improve traffic operations along 16th Street by reducing SOV trips to and from the Mission Bay Campus Site by approximately three percent, which would represent a three percent reduction in the overall vehicle trips generated by the campus site. Therefore, any combination of or increase in expenditure to TDM strategies at the Mission Bay Campus Site could not reduce vehicular trips by the 90 to 95 percent that would be required to sufficiently lessen the impacts identified along 16th Street under the TEP Expanded Alternative. Therefore, even with the implementation of this mitigation measure, this impact would still be considered **significant and unavoidable**.

**Mitigation Measure TR-4b: Manage Parking Supply**

UCSF will continue to monitor the parking supply at the Mission Bay Campus Site so as not to oversupply parking at this campus site. As presented in Section 4.7, the trend in providing total parking supply at the Mission Bay Campus Site is negative as parking supply is expected to grow at a lower rate than total population. Monitoring the total parking supply per population at the Mission Bay Campus Site and revising the rate downward, if necessary, would improve traffic operations along 16th Street by reducing vehicular trips to and from the Mission Bay Campus Site. However, similar to Mitigation Measure TR-3a, any combination of reduced parking at the Mission Bay Campus Site could not reduce vehicular trips by the 90 to 95 percent that would be required to sufficiently lessen the impacts identified along 16th Street under the TEP Expanded Alternative. Therefore, even with the implementation of this mitigation measure, this impact would still be considered **significant and unavoidable**.

The 16th Street/Seventh Street (Intersection #37) signalized intersection operates at LOS F in the AM peak hour under Year 2040 Plus LRDP conditions with the TEP Expanded Alternative. The critical southbound left turn movement operates at LOS F during the AM peak. The LRDP would add 162 vehicle trips to the critical southbound left turn movement, which represents a 130 percent increase from Year 2040 conditions. The other critical movements at this intersection – northbound through and eastbound through – both operate at LOS F during the AM peak. The LRDP would add no vehicle trips to the northbound through movement. The LRDP would add 412 vehicle trips to the eastbound through movement, which represents an increase of 143 percent from Year 2040 conditions. Therefore, the LRDP’s impact at this intersection with the TEP Expanded Alternative proposal for 16th Street would be considered **significant**.

The 16th Street/Seventh Street (Intersection #37) signalized intersection operates at LOS F in the PM peak hour under Year 2040 Plus LRDP conditions with the TEP Expanded Alternative. The critical southbound right turn movement operates at LOS F during the PM peak. The LRDP would add 55 vehicle trips to the critical southbound left turn movement, which represents a 72 percent increase from Year 2040 conditions. The other critical movements at this intersection – northbound through and westbound through – operate at LOS E and F, respectively, during the PM peak. The LRDP would add no vehicle trips to the northbound through movement. The LRDP would add 176 vehicle trips to the westbound through movement, which represents an increase of 48 percent from Year 2040 conditions. Therefore, the LRDP’s impact at this intersection with the TEP Expanded Alternative proposal for 16th Street would be considered **significant**.

**Mitigation Measure TR-2c: Implement the Moderate Alternative of the TEP 16th Street Proposal**
Two mixed-flow travel lanes in each direction would be required to improve operations at 16th Street/Seventh Street to acceptable levels of service in the AM and PM peak hours. As such, this mitigation measure would require that the Moderate Alternative of the TEP 16th Street proposal be implemented in order to maintain the requisite traffic carrying capacity of 16th Street for the forecasted traffic demand with the LRDP in place. The implementation of this measure would improve traffic operations from LOS F to LOS D in the AM and PM peak hours and reduce the impacts to less-than-significant levels. The implementation of this mitigation measure will require further study and coordination with other agencies for approval and is outside the jurisdiction of UCSF. Therefore, this impact is considered **significant and unavoidable**.

**Mitigation Measure TR-3c: Implement Additional TDM Strategies to Reduce Single Occupancy Vehicle Trips**

- UCSF shall continue to investigate TDM measures targeted at reducing SOV trips. Although UCSF has already identified those TDM measures it can feasibly implement and has included those measures as part of the proposed 2014 LRDP, more measures may be developed or become evident over the 20 year-horizon of the LRDP.

- UCSF will monitor traffic conditions within and immediately surrounding the Mission Bay Campus Site as presented in Section 1.2.6. Should traffic conditions approach unacceptable levels, (LOS E or F), and should UCSF’s contribution to this cumulative impact be significant, UCSF shall implement additional TDM strategies that it investigates (beyond those identified in its existing TDM program presented in Table 2-1 and beyond those proposed in the 2014 LRDP) and finds could reasonably result in a reduction in SOV trips. The additional TDM strategies shall target a reduction in SOV trips by encouraging persons to select other modes of transportation, including: walking, bicycling, transit, car-share, carpooling, and/or to travel during non-peak periods.

The implementation of this mitigation measure would improve traffic operations along 16th Street by reducing SOV trips to and from the Mission Bay Campus Site by approximately three percent, which would represent a three percent reduction in the overall vehicle trips generated by the campus site. Therefore, any combination of or increase in expenditure to TDM strategies at the Mission Bay Campus Site could not reduce vehicular trips by the 90 to 95 percent that would be required to sufficiently lessen the impacts identified along 16th Street under the TEP Expanded Alternative. Therefore, even with the implementation of this mitigation measure, this impact would still be considered **significant and unavoidable**.

**Mitigation Measure TR-4c: Manage Parking Supply**

UCSF will continue to monitor the parking supply at the Mission Bay Campus Site so as not to oversupply parking at this campus site. As presented in Section 4.7, the trend in providing total parking supply at the Mission Bay Campus Site is negative as parking supply is expected to grow at a lower rate than total population. Monitoring the total parking supply per population at the Mission Bay Campus Site and revising the rate downward, if necessary, would improve traffic operations along 16th Street by reducing vehicular trips to and from the Mission Bay Campus Site. However, similar to Mitigation Measure TR-3a, any combination of reduced parking at the Mission Bay Campus Site could not reduce vehicular trips by the 90 to 95 percent that would be required to sufficiently lessen the impacts identified along 16th Street under the TEP Expanded Alternative.
Therefore, even with the implementation of this mitigation measure, this impact would still be considered *significant and unavoidable*.

The 16th Street/Potrero Avenue (Intersection #40) signalized intersection operates at LOS F in the PM peak hour under Year 2040 Plus LRDP conditions with the TEP Moderate Alternative. The critical northbound left turn movement operates at LOS F during the PM peak. The LRDP would add no vehicle trips to the critical northbound left turn movement. The other critical movement at this intersection – westbound through – operates at LOS C during the PM peak. Since the westbound through movement is expected to operate at LOS C, the LRDP’s contribution would not be considered significant. Therefore, the LRDP’s impact at this intersection with the TEP Moderate Alternative proposal for 16th Street would be considered *less than significant*.

The 16th Street/Potrero Avenue (Intersection #40) signalized intersection operates at LOS F in the AM peak hour under Year 2040 Plus LRDP conditions with the TEP Expanded Alternative. The critical southbound left turn movement operates at LOS F during the AM peak. The LRDP would add 19 vehicle trips to the critical southbound left turn movement, which represents a 12 percent increase from Year 2040 conditions. The other critical movement at this intersection – eastbound through – operates at LOS F during the AM peak. The LRDP would add 130 vehicle trips to the eastbound through movement, which represents an increase of 38 percent from Year 2040 conditions. Therefore, the LRDP’s impact at this intersection with the TEP Expanded Alternative proposal for 16th Street would be considered *significant*.

The 16th Street/Potrero Avenue (Intersection #40) signalized intersection operates at LOS F in the PM peak hour under Year 2040 Plus LRDP conditions with the TEP Expanded Alternative. The critical westbound through movement operates at LOS F during the PM peak. The LRDP would add 102 vehicle trips to the critical westbound through movement, which represents a 17 percent increase from Year 2040 conditions. The other critical movement at this intersection – northbound left turn – operates at LOS F during the PM peak. However, the LRDP would add no vehicle trips to the northbound left turn movement. Therefore, the LRDP’s impact at this intersection with the TEP Expanded Alternative proposal for 16th Street would be considered *significant*.

**Mitigation Measure TR-2d: Implement the Moderate Alternative of the TEP 16th Street Proposal**

Two mixed-flow travel lanes in each direction would be required to improve operations at 16th Street/Potrero Avenue to acceptable levels of service in the AM peak hour. As such, this mitigation measure would require that the Moderate Alternative of the TEP 16th Street proposal be implemented in order to maintain the requisite traffic carrying capacity of 16th Street for the forecasted traffic demand with the LRDP in place. The implementation of this measure would improve traffic operations from LOS F to LOS D in the AM peak hour and reduce the impacts to less-than-significant levels. However, the traffic operations would remain at LOS F in the PM peak hour. The implementation of this mitigation measure will require further study and coordination with other agencies for approval and is outside the jurisdiction of UCSF. Therefore, this impact is considered *significant and unavoidable*.

**Mitigation Measure TR-3d: Implement Additional TDM Strategies to Reduce Single Occupancy Vehicle Trips**

- UCSF shall continue to investigate TDM measures targeted at reducing SOV trips. Although UCSF has already identified those TDM measures it can feasibly implement and
has included those measures as part of the proposed 2014 LRDP, more measures may be developed or become evident over the 20 year-horizon of the LRDP.

- UCSF will monitor traffic conditions within and immediately surrounding the Mission Bay Campus Site as presented in Section 1.2.6. Should traffic conditions approach unacceptable levels, (LOS E or F), and should UCSF’s contribution to this cumulative impact be significant, UCSF shall implement additional TDM strategies that it investigates (beyond those identified in its existing TDM program presented in Table 2-1 and beyond those proposed in the 2014 LRDP) and finds could reasonably result in a reduction in SOV trips. The additional TDM strategies shall target a reduction in SOV trips by encouraging persons to select other modes of transportation, including: walking, bicycling, transit, car-share, carpooling, and/or to travel during non-peak periods.

The implementation of this mitigation measure would improve traffic operations along 16th Street by reducing SOV trips to and from the Mission Bay Campus Site by approximately three percent, which would represent a three percent reduction in the overall vehicle trips generated by the campus site. Therefore, any combination of or increase in expenditure to TDM strategies at the Mission Bay Campus Site could not reduce vehicular trips by the 90 to 95 percent that would be required to sufficiently lessen the impacts identified along 16th Street under the TEP Expanded Alternative. Therefore, even with the implementation of this mitigation measure, this impact would still be considered significant and unavoidable.

Mitigation Measure TR-4d: Manage Parking Supply

UCSF will continue to monitor the parking supply at the Mission Bay Campus Site so as not to oversupply parking at this campus site. As presented in Section 4.7, the trend in providing total parking supply at the Mission Bay Campus Site is negative as parking supply is expected to grow at a lower rate than total population. Monitoring the total parking supply per population at the Mission Bay Campus Site and revising the rate downward, if necessary, would improve traffic operations along 16th Street by reducing vehicular trips to and from the Mission Bay Campus Site. However, similar to Mitigation Measure TR-3a, any combination of reduced parking at the Mission Bay Campus Site could not reduce vehicular trips by the 90 to 95 percent that would be required to sufficiently lessen the impacts identified along 16th Street under the TEP Expanded Alternative. Therefore, even with the implementation of this mitigation measure, this impact would still be considered significant and unavoidable.
5.2.3.1 LRDP Variant

Traffic conditions associated with the LRDP Variant would be similar to those described for the LRDP. Table 5-4 presents the Existing and Year 2040 Plus LRDP Variant intersection operating conditions for the weekday AM and PM peak hours. Under Year 2040 Plus LRDP conditions with the Moderate Alternative, six of the 21 study intersections are projected to operate at LOS E or LOS F conditions (as compared to four of the 21 study intersections operating at LOS E or LOS F under Existing conditions). The Expanded Alternative would cause an additional two intersections to operate at LOS E or F conditions due to the conversion of a mixed-flow travel lane in both directions to transit-only lanes (as compared to three of the 21 study intersections operating at LOS E or LOS F under Existing conditions). Per Section 3.6.2, the LRDP Variant’s contributions to the 2040 traffic volumes at the critical movements operating poorly (i.e., at LOS E or LOS F) for the intersections operating at LOS E or LOS F under Year 2040 conditions would be approximately two percent higher to those calculated for the LRDP.
## TABLE 5-4: PEAK HOUR INTERSECTION LEVEL OF SERVICE COMPARISON - MISSION BAY

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Traffic Control¹</th>
<th>Peak Hour</th>
<th>Existing</th>
<th>Year 2040 Plus LRDP Variant (Moderate Alternative)</th>
<th>Year 2040 Plus LRDP Variant (Expanded Alternative)⁶</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Vehicle Delay² (sec)</td>
<td>LOS³</td>
</tr>
<tr>
<td>24. King Street / Third Street</td>
<td>Signal AM PM</td>
<td>46</td>
<td>D</td>
<td>54</td>
<td>D</td>
</tr>
<tr>
<td>25. King Street / Fourth Street</td>
<td>Signal AM PM</td>
<td>43</td>
<td>D</td>
<td>52</td>
<td>D</td>
</tr>
<tr>
<td>27. Channel Street / Third Street</td>
<td>Signal AM PM</td>
<td>40</td>
<td>D</td>
<td>52</td>
<td>D</td>
</tr>
<tr>
<td>28. Channel Street / Fourth Street</td>
<td>Signal AM PM</td>
<td>23</td>
<td>C</td>
<td>30</td>
<td>C</td>
</tr>
<tr>
<td>29. Mission Rock Street / Third Street</td>
<td>Signal AM PM</td>
<td>37</td>
<td>D</td>
<td>47</td>
<td>D</td>
</tr>
<tr>
<td>30. Mission Bay Boulevard North / Third Street</td>
<td>Signal AM PM</td>
<td>17</td>
<td>B</td>
<td>38</td>
<td>D</td>
</tr>
<tr>
<td>31. Mission Bay Boulevard South / Third Street</td>
<td>Signal AM PM</td>
<td>23</td>
<td>C</td>
<td>41</td>
<td>D</td>
</tr>
<tr>
<td>32. Mission Bay Boulevard / Owens Street</td>
<td>Roundabout AM PM</td>
<td>&lt;10</td>
<td>A</td>
<td>11</td>
<td>B</td>
</tr>
<tr>
<td>33. Mission Bay Boulevard / Seventh Street</td>
<td>Signal AM PM</td>
<td>20</td>
<td>B</td>
<td>38</td>
<td>D</td>
</tr>
<tr>
<td>34. 16th Street / Third Street</td>
<td>Signal AM PM</td>
<td>36</td>
<td>D</td>
<td>49</td>
<td>D</td>
</tr>
<tr>
<td>35. 16th Street / Fourth Street</td>
<td>Signal AM PM</td>
<td>26</td>
<td>C</td>
<td>43</td>
<td>D</td>
</tr>
<tr>
<td>36. 16th Street / Owens Street</td>
<td>Signal AM PM</td>
<td>32</td>
<td>C</td>
<td>37</td>
<td>C</td>
</tr>
<tr>
<td>37. 16th Street / Seventh Street</td>
<td>Signal AM PM</td>
<td>43</td>
<td>D</td>
<td>56</td>
<td>E</td>
</tr>
<tr>
<td>38. 16th Street / Rhode Island Avenue</td>
<td>Signal AM PM</td>
<td>15</td>
<td>B</td>
<td>52</td>
<td>D</td>
</tr>
<tr>
<td>39. 16th Street / Vermont Avenue</td>
<td>Signal AM PM</td>
<td>19</td>
<td>B</td>
<td>34</td>
<td>C</td>
</tr>
<tr>
<td>40. 16th Street / Potrero Avenue</td>
<td>Signal AM PM</td>
<td>27</td>
<td>C</td>
<td>49</td>
<td>D</td>
</tr>
<tr>
<td>41. Mariposa Street / Third Street</td>
<td>Signal AM PM</td>
<td>52</td>
<td>D</td>
<td>56</td>
<td>E</td>
</tr>
<tr>
<td>42. Mariposa Street / Fourth Street</td>
<td>Signal AM PM</td>
<td>&lt;10</td>
<td>A</td>
<td>25</td>
<td>C</td>
</tr>
<tr>
<td>43. Mariposa Street / I-280 Northbound Ramp</td>
<td>Signal AM PM</td>
<td>73</td>
<td>E</td>
<td>46</td>
<td>D</td>
</tr>
</tbody>
</table>
### TABLE 5-4: PEAK HOUR INTERSECTION LEVEL OF SERVICE COMPARISON - MISSION BAY

<table>
<thead>
<tr>
<th>Intersection</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Vehicle Delay² (sec)</td>
<td>LOS³</td>
<td>Vehicle Delay² (sec)</td>
</tr>
<tr>
<td>44. Mariposa Street / I-280 Southbound Ramp</td>
<td>SSS⁵</td>
<td>AM</td>
<td>&gt;50</td>
<td>F</td>
<td>&lt;10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td>&gt;50</td>
<td>F</td>
<td>13</td>
</tr>
</tbody>
</table>

**Notes:**
1. AWS = All-way stop controlled; SSS = Side Street stop controlled; Signal = Signal controlled
2. Delay reported as seconds per vehicle. For signalized intersections, a combined weighted average delay for the various movements within the intersection is reported. For SSS intersections, the highest average delay for an approach is reported. For AWS intersection, the combined weighted average delay of the intersection is reported, followed by the highest average delay for an approach.
3. For signalized intersections, LOS based on average intersection delay, based on the methodology in the Highway Capacity Manual, 2000. For an unsignalized intersection, LOS is based on the worst approach which is indicated in parentheses.
4. **Bold** indicates unacceptable operations per UCSF LOS standards
5. Intersection is signalized under Existing Plus LRDP condition


In general, the addition of LRDP Variant-generated traffic would result in similar changes in the average delay per vehicle at most study intersections to the LRDP. Most of the study intersections would continue to operate at the same service levels as under 2040 Plus LRDP conditions, with the exceptions being 16th Street/Seventh Street which would operate at LOS E during the AM peak hour under the Moderate Alternative and Mariposa Street / Third Street which would operate at LOS E during the AM peak hour under both the Moderate Alternative and the Expanded Alternative.

The LRDP Variant would contribute considerably to the operations at several intersections which are expected to operate at LOS E or F under the TEP Moderate and / or Expanded Alternative, including the following previously identified intersections:

- **Brannan Street / Seventh Street (PM peak hour, Moderate and Expanded Alternatives).** A mitigation measure (E-29), whose responsibility for implementation falls to the master developer of Mission Bay, FOCIL, was identified as part of the Mission Bay FSEIR. As part of the mitigation measure, the City would monitor the potential impact at this intersection, with the ultimate aim to re-stripe the northbound approach to provide three travel lanes, once needed. This mitigation measure would require removal of on-street parking on Seventh Street for approximately 300 feet approaching the intersection, shifting the northbound bike lane to the curb for the same distance to ensure the Class II bicycle facility on this street is not interrupted by this measure, and aligning the northbound through lanes through the intersection. The implementation of this measure by the City would improve traffic operations from LOS F to LOS C in the PM peak hour and reduce the impacts to *less-than-significant* levels.

- **16th Street/Fourth Street (AM peak hour, Expanded Alternative)** The LRDP’ Variant’s impact at this intersection with the TEP Expanded Alternative proposal for 16th Street would be considered
**significant.** The implementation of Mitigation Measure TR-2a would improve traffic operations from LOS E to LOS D in the AM peak hour and reduce the impacts to less-than-significant levels. The implementation of this mitigation measure will require further study and coordination with other agencies for approval and is outside the jurisdiction of UCSF. Additionally, should the City of San Francisco implement the Expanded Alternative of the TEP, thereby resulting in a significant unavoidable cumulative impact on traffic conditions along 16th Street to which the LRDP Variant would make a considerable contribution, UCSF shall implement Mitigation Measures TR-3a and TR-4a. Any combination of or increase in expenditure to TDM strategies at the Mission Bay Campus Site, as identified in MM TR- 3a, and combination of reduced parking at the Mission Bay Campus Site, as identified in MM TR- 4a, could not reduce vehicular trips by the 90 to 95 percent that would be required to sufficiently lessen the impacts identified along 16th Street under the TEP Expanded Alternative. Therefore, even with the implementation of these mitigation measures, this impact under the LRDP Variant would still be considered **significant and unavoidable.**

- 16th Street/Owens Street (AM and PM peak hours, Expanded Alternative) The LRDP’ Variant’s impact at this intersection with the TEP Expanded Alternative proposal for 16th Street would be considered **significant.** The implementation of Mitigation Measure TR-2b would improve traffic operations from LOS F to LOS D in the AM and PM peak hours and reduce the impacts to less-than-significant levels. The implementation of this mitigation measure will require further study and coordination with other agencies for approval and is outside the jurisdiction of UCSF. Additionally, should the City of San Francisco implement the Expanded Alternative of the TEP, thereby resulting in a significant unavoidable cumulative impact on traffic conditions along 16th Street to which the LRDP Variant would make a considerable contribution, UCSF shall implement Mitigation Measures TR-3b and TR-4b. Any combination of or increase in expenditure to TDM strategies at the Mission Bay Campus Site, as identified in MM TR- 3a, and combination of reduced parking at the Mission Bay Campus Site, as identified in MM TR- 4b, could not reduce vehicular trips by the 90 to 95 percent that would be required to sufficiently lessen the impacts identified along 16th Street under the TEP Expanded Alternative. Therefore, even with the implementation of these mitigation measures, this impact under the LRDP Variant would still be considered **significant and unavoidable.**

- 16th Street/Seventh Street (AM and PM peak hours, Expanded Alternative) The LRDP’ Variant’s impact at this intersection with the TEP Expanded Alternative proposal for 16th Street would be considered **significant.** The implementation of Mitigation Measure TR-2a would improve traffic operations from LOS F to LOS D in the AM and PM peak hours and reduce the impacts to less-than-significant levels. The implementation of this mitigation measure will require further study and coordination with other agencies for approval and is outside the jurisdiction of UCSF. Additionally, should the City of San Francisco implement the Expanded Alternative of the TEP, thereby resulting in a significant unavoidable cumulative impact on traffic conditions along 16th Street to which the LRDP Variant would make a considerable contribution, UCSF shall implement Mitigation Measures TR-3c and TR-4c. Any combination of or increase in expenditure to TDM strategies at the Mission Bay Campus Site, as identified in MM TR- 3c, and combination of reduced parking at the Mission Bay Campus Site, as identified in MM TR- 4c, could not reduce vehicular trips by the 90 to 95 percent that would be required to sufficiently lessen the impacts identified along 16th Street under the TEP Expanded Alternative. Therefore, even with the implementation of these mitigation measures, this impact under the LRDP Variant would still be considered **significant and unavoidable.**
• **16th Street/Potrero Avenue (AM and PM peak hours, Expanded Alternative)** The LRDP Variant’s impact at this intersection with the TEP Expanded Alternative proposal for 16th Street would be considered *significant*. The implementation of Mitigation Measure TR-2d would improve traffic operations from LOS F to LOS D in the AM peak hour and reduce the impacts to less-than-significant levels. However, the traffic operations would remain at LOS F in the PM peak hour. The implementation of this mitigation measure will require further study and coordination with other agencies for approval and is outside the jurisdiction of UCSF. Additionally, should the City of San Francisco implement the Expanded Alternative of the TEP, thereby resulting in a significant unavoidable cumulative impact on traffic conditions along 16th Street to which the LRDP Variant would make a considerable contribution, UCSF shall implement Mitigation Measures TR-3d and TR-4d. Any combination of or increase in expenditure to TDM strategies at the Mission Bay Campus Site, as identified in MM TR-3d, and combination of reduced parking at the Mission Bay Campus Site, as identified in MM TR-4d, could not reduce vehicular trips by the 90 to 95 percent that would be required to sufficiently lessen the impacts identified along 16th Street under the TEP Expanded Alternative. Therefore, even with the implementation of these mitigation measures, this impact under the LRDP Variant would still be considered *significant and unavoidable*.

The LRDP Variant would contribute considerably to the operations at two intersections which are expected to operate at LOS E or F under the TEP Moderate and/or Expanded Alternative, which were not previously identified under the LRDP scenario:

• **16th Street/Seventh Street (AM peak hour, Moderate Alternative)** The LRDP Variant’s impact at this intersection with the TEP Moderate Alternative proposal for 16th Street would be considered *significant*. To mitigate the poor operating condition of the intersection, additional travel lane capacity would be needed at the eastbound and westbound approaches to the intersection. The provision of additional travel lane capacity would require the narrowing of sidewalks and/or removal of the Class II bicycle facility on 16th Street. Narrowing of sidewalks and removal of bicycle lanes would be inconsistent with the transit and pedestrian environment encouraged by the City’s Transit First Policy by removing space dedicated to pedestrians and increasing the distances required for pedestrians to cross streets. Additionally, the presence of the I-280 freeway support structures prohibit further widening of the 16th Street right-of-way. For the reasons described above, there are no feasible geometric mitigation measures to improve conditions to a less-than-significant level.

**Mitigation Measure TR-3e: Implement Additional TDM Strategies to Reduce Single Occupancy Vehicle Trips**

- UCSF shall continue to investigate TDM measures targeted at reducing SOV trips. Although UCSF has already identified those TDM measures it can feasibly implement and has included those measures as part of the proposed 2014 LRDP, more measures may be developed or become evident over the 20 year-horizon of the LRDP.

- UCSF will monitor traffic conditions within and immediately surrounding the Mission Bay Campus Site as presented in Section 1.2.6. Should traffic conditions approach unacceptable levels, (LOS E or F), and should UCSF’s contribution to this cumulative impact be significant, UCSF shall implement additional TDM strategies that it investigates (beyond those identified in its existing TDM program presented in Table 2-1 and beyond those proposed in the 2014 LRDP) and finds could reasonably result in a reduction in SOV...
trips. The additional TDM strategies shall target a reduction in SOV trips by encouraging persons to select other modes of transportation, including: walking, bicycling, transit, car-share, carpooling, and/or to travel during non-peak periods.

The implementation of this mitigation measure and the inclusion of the additional TDM strategies presented in Section 1.2.5 would improve traffic operations at the intersection of Mariposa Street/Third Street in the AM peak hour under the Moderate Alternative. The TDM strategies presented in Section 1.2.5 were recently proposed by UCSF and hence were not assumed in the travel demand calculations presented in Chapter 3. These TDM strategies would reduce SOV trips by approximately three percent, which would represent a three percent reduction in the overall vehicle trips generated by the campus site. The implementation of this measure by UCSF and the associated reduction in vehicle trips to the Mission Bay campus site would improve traffic operations at 16th Street/Seventh Street from LOS E to LOS D in the AM peak hour and reduce the impacts to less-than-significant levels.

- Mariposa Street/Third Street (AM peak hour, Moderate Alternative) The LRDP Variant’s impact at this intersection with the TEP Moderate Alternative proposal for 16th Street would be considered significant. To mitigate the poor operating condition of the intersection, additional travel lane capacity would be needed at the eastbound approach to the intersection. The provision of additional travel lane capacity would require the narrowing of sidewalks on Mariposa Street. Narrowing of sidewalks would be inconsistent with the transit and pedestrian environment encouraged by the City’s Transit First Policy by removing space dedicated to pedestrians and increasing the distances required for pedestrians to cross streets. For the reasons described above, there are no feasible geometric mitigation measures to improve conditions to a less-than-significant level.

Mitigation Measure TR-3f: Implement Additional TDM Strategies to Reduce Single Occupancy Vehicle Trips

- UCSF shall continue to investigate TDM measures targeted at reducing SOV trips. Although UCSF has already identified those TDM measures it can feasibly implement and has included those measures as part of the proposed 2014 LRDP, more measures may be developed or become evident over the 20 year-horizon of the LRDP.

- UCSF will monitor traffic conditions within and immediately surrounding the Mission Bay Campus Site as presented in Section 1.2.6. Should traffic conditions approach unacceptable levels, (LOS E or F), and should UCSF’s contribution to this cumulative impact be significant, UCSF shall implement additional TDM strategies that it investigates (beyond those identified in its existing TDM program presented in Table 2-1 and beyond those proposed in the 2014 LRDP) and finds could reasonably result in a reduction in SOV trips. The additional TDM strategies shall target a reduction in SOV trips by encouraging persons to select other modes of transportation, including: walking, bicycling, transit, car-share, carpooling, and/or to travel during non-peak periods.

The implementation of this mitigation measure and the inclusion of the additional TDM strategies presented in Section 1.2.5 would improve traffic operations at the intersection of Mariposa Street/Third Street in the AM peak hour under the Moderate Alternative. The TDM strategies presented in Section 1.2.5 were recently proposed by UCSF and hence were not assumed in the
travel demand calculations presented in Chapter 3. These TDM strategies would reduce SOV trips by approximately three percent, which would represent a three percent reduction in the overall vehicle trips generated by the campus site. The implementation of this measure by UCSF and the associated reduction in vehicle trips to the Mission Bay campus site would improve traffic operations at Mariposa Street/Third Street from LOS E to LOS D in the AM peak hour and reduce the impacts to *less-than-significant* levels.

- Mariposa Street/Third Street (AM peak hour, Expanded Alternative) The LRDP’ Variant’s impact at this intersection with the TEP Expanded Alternative proposal for 16th Street would be considered *significant*. To mitigate the poor operating condition of the intersection, additional travel lane capacity would be needed at the eastbound approach to the intersection. The provision of additional travel lane capacity would require the narrowing of sidewalks on Mariposa Street. Narrowing of sidewalks would be inconsistent with the transit and pedestrian environment encouraged by the City’s Transit First Policy by removing space dedicated to pedestrians and increasing the distances required for pedestrians to cross streets. For the reasons described above, there are no feasible geometric mitigation measures to improve conditions to a less-than-significant level.

**Mitigation Measure TR-3g: Implement Additional TDM Strategies to Reduce Single Occupancy Vehicle Trips**

- UCSF shall continue to investigate TDM measures targeted at reducing SOV trips. Although UCSF has already identified those TDM measures it can feasibly implement and has included those measures as part of the proposed 2014 LRDP, more measures may be developed or become evident over the 20 year-horizon of the LRDP.

- UCSF will monitor traffic conditions within and immediately surrounding the Mission Bay Campus Site as presented in Section 1.2.6. Should traffic conditions approach unacceptable levels, (LOS E or F), and should UCSF’s contribution to this cumulative impact be significant, UCSF shall implement additional TDM strategies that it investigates (beyond those identified in its existing TDM program presented in Table 2-1 and beyond those proposed in the 2014 LRDP) and finds could reasonably result in a reduction in SOV trips. The additional TDM strategies shall target a reduction in SOV trips by encouraging persons to select other modes of transportation, including: walking, bicycling, transit, car-share, carpooling, and/or to travel during non-peak periods.

The implementation of this mitigation measure and the inclusion of the additional TDM strategies presented in Section 1.2.5 would improve traffic operations at the intersection of Mariposa Street/Third Street in the AM peak hour under the Expanded Alternative. The TDM strategies presented in Section 1.2.5 were recently proposed by UCSF and hence were not assumed in the travel demand calculations presented in Chapter 3. These TDM strategies would reduce SOV trips by approximately three percent, which would represent a three percent reduction in the overall vehicle trips generated by the campus site. The implementation of this measure by UCSF and the associated reduction in vehicle trips to the Mission Bay campus site would improve traffic operations at Mariposa Street/Third Street from LOS E to LOS D in the AM peak hour and reduce the impacts to *less-than-significant* levels.
5.2.3.2 Proposed Golden State Warriors Event Center at Mission Bay

In April 2014, the Golden State Warriors (GS Warriors) announced the purchase of 12 acres of land from Salesforce.com in the Mission Bay South Redevelopment Project Area where the team intends to build a new sports and entertainment center. Previously, the Warriors were exploring constructing the arena and associated uses on Piers 30 and 32 and Seawall Lot 330 to the north of Mission Bay, along The Embarcadero.

The proposed event center would be built on four adjacent city blocks (Development Blocks 29 through 32) bounded by Third Street to the west, South Street to the north, Terry François Boulevard to the east, and 16th Street to the South. The four blocks are currently undeveloped, with a portion of Blocks 29 and 30 adjacent to South Street being used as a temporary surface parking lot.

The GS Warriors have just started the planning and design for the new site, so the division of the approximately one million square feet of development allowed for the site among the 18,000-seat arena, office, and retail uses has not yet been established. Based on previous designs for Piers 30 and 32, the new arena is likely to occupy 500,000 to 600,000 square feet of development, with the remaining space (400,000 to 500,000 square feet) available for office and retail uses.

The SF-CHAMP travel demand forecasting model developed in 2013 by the SFCTA and the SF Planning Department and used in this study to estimate future cumulative transportation conditions assumes approximately one million square feet of office/R&D with ground floor retail to occur by the year 2040 within Blocks 29 through 32. As such, the traffic and transit data derived from the SF-CHAMP model and used in the analysis of cumulative transportation impacts of the 2014 LRDP can be deemed as a conservative and valid representation of a typical day when no events take place at the proposed arena.

The transportation effects of an event at the new arena are not yet known, as the GS Warriors have just started the necessary project development and environmental studies. Based on modal split and vehicle occupancy data taken from surveys of SF Giants game attendees, spectators at a sellout game at the new arena could be expected to generate about 3,200 vehicle trips and 8,300 transit trips. Based on previous data for Piers 30 and 32, the event vehicle and transit demand would be inbound during the evening (starting around 6 PM) and outbound late at night (after 10 or 10:30 PM) since most games and concerts would start around 7:30 and last for 2 ½ or 3 hours.

The exact contribution of the new arena to the PM peak hour cumulative traffic and transit conditions is not known as this time, as the project analysis have just started. In addition the GS Warriors are in the process of developing as part of the project a Transportation Management Program (TMP) to address potential transportation project impacts.

Several key intersections in the Mission Bay South Area, such as 16th Street/Third Street, 16th Street/Seventh/Mississippi Street, Mariposa Street/Third Street, and Seventh Street/Mission Bay Drive, would be expected to operate at a high LOS D by year 2040 during the PM peak hour, as shown in Table

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16 Based on a modal split of 44% auto, 46% transit and 10% other travel modes, and an average vehicle occupancy of 2.6 people per vehicle. Source: Appendix A (p. A-8), Travel and Parking Demand Estimates for the Proposed Event Center and Mixed Use Development at Piers 30-32 and Seawall Lot 330, Draft 3 Technical Memorandum, Advant Consulting, February 28, 2014. This document is available for review at the SF Planning Department, 1650 Mission Street, Suite 400, San Francisco, California 94103.
5-3. Thus, it is possible that an increase in inbound traffic due to an arena event causes these intersections to operate at LOS E or F instead of LOS D. If inbound arena event traffic causes significant traffic impacts at these intersections, the contribution of LRDP traffic to the cumulative conditions at these intersections would be substantial and the LRDP’s impact to cumulative traffic impacts therefore would be considered significant. The significant impact may not be able to be mitigated to a less than significant level; therefore rendering the cumulative impacts potentially significant and unavoidable.

Mitigation Measure TR-3h: Implement Additional TDM Strategies to Reduce Single Occupancy Vehicle Trips

- UCSF shall continue to investigate TDM measures targeted at reducing SOV trips. Although UCSF has already identified those TDM measures it can feasibly implement and has included those measures as part of the proposed 2014 LRDP, more measures may be developed or become evident over the 20 year-horizon of the LRDP.

- UCSF will monitor traffic conditions within and immediately surrounding the Mission Bay Campus Site as presented in Section 1.2.6. Should traffic conditions approach unacceptable levels, (LOS E or F), and should UCSF’s contribution to this cumulative impact be significant, UCSF shall implement additional TDM strategies that it investigates (beyond those identified in its existing TDM program presented in Table 2-1 and beyond those proposed in the 2014 LRDP) and finds could reasonably result in a reduction in SOV trips. The additional TDM strategies shall target a reduction in SOV trips by encouraging persons to select other modes of transportation, including: walking, bicycling, transit, car-share, carpooling, and/or to travel during non-peak periods.

The implementation of this mitigation measure would improve traffic operations along 16th Street by reducing SOV trips to and from the Mission Bay Campus Site by approximately three percent, which would represent a three percent reduction in the overall vehicle trips generated by the campus site. Therefore, any combination of or increase in expenditure to TDM strategies at the Mission Bay Campus Site could not reduce vehicular trips by the 90 to 95 percent that would be required to sufficiently lessen the impacts identified along 16th Street under the TEP Expanded Alternative. Therefore, even with the implementation of this mitigation measure, this impact would still be considered significant and unavoidable.

Similar to under the LRDP scenario, several key intersections in the Mission Bay South Area, such as 16th Street/Third Street, 16th Street/Seventh/Mississippi Street, and Seventh Street/Mission Bay Drive, would be expected to operate at a high LOS D by year 2040 during the PM peak hour under the LRDP Variant, as shown in Table 5-4. Thus, it is possible that an increase in inbound traffic due to an arena event causes these intersections to operate at LOS E or F instead of LOS D. If inbound arena event traffic causes significant traffic impacts at these intersections, the contribution of LRDP Variant traffic to the cumulative conditions at these intersections would be substantial and the LRDP Variant’s impact to cumulative traffic impacts therefore would be considered significant. The significant impact may not be able to be mitigated to a less than significant level; therefore rendering the cumulative impacts potentially significant and unavoidable.

As identified above, Mitigation Measure TR-3g would improve traffic operations along 16th Street by reducing SOV trips to and from the Mission Bay Campus Site by approximately three percent, which would represent a three percent reduction in the overall vehicle trips generated by the campus site. Any
combination of or increase in expenditure to TDM strategies at the Mission Bay Campus Site could not reduce vehicular trips by the 90 to 95 percent that would be required to sufficiently lessen the impacts identified along 16th Street under the TEP Expanded Alternative. Therefore, even with the implementation of these mitigation measures, this impact under the LRDP Variant would still be considered **significant and unavoidable**.

### 5.2.4 Mount Zion

The weekday AM and PM peak hour Year 2040 traffic volumes and travel lane configuration at the study intersections are presented on Figures 5-4A and 5-4B. Table 5-5 presents the Existing and Year 2040 Plus LRDP intersection operating conditions for the weekday AM and PM peak hours. Under Year 2040 conditions none of the 16 study intersections are projected to operate at LOS E or LOS F conditions, similar to under Existing conditions).
Figure 5-4A

Cumulative (2040) Intersection Lane Configurations, Traffic Control, and Volumes—Mount Zion
Cumulative (2040) Intersection Lane Configurations, Traffic Control, and Volumes—Mount Zion

Figure 5-4B
### TABLE 5-5: PEAK HOUR INTERSECTION LEVEL OF SERVICE COMPARISON - MOUNT ZION

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Traffic Control¹</th>
<th>Peak Hour</th>
<th>Existing</th>
<th>Year 2040 Plus LRDP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Vehicle Delay² (seconds)</td>
<td>LOS³</td>
</tr>
<tr>
<td>45. Pine Street / Divisadero Street</td>
<td>Signal</td>
<td>AM PM</td>
<td>14 32</td>
<td>B C</td>
</tr>
<tr>
<td>46. Bush Street / Broderick Street</td>
<td>Signal</td>
<td>AM PM</td>
<td>17 11</td>
<td>B B</td>
</tr>
<tr>
<td>47. Bush Street / Divisadero Street</td>
<td>Signal</td>
<td>AM PM</td>
<td>48 18</td>
<td>D B</td>
</tr>
<tr>
<td>48. Bush Street / Scott Street</td>
<td>Signal</td>
<td>AM PM</td>
<td>30 17</td>
<td>C B</td>
</tr>
<tr>
<td>49. Bush Street / Pierce Street</td>
<td>Signal</td>
<td>AM PM</td>
<td>30 15</td>
<td>C B</td>
</tr>
<tr>
<td>50. Sutter Street / Broderick Street</td>
<td>AWS</td>
<td>AM PM</td>
<td>&lt;10 &lt;10</td>
<td>A A</td>
</tr>
<tr>
<td>51. Sutter Street / Divisadero Street</td>
<td>Signal</td>
<td>AM PM</td>
<td>12 12</td>
<td>B B</td>
</tr>
<tr>
<td>52. Sutter Street / Scott Street</td>
<td>AWS</td>
<td>AM PM</td>
<td>10 11 11/12</td>
<td>B / B</td>
</tr>
<tr>
<td>53. Sutter Street / Pierce Street</td>
<td>AWS</td>
<td>AM PM</td>
<td>&lt;10 &lt;10</td>
<td>A / A</td>
</tr>
<tr>
<td>54. Post Street / Broderick Street</td>
<td>Signal</td>
<td>AM PM</td>
<td>14 12</td>
<td>B B</td>
</tr>
<tr>
<td>55. Post Street / Divisadero Street</td>
<td>Signal</td>
<td>AM PM</td>
<td>17 14</td>
<td>B B</td>
</tr>
<tr>
<td>56. Post Street / Scott Street</td>
<td>Signal</td>
<td>AM PM</td>
<td>17 15</td>
<td>B B</td>
</tr>
<tr>
<td>57. Post Street / Pierce Street</td>
<td>SSS</td>
<td>AM PM</td>
<td>12 11</td>
<td>B B</td>
</tr>
<tr>
<td>58. Geary Boulevard / Broderick Street</td>
<td>SSS</td>
<td>AM PM</td>
<td>15 17</td>
<td>B C</td>
</tr>
<tr>
<td>59. Geary Boulevard / Divisadero Street</td>
<td>Signal</td>
<td>AM PM</td>
<td>34 30</td>
<td>C C</td>
</tr>
<tr>
<td>60. Geary Boulevard / Scott Street</td>
<td>Signal</td>
<td>AM PM</td>
<td>21 20</td>
<td>C B</td>
</tr>
</tbody>
</table>

Notes:
1. AWS = All-way stop controlled; SSS = Side Street stop controlled; Signal = Signal controlled
2. Delay reported as seconds per vehicle. For signalized intersections, a combined weighted average delay for the various movements within the intersection is reported. For SSS intersections, the highest average delay for an approach is reported. For AWS intersection, the combined weighted average delay of the intersection is reported, followed by the highest average delay for an approach.
3. For signalized intersections, LOS based on average intersection delay, based on the methodology in the Highway Capacity Manual, 2000. For an unsignalized intersection, LOS is based on the worst approach which is indicated in parentheses.
4. **Bold** indicates LOS E or F operations

During the AM and PM peak hours, all 16 of the study intersections would continue to operate at acceptable levels of service (LOS D or better) under Year 2040 Plus LRDP conditions. Therefore, the LRDP would have a less-than-significant impact at these intersections.

Although the LRDP is not projected to cause any new significant impacts to traffic circulation at the Mount Zion Campus Site, the improvement measure below could be implemented to lessen the effect of SOV vehicles in the project vicinity.

**Improvement Measure IM-TR-5b: Implement Additional TDM Strategies to Reduce Single Occupancy Vehicle Trips to the Mount Zion Campus Site**

- UCSF shall continue to investigate TDM measures targeted at reducing SOV trips. Although UCSF has already identified those TDM measures it can feasibly implement and has included those measures as part of the proposed 2014 LRDP, more measures may be developed or become evident over the 20 year-horizon of the LRDP.

### 5.2.5 Mission Center

As presented in Section 5.2.4, the SFMTA has proposed two transit enhancement treatment visions for 16th Street as a part of the TEP. Through the Mission Center study area, the Moderate Alternative would maintain four-lanes on 16th Street and the Expanded Alternative would convert the westbound mixed-flow lane of traffic to a transit-only lane while maintaining the two eastbound mixed-flow traffic lanes (note: further to the east in the Mission Bay campus site, the Expanded Alternative of the TEP proposes transit-only lanes in both directions – the eastbound transit-only lane is proposed to begin at Bryant Street). Therefore, the Mission Center Year 2040 traffic analysis includes both the Moderate and Expanded Alternatives.

Year 2040 Plus LRDP conditions peak hour turning movement volumes for the Mission Center Campus Site are shown in Figures 5-5A and 5-5B. Table 5-6 presents intersection levels of service and delay for the AM and PM peak hours for the Existing and Year 2040 Plus LRDP scenarios. Under Year 2040 Plus LRDP conditions with the Moderate Alternative, six of the 15 study intersections are projected to operate at LOS E or LOS F conditions (as compared to one of the 15 study intersections operating at LOS E or LOS F under Existing conditions). The Expanded Alternative would cause an additional four intersections to operate at LOS E or F conditions due to the conversion of a mixed-flow westbound travel lane to transit-only lane. The LRDP’s contributions to the Year 2040 traffic volumes at the critical movements operating poorly (i.e., at LOS E or LOS F) for the intersections operating at LOS E or LOS F under Year 2040 conditions were calculated to determine whether the LRDP’s contributions to the LOS E or LOS F operating conditions under Year 2040 conditions would be considered significant. Year 2040 Plus LRDP conditions with the Moderate and Expanded Alternatives are described below.
Cumulative (2040) Intersection Lane Configurations, Traffic Control, and Volumes - Mission Center

Figure 5-5A
Cumulative (2040) Intersection Lane Configurations, Traffic Control, and Volumes - Mission Center

16th Street study intersections evaluated as both two mixed-flow lanes in the WB direction and one mixed-flow lane and one transit only lane in the WB direction.
<table>
<thead>
<tr>
<th>Intersection</th>
<th>Traffic Control¹</th>
<th>Peak Hour</th>
<th>Existing</th>
<th>Year 2040 Plus LRDP (Moderate Alternative)</th>
<th>Year 2040 Plus LRDP (Expanded Alternative)⁵</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Veh. Del.²</td>
<td>LOS³</td>
<td>Veh. Del.²</td>
</tr>
<tr>
<td>61. 13th Street / South Van Ness Avenue</td>
<td>Signal</td>
<td>AM PM</td>
<td>71</td>
<td>E</td>
<td>&gt;80</td>
</tr>
<tr>
<td>62. 13th Street / Folsom Street</td>
<td>Signal</td>
<td>AM PM</td>
<td>26</td>
<td>C</td>
<td>34</td>
</tr>
<tr>
<td>63. 13th Street / Harrison Street</td>
<td>Signal</td>
<td>AM PM</td>
<td>16</td>
<td>B</td>
<td>21</td>
</tr>
<tr>
<td>64. Tenth Street / Bryant Street</td>
<td>Signal</td>
<td>AM PM</td>
<td>14</td>
<td>B</td>
<td>15</td>
</tr>
<tr>
<td>65. 14th Street / South Van Ness Avenue</td>
<td>Signal</td>
<td>AM PM</td>
<td>15</td>
<td>B</td>
<td>25</td>
</tr>
<tr>
<td>66. 14th Street / Folsom Street</td>
<td>Signal</td>
<td>AM PM</td>
<td>16</td>
<td>B</td>
<td>17</td>
</tr>
<tr>
<td>67. 14th Street / Harrison Street</td>
<td>Signal</td>
<td>AM PM</td>
<td>11 / 12</td>
<td>B / B</td>
<td>14 / 16</td>
</tr>
<tr>
<td>68. 15th Street / South Van Ness Avenue</td>
<td>Signal</td>
<td>AM PM</td>
<td>15</td>
<td>B</td>
<td>22</td>
</tr>
<tr>
<td>69. 15th Street / Folsom Street</td>
<td>Signal</td>
<td>AM PM</td>
<td>12</td>
<td>B</td>
<td>13</td>
</tr>
<tr>
<td>70. 15th Street / Harrison Street</td>
<td>Signal</td>
<td>AM PM</td>
<td>10 / 12</td>
<td>B / B</td>
<td>13 / 16</td>
</tr>
<tr>
<td>71. 16th Street / Mission Street</td>
<td>Signal</td>
<td>AM PM</td>
<td>26</td>
<td>C</td>
<td>30</td>
</tr>
<tr>
<td>72. 16th Street / South Van Ness Avenue</td>
<td>Signal</td>
<td>AM PM</td>
<td>37</td>
<td>D</td>
<td>46</td>
</tr>
<tr>
<td>73. 16th Street / Folsom Street</td>
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<td>38</td>
<td>D</td>
<td>43</td>
</tr>
<tr>
<td>74. 16th Street / Harrison Street</td>
<td>Signal</td>
<td>AM PM</td>
<td>21</td>
<td>C</td>
<td>37</td>
</tr>
<tr>
<td>75. 16th Street / Bryant Street</td>
<td>Signal</td>
<td>AM PM</td>
<td>20</td>
<td>C</td>
<td>28</td>
</tr>
</tbody>
</table>

Notes:
1. AWS = All-way stop controlled; SSS = Side Street stop controlled; Signal = Signal controlled
2. Delay reported as seconds per vehicle. For signalized intersections, a combined weighted average delay for the various movements within the intersection is reported. For SSS intersections, the highest average delay for an approach is reported. For AWS intersection, the combined weighted average delay of the intersection is reported, followed by the highest average delay for an approach.
3. For signalized intersections, LOS based on average intersection delay, based on the methodology in the Highway Capacity Manual, 2000. For an unsignalized intersection, LOS is based on the worst approach which is indicated in parentheses.
4. Bold indicates LOS E or F operations
5. Intersections with grayed cells in the Expanded Alternative columns operate at the same delay and LOS as in the Moderate Alternative columns.

The 13th Street/South Van Ness Avenue (Intersection #61) signalized intersection operates at LOS F in the AM peak hour under Year 2040 Plus LRDP conditions with the TEP Moderate and Expanded Alternatives. The critical southbound through movement operates at LOS F during the AM peak. The LRDP would add 14 vehicle trips to the critical southbound through movement, which represents a one percent increase from Year 2040 conditions. While the southbound through movement is expected to operate at LOS F under Year 2040 Plus LRDP conditions, the LRDP’s contribution would not be considered significant. The other critical movements at the intersection – eastbound right turn and westbound left turn – are not expected to receive an increase in vehicular traffic due to the LRDP. Therefore, the LRDP’s impact at this intersection would be considered less than significant.

The 13th Street/South Van Ness Avenue (Intersection #61) signalized intersection operates at LOS E in the PM peak hour under Year 2040 Plus LRDP conditions with the TEP Moderate and Expanded Alternatives. The critical southbound through movement operates at LOS E during the PM peak. The LRDP would add one vehicle trip to the critical southbound through movement, which represents a less than one percent increase from Year 2040 conditions. While the southbound through movement is expected to operate at LOS F under Year 2040 Plus LRDP conditions, the LRDP’s contribution would not be considered significant. The other critical movement at the intersection – westbound through – is not expected to receive an increase in vehicular traffic due to the LRDP. Therefore, the LRDP’s impact at this intersection would be considered less than significant.

The 13th Street/Folsom Street (Intersection #62) signalized intersection operates at LOS F in the PM peak hour under Year 2040 Plus LRDP conditions with the TEP Moderate and Expanded Alternatives. The critical southbound through movement operates at LOS F during the PM peak. The LRDP would add no vehicle trips to the critical southbound through movement. While the southbound through movement is expected to operate at LOS F under Year 2040 Plus LRDP conditions, the LRDP’s contribution would not be considered significant. The other critical movements at the intersection – eastbound left turn and westbound through – both operate at LOS F during the PM peak. The LRDP would add no vehicle trips to the eastbound left turn and 12 vehicle trips to the westbound through, which represents an increase of less than one percent. Therefore, the LRDP’s impact at this intersection would be considered less than significant.

The 13th Street/Harrison Street (Intersection #63) signalized intersection operates at LOS E in the PM peak hour under Year 2040 Plus LRDP conditions with the TEP Moderate and Expanded Alternatives. The critical southbound through movement operates at LOS F during the PM peak. The LRDP would add one vehicle trip to the critical southbound through movement, which represents an increase of less than one percent from Year 2040 conditions. While the southbound through movement is expected to operate at LOS F under Year 2040 Plus LRDP conditions, the LRDP’s contribution would not be considered significant. The other critical movement at the intersection – westbound through – operates at LOS F during the PM peak. The LRDP would add no vehicle trips to the westbound through. Therefore, the LRDP’s impact at this intersection would be considered less than significant.

The 14th Street/South Van Ness Avenue (Intersection #65) signalized intersection operates at LOS E in the PM peak hour under Year 2040 Plus LRDP conditions with the TEP Moderate and Expanded Alternatives. The critical southbound through movement operates at LOS F during the PM peak. The LRDP would add no vehicle trips to the critical southbound through movement. While the southbound through movement is expected to operate at LOS F under Year 2040 Plus LRDP conditions, the LRDP’s contribution would not be considered significant. The other critical movement at the intersection – eastbound through – operates
at LOS F during the PM peak. The LRDP would add no vehicle trips to the eastbound through. Therefore, the LRDP’s impact at this intersection would be considered less than significant.

The 14th Street/Harrison Street (Intersection #67) unsignalized intersection operates at LOS E in the PM peak hour under Year 2040 Plus LRDP conditions with the TEP Moderate and Expanded Alternatives. The LRDP would add a total of 55 vehicle trips to the intersection, which represents a three percent increase from Year 2040 conditions. Therefore, the LRDP’s contribution would not be considered significant. While the increase in traffic does warrant a signal according to the Caltrans signal warrant for unsignalized intersections in urban areas (Warrant 3), the LRDP’s impact at this intersection would be considered less than significant.

The 15th Street/South Van Ness Avenue (Intersection #68) signalized intersection operates at LOS E in the PM peak hour under Year 2040 Plus LRDP conditions with the TEP Moderate and Expanded Alternatives. The critical westbound right turn movement operates at LOS F during the PM peak. Since the westbound right is a shared movement with the westbound through and left turn movements, the LRDP’s contributions to all three movements were summed to determine the total LRDP contribution to the westbound approach. The LRDP would add a total of 10 vehicle trips to the westbound approach, which represents an increase of two percent from Year 2040 conditions. Therefore, the LRDP’s contribution to the approach would not be considered significant. The other critical movement at the intersection – southbound through – operates at LOS D during the PM peak, so the LRDP’s contribution would not be significant. Therefore, the LRDP’s impact at this intersection would be considered less than significant.

The 16th Street/South Van Ness Avenue (Intersection #72) signalized intersection operates at LOS F in the PM peak hour under Year 2040 Plus LRDP conditions with the TEP Expanded Alternative. The critical southbound through movement operates at LOS F during the PM peak. The LRDP would add two vehicle trips to the critical southbound through movement, which represents a less than one percent increase from Year 2040 conditions. While the southbound through movement is expected to operate at LOS F under Year 2040 Plus LRDP conditions, the LRDP’s contribution would not be considered significant. The other critical movement at the intersection – westbound through – operates at LOS F during the PM peak. The LRDP would add ten vehicle trips to the westbound through movement, which represents an increase of two percent from Year 2040 conditions. While the westbound through movement is expected to operate at LOS F under Year 2040 Plus LRDP conditions, the LRDP’s contribution would not be considered significant. Therefore, the LRDP’s impact at this intersection with the TEP Expanded Alternative proposal for 16th Street would be considered less than significant.

The 16th Street/Folsom Street (Intersection #73) signalized intersection operates at LOS F in the PM peak hour under Year 2040 Plus LRDP conditions with the TEP Expanded Alternative. The critical southbound through movement operates at LOS F during the PM peak. The LRDP would add four vehicle trips to the critical southbound through movement, which represents a less than one percent increase from Year 2040 conditions. While the southbound through movement is expected to operate at LOS F under Year 2040 Plus LRDP conditions, the LRDP’s contribution would not be considered significant. The other critical movement at the intersection – westbound through – operates at LOS F during the PM peak. The LRDP would add two vehicle trips to the westbound through movement, which represents an increase of less than one percent from Year 2040 conditions. While the westbound through movement is expected to operate at LOS F under Year 2040 Plus LRDP conditions, the LRDP’s contribution would not be considered significant. Therefore, the LRDP’s impact at this intersection with the TEP Expanded Alternative proposal for 16th Street would be considered less than significant.
The 16th Street/Harrison Street (Intersection #74) signalized intersection operates at LOS F in the PM peak hour under Year 2040 Plus LRDP conditions with the TEP Expanded Alternative. The critical northbound through movement operates at LOS F during the PM peak. The LRDP would add no vehicle trips to the critical northbound through movement. Therefore, the LRDP’s contribution would not be considered significant. The other critical movement at the intersection – westbound through – operates at LOS F during the PM peak. The LRDP would add no vehicle trips to the westbound through movement. Therefore, the LRDP’s contribution would not be considered significant. Therefore, the LRDP’s impact at this intersection with the TEP Expanded Alternative proposal for 16th Street would be considered less than significant.

The 16th Street/Bryant Street (Intersection #75) signalized intersection operates at LOS F in the PM peak hour under Year 2040 Plus LRDP conditions with the TEP Expanded Alternative. The critical westbound through movement operates at LOS F during the PM peak. The LRDP would add two vehicle trips to the critical westbound through movement. While the westbound through movement is expected to operate at LOS F under Year 2040 Plus LRDP conditions, the LRDP’s contribution would not be considered significant. The other critical movement at the intersection – northbound through – operates at LOS F during the PM peak. The LRDP would add no vehicle trips to the northbound through movement. Therefore, the LRDP’s contribution would not be considered significant. Therefore, the LRDP’s impact at this intersection with the TEP Expanded Alternative proposal for 16th Street would be considered less than significant.

Although the LRDP is not projected to cause any new significant impacts to traffic circulation at the Mission Center Campus Site, the improvement measure below could be implemented to lessen the effect of SOV vehicles in the project vicinity.

**Improvement Measure IM-TR-5c: Implement Additional TDM Strategies to Reduce Single Occupancy Vehicle Trips to the Mission Center Campus Site**

- UCSF shall continue to investigate and implement TDM measures targeted at reducing SOV trips. Although UCSF has already identified those TDM measures it can feasibly implement and has included those measures as part of the proposed 2014 LRDP, more measures may be developed or become evident over the 20 year-horizon of the LRDP.

**5.3 YEAR 2040 TRANSIT IMPACTS**

This section presents a discussion of transit conditions in Year 2040 for each of the four campus sites. LRDP-generated transit trips under Year 2040 conditions are presented. Section 3.6 and Section 4.3 describes the estimated peak hour transit trip assignments.

**5.3.1 SF Muni**

As described in Section 5.1.3, the TEP is estimated to be fully implemented by Year 2040. The TEP will improve Muni’s reliability, reduce travel times and provide frequent service. Descriptions of TEP improvements that relate to each campus site are included in Chapter 2.
There is an anticipated increase in background Muni riders between Existing Plus Project and Year 2040 Conditions at all four campus sites. Future transit improvements including the TEP, Geary BRT, and Central Subway project would increase transit capacity to the four campus sites in anticipation of this background growth. While there would be a general increase in ridership that is expected through the Year 2040, the LRDP would not create excess demand for public transit that would require the development or expansion of mass transit facilities, the development of which would cause significant environmental impacts.

As described in Section 1.2.6, as a matter of course in managing campus operations, UCSF monitors transportation conditions at all campus sites, and, in relation to the proposed 2014 LRDP or LRDP Variant, would continue to do so in particular at the four UCSF campus sites where development is proposed. As the campus sites develop, UCSF would monitor vehicle traffic conditions, transit operations, and shuttle ridership within and surrounding the campus sites. This monitoring program would be informed by the annual UCSF Employee Transportation Survey, the existing UCSF shuttle program monitoring, UCSF staff, students, and patients and visitors, and campus site observations by Transportation Services staff, and ongoing coordination with SFMTA staff.

The results of the various monitoring efforts would be used to inform when and whether UCSF would:

- Implement additional TDM strategies that seek to minimize the number of single occupancy vehicle trips (SOV) generated by the LRDP;
- Revise UCSF Shuttle system operations; and/or
- Introduce or enhance campus-wide or specific measures to reduce conflicts with Muni service.

Should the need for additional shuttle service be triggered by increased ridership due to shifts in travel mode or demand generated by the 2014 LRDP or LRDP Variant, UCSF Transportation Services would first review that the additional service would not negatively affect Muni operations. Once implemented, the additional service would be monitored to the same standard as that identified above. Further, should conflicts between shuttle service and Muni service arise, UCSF Transportation Services would coordinate with SFMTA staff to resolve these conflicts and ensure UCSF shuttles do not negatively affect Muni operations.

As described in Chapter 2, the SFMTA plans to add new transit vehicles to increase capacity on many Muni routes that serve the four UCSF campus sites. These improvements are designed to increase service reliability and accommodate a forecasted increase in transit ridership due to projected development throughout San Francisco. These additional transit vehicles would require expanded storage and maintenance facilities to accommodate the fleet growth. The SFMTA conducted a needs assessment study in 2013 to review the existing facilities and determine what facilities would be required to accommodate this projected growth. This study determined that many of the Muni’s storage, 

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17 UCSF monitors its shuttle ridership demand by conducting monthly audits to capture boarding data, and the data is used to continually adjust shuttle operations to meet peak ridership demand. The monthly audits are conducted for one entire week (five business days) on all routes, throughout the entire day. In addition, UCSF conducts an annual UCSF Transportation Survey that is distributed to all members of our community. The data is used to measure and benchmark the efficacy of the existing TDM programs, and assist in designing new programs.

18 The SFMTA’s Real Estate and Facilities Vision for the 21st Century (SFMTA and Parsons Brinckerhoff, January 2013). The environmental review for this study is expected to begin in the second half of 2014.
maintenance, and operations facilities are at maximum capacity and not seismically safe and therefore Muni will need to upgrade existing facilities and build new facilities to accommodate the anticipated fleet growth. While the 2014 LRDP and LRDP Variant would increase ridership on the Muni routes serving the four campus sites, this increase in ridership would not exceed the existing or planned capacity of routes serving the campus. As described in Section 1.2.6, UCSF Transportation Services performs monthly auditing. Should they find that public transit to and from UCSF campuses does not meet demand, they will adjust shuttle operations (which may include providing additional shuttle service) where necessary to meet demand, Therefore, the 2014 LRDP or LRDP Variant would not require the expansion or replacement of public transit facilities. For the above reasons, the 2014 LRDP or LRDP Variant, in combination with past, present and reasonably foreseeable development in San Francisco, would have less than significant Year 2040 SF Muni transit impacts.

5.3.2 Regional Transit Service

UCSF staff, patrons and students are anticipated to continue to use BART, AC Transit, Caltrain, SamTrans, and Golden Gate Transit for regional transit service through Year 2040. Regional service stations are likely to remain at existing locations, over half a mile away, and can be accessed by other transit modes such as SF Muni and the UCSF shuttle.

As presented in Chapter 2, Caltrain is proposing to implement a Modernization Program that will electrify the railway to provide upgraded performance and allow more efficient operations and a higher capacity. It is assumed that in the cumulative transit scenario that this program has been implemented. There are currently 10 trains per hour during peak periods and the Modernization Program will allow the number of trains to increase to 12 trains per hour. Additionally, Caltrain is anticipating a “blended system” which will see California High Speed Rail trains running alongside Caltrain on the same tracks. Electrification of Caltrain (and the associated improved travel times and frequencies) as well as the introduction of High Speed Rail may improve transit access for the Mission Bay campus site.

While there would be a general increase in regional transit ridership that is expected through the Year 2040, the 2014 LRDP or LRDP Variant would not create excess demand for public transit that would require the development or expansion of mass transit facilities, the development of which would cause significant environmental impacts. For the above reasons, the 2014 LRDP or LRDP Variant, in combination with past, present and reasonably foreseeable development in San Francisco, would have less than significant Year 2040 regional transit service impacts.

5.3.3 UCSF Shuttle Service

UCSF shuttle service operations, as summarized in Chapter 2 will continue to serve the four campus sites through Year 2040. As the 2014 LRDP or LRDP Variant moves forward, additional shuttle stops will likely be constructed fronting the new facilities depending on future shuttle ridership demand. The 2014 LRDP or LRDP Variant do not propose specific changes to shuttle service headways, although UCSF Transportation Services regularly monitors system wide shuttle ridership and may change headways or routes based on shifting demand as LRDP projects are constructed and occupied at each respective campus site.
The *UCSF Shuttle Operations Study Final Report*\(^{19}\) analyzed cumulative demand on the shuttle program. Population growth projections were made for the cumulative year and population group mode splits, by campus site, and trip rates were used to calculate the number of new daily shuttle trips created by new populations on a campus-by-campus basis. Shuttle growth projections per line were calculated based upon the proportionate increases in population at campuses served by each line. The analysis found that four lines would experience ridership growth of more than ten percent (Gold: 50 percent, Blue: 50 percent, Grey: 45 percent, and Red: 35 percent (all figures approx.)). Recommendations for increasing the capacity of these four lines to adequately address these cumulative demand increases were included in the report. These recommendations include increasing peak period shuttle capacity by introducing additional vehicles and reassigning different capacity vehicles to specific lines.

As described in Section 1.2.6, UCSF Transportation Services monitor shuttle performance through a monthly auditing process and implement operational adjustments (which may include additional service) where necessary to meet demand. Therefore, the 2014 LRDP or LRDP Variant would not create excess demand for transit that would require the development or expansion of mass transit facilities. Either of these findings would cause significant environmental impacts. Thus, peak hour Year 2040 UCSF shuttle trips would result in a *less-than-significant impact*.

### 5.4 YEAR 2040 PEDESTRIAN IMPACTS

Pedestrian circulation impacts by their nature are site-specific and generally do not contribute to impacts from other development projects. As indicated in Section 4.4, the 2014 LRDP or LRDP Variant would not result in overcrowding of sidewalks or create new potentially hazardous conditions for pedestrians under existing conditions.

While the neighborhoods surrounding the Parnassus Heights, Mount Zion, and Mission Center campus sites are unlikely to change dramatically in the future, the Mission Bay campus site is in the middle of a fast growing new neighborhood that will include many new residential, office, and entertainment land uses in the future. Future land uses associated with the Mission Bay Development Plan, Eastern Neighborhoods Community Plan, and the proposed Warriors arena will change the character surrounding the Mission Bay campus site to a dense urban environment. As developments are proposed, improved sidewalks and pedestrian facilities would be required for new developments to accommodate growth in pedestrian trips in the surrounding neighborhood.

For all four campus sites, pedestrian trips throughout the City may increase under the Year 2040 scenario due to general growth. Existing and proposed pedestrian facilities at each of the campus sites are designed to facilitate safe and easy pedestrian paths of travel. Walk trips may increase between the completion of the LRDP and the Year 2040 conditions due to increasing effectiveness of TDM measures in reducing vehicle trips. Because transit users would walk between the transit stops and the four campus sites, TDM measures such as promoting effective use of transit could over time increase the number of pedestrians accessing the four campus sites from surrounding neighborhoods.

As described in Section 1.2.6, as a matter of course in managing campus operations, UCSF monitors transportation conditions at all campus sites, and, in relation to the proposed 2014 LRDP or LRDP Variant,

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would continue to do so in particular at the four UCSF campus sites where development is proposed. As the campus sites develop, UCSF will continue to monitor pedestrian conditions to ensure increased pedestrian volumes due to the 2014 LRDP or LRDP Variant do not cause overcrowding of sidewalks under the Year 2040 Conditions. This monitoring program would be informed by the annual UCSF Employee Transportation Survey, the existing UCSF shuttle program monitoring, UCSF staff, students, and patients and visitors, and campus site observations by Transportation Services staff, and ongoing coordination with SFMTA staff.

There is an anticipated increase in background automobile traffic between Existing Plus Project and Year 2040 Conditions at all four campus sites, as shown in the Year 2040 traffic forecasts. This will result in an increase in automobile-pedestrian conflicts at intersections and driveways in the study area. While there would be a general increase in vehicle traffic that is expected through the future scenario, UCSF would continue to monitor pedestrian conditions to ensure the LRDP would not create substantial conflicts between pedestrians and autos, bicyclists, or transit vehicles. For the above reasons, the 2014 LRDP or LRDP Variant, in combination with past, present and reasonably foreseeable development in San Francisco, would have less than significant Year 2040 pedestrian impacts.

5.5 YEAR 2040 BICYCLE IMPACTS

Bicycle circulation and facility impacts by their nature are site-specific and generally do not contribute to impacts from other development projects. Similar to the pedestrian conditions, bicycling conditions would change the most surrounding the Mission Bay campus site as it is in the middle of a fast growing new neighborhood. As developments are proposed, improved bicycle facilities would be required for new developments to accommodate growth in bicycle trips in the surrounding neighborhood. For all four campus sites, bicycle trips throughout the City may increase under the Year 2040 scenario due to general growth.

As described in Section 1.2.6, as a matter of course in managing campus operations, UCSF monitors transportation conditions at all campus sites, and, in relation to the proposed 2014 LRDP or LRDP Variant, would continue to do so in particular at the four UCSF campus sites where development is proposed. As the campus sites develop, UCSF will continue to monitor bicycle conditions and improve facilities if needed to ensure the growth due to the 2014 LRDP or LRDP Variant remains compatible with bicycling to prevent overcrowding of bicycle facilities (bicycle routes). In addition, UCSF will monitor bicycle parking to ensure the supply accommodates future demand at the four campus sites.

This monitoring program would be informed by the annual UCSF Employee Transportation Survey, the existing UCSF shuttle program monitoring, UCSF staff, students, and patients and visitors, and campus site observations by Transportation Services staff, and ongoing coordination with SFMTA staff.

There is an anticipated increase in background automobile traffic between Existing Plus Project and Year 2040 Conditions at all four campus sites, as shown in the Year 2040 traffic forecasts. This will result in an increase in automobile-bicycle conflicts at intersections and driveways in the study area. While there would be a general increase in vehicle traffic that is expected through the future Year 2040 scenario, UCSF would continue to monitor bicycle conditions to ensure the LRDP would not create substantial conflicts between bicyclists and autos, pedestrians, or transit vehicles. For the above reasons, the 2014 LRDP or LRDP Variant, in combination with past, present and reasonably foreseeable development in San Francisco, would have less than significant Year 2040 bicycle impacts.
5.6 YEAR 2040 LOADING IMPACTS

Loading impacts, similar to pedestrian and bicycle impacts, are by their nature localized and site-specific, and would not contribute to impacts from other development projects near the four campus sites. Parnassus Heights, Mount Zion and Mission Center campus sites will likely experience little to no change in loading activity in the Year 2040 since the uses that make up the campus sites are generally the same. The development of the Mission Bay campus site should result in a further shift in the land uses surrounding the campus site from a neighborhood whose primary land uses are residential, warehousing, and light industrial neighborhood to a mixed-use neighborhood. This would likely result in a decrease in vehicle loading activities associated with warehouses and production and an increase in passenger loading and residential or commercial delivery services. Providing adequate loading facilities for the 2014 LRDP or LRDP Variant as described in Section 4.6, would ensure that future changes to loading activity adjacent to the campus sites would not create potential loading conflicts under Year 2040 Conditions.

As described in Section 1.2.6, as a matter of course in managing campus operations, UCSF monitors transportation conditions at all campus sites, and, in relation to the proposed 2014 LRDP or LRDP Variant, would continue to do so in particular at the four UCSF campus sites where development is proposed. As the campus sites develop, UCSF will continue to monitor loading conditions to ensure they are sufficient to accommodate the 2014 LRDP or LRDP Variant loading demand and do not create potentially hazardous conditions or significant delays affecting traffic, transit, bicycles, or pedestrians. This monitoring program would be informed by the annual UCSF Employee Transportation Survey, the existing UCSF shuttle program monitoring, UCSF staff, students, and patients and visitors, and campus site observations by Transportation Services staff, and ongoing coordination with SFMTA staff.

There is an anticipated increase in background automobile traffic between Existing Plus Project and Year 2040 Conditions at all four campus sites, as shown in the Year 2040 traffic forecasts. This will result in an increase in loading conflicts at intersections and driveways in the campus sites. While there would be a general increase in vehicle traffic that is expected through the future Year 2040 scenario, the 2014 LRDP or LRDP Variant would not create potentially hazardous conditions or significant delays affecting traffic, transit, bicycles, or pedestrians, or otherwise interfere with loading access to the campus sites and adjoining areas. For the above reasons, the 2014 LRDP or LRDP Variant, in combination with past, present and reasonably foreseeable development in San Francisco, would have less-than-significant Year 2040 loading impacts.

5.7 YEAR 2040 PARKING IMPACTS

While the neighborhoods surrounding the Parnassus Heights, Mount Zion, and Mission Center campus sites are unlikely to change dramatically in the future, the Mission Bay campus site is in the middle of a fast growing new neighborhood that will include many new residential, office, and entertainment land uses in the future. Future land uses associated with the Mission Bay Development Plan, Eastern Neighborhoods Community Plan, and the proposed Warriors arena will change the character surrounding the Mission Bay campus site to a dense urban environment.

As described in Section 1.2.6, as a matter of course in managing campus operations, UCSF monitors transportation conditions at all campus sites, and, in relation to the proposed 2014 LRDP or LRDP Variant,
would continue to do so in particular at the four UCSF campus sites where development is proposed. As developments are proposed, UCSF would monitor parking demand at each phase of development and adjust parking supply as demand warrants. Parking facilities would be required for new developments to accommodate growth in parking demand in the surrounding neighborhood. Improvements to the transit network as described in Chapter 2 and off-street parking for the new developments would ensure that future changes to parking demand adjacent to the campus sites would not exceed the parking supply under Year 2040 Conditions. Should the demand for parking exceed on-site supply, priority for on-site parking would be given to patients and visitors and essential health-care providers at the major clinical sites, and if necessary, UCSF would look to secure off-site parking to satisfy demand. That additional parking supply could be provided on campus sites, if available, or elsewhere in the vicinity. As the sites develop, UCSF (through its Campus Transportation Services Offices) will make efforts to educate faculty, staff, and students about transit options in order to reduce auto usage and parking demand. Thus, the parking impacts under 2014 LRDP or LRDP Variant build-out would be less than significant.

5.8 YEAR 2040 CONSTRUCTION IMPACTS

Construction impacts are localized and site-specific, and would not contribute to impacts from other development projects near the four campus sites. The assessment of construction activity at each campus site may change between the completion of the 2014 LRDP or LRDP Variant and the Year 2040 scenario due to additional non-LRDP projects on the campus sites and the surrounding area and due to timing of implementation of all aspects of the LRDP. Year 2040 impacts of nearby construction projects should not be considered as the construction would be temporary and the project sponsor would coordinate with various City departments such as SFMTA and DPW through the TASC to develop coordinated plans that would address construction-related issues. For the above reasons, the 2014 LRDP or LRDP Variant, in combination with past, present and reasonably foreseeable development in San Francisco, would have less than significant Year 2040 construction impacts.
6 SUMMARY OF TRANSPORTATION MITIGATION AND IMPROVEMENT MEASURES

This chapter presents the transportation mitigation measures that would be required to reduce the significant impacts of the LRDP. In some cases, no significant impact was identified; however, an improvement measure was noted that would improve conditions. These mitigation and improvement measures were developed for the Existing plus Project and Year 2040 conditions, as appropriate.

6.1 MITIGATION MEASURES

Mitigation Measure TR-1a: Construction Coordination and Monitoring Measures

Traffic Control Plan for Construction – In order to reduce potential conflicts between construction activities and pedestrians, transit and autos during construction activities at the Parnassus Heights campus site, UCSF shall require construction contractor(s) to prepare a traffic control plan for major phases of project construction (e.g. demolition, construction, or renovation of individual buildings). UCSF and their construction contractor(s) will meet with relevant City agencies to coordinate feasible measures to reduce traffic congestion, including temporary transit stop relocations (e.g. Parnassus Avenue) and other measures to reduce potential traffic and transit disruption and pedestrian circulation effects during major phases of construction of the LRDP projects. For any work within the public right-of-way, the contractor would be required to comply with the City of San Francisco’s Regulations for Working in San Francisco Streets, which establish rules and permit requirements so that construction activities can be done safely and with the least possible interference with pedestrians, bicyclists, transit, and vehicular traffic.

In the event that the construction timeframes of the major phases and other development projects adjacent to UCSF overlap, UCSF should coordinate with City Agencies through the TASC and the adjacent developers to minimize the severity of any disruption to adjacent land uses and transportation facilities from overlapping construction transportation impacts. UCSF, in conjunction with the adjacent developer, shall propose a construction traffic control plan that includes measures to reduce potential construction traffic conflicts, such as staggering start and end times, coordinated material drop offs, collective worker parking and transit to job site and other measures.

Reduce SOV Mode Share for Construction Workers – In order to minimize parking demand and vehicle trips associated with construction workers, UCSF shall require the construction contractor to include in the Traffic Control Plan for Construction methods to encourage walking, bicycling, carpooling, and transit access to the campus sites by construction workers in the coordinated plan.

Project Construction Updates for Adjacent Residents and Businesses – In order to minimize construction impacts on access for nearby residences, institutions, and businesses, UCSF shall provide nearby residences and adjacent businesses with regularly-updated information regarding project construction, including construction activities, peak construction vehicle activities (e.g., concrete pours), travel lane closures, and lane closures via a newsletter and/or website.
Mitigation Measures TR-1b through 2e would result in similar findings for the remaining significant construction impacts at the Mission Bay, Mount Zion, and Mission Center campus sites.

**Mitigation Measure TR-2a: Implement the Moderate Alternative of the TEP 16th Street Proposal**

Two mixed-flow travel lanes in each direction would be required to improve operations at 16th Street/Fourth Street to acceptable levels of service in the AM peak hour. As such, this mitigation measure would require that the Moderate Alternative of the TEP 16th Street proposal be implemented in order to maintain the requisite traffic carrying capacity of 16th Street for the forecasted traffic demand with the LRDP in place. The implementation of this measure would improve traffic operations from LOS E to LOS D in the AM peak hour and reduce the impacts to less-than-significant levels. The implementation of this mitigation measure will require further study and coordination with other agencies for approval and is outside the jurisdiction of UCSF. Therefore, this impact is considered **significant and unavoidable**.

Mitigation Measures TR-2b through 2d would result in similar findings for the remaining significant intersection impacts at the Mission Bay Campus Site.

**Mitigation Measure TR-3a: Implement Additional TDM Strategies to Reduce Single Occupancy Vehicle Trips**

- UCSF shall continue to investigate TDM measures targeted at reducing SOV trips. Although UCSF has already identified those TDM measures it can feasibly implement and has included those measures as part of the proposed 2014 LRDP, more measures may be developed or become evident over the 20 year-horizon of the LRDP.

- UCSF will monitor traffic conditions within and immediately surrounding the Mission Bay Campus Site as presented in Section 1.2.6. Should traffic conditions approach unacceptable levels, (LOS E or F), and should UCSF’s contribution to this cumulative impact be significant, UCSF shall implement additional TDM strategies that it investigates (beyond those identified in its existing TDM program presented in Table 2-1 and beyond those proposed in the 2014 LRDP) and finds could reasonably result in a reduction in SOV trips. The additional TDM strategies shall target a reduction in SOV trips by encouraging persons to select other modes of transportation, including: walking, bicycling, transit, car-share, carpooling, and/or to travel during non-peak periods.

The implementation of this mitigation measure would improve traffic operations along 16th Street by reducing SOV trips to and from the Mission Bay Campus Site by approximately three percent, which would represent a three percent reduction in the overall vehicle trips generated by the campus site. Therefore, any combination of or increase in expenditure to TDM strategies at the Mission Bay Campus Site could not reduce vehicular trips by the 90 to 95 percent that would be required to sufficiently lessen the impacts identified along 16th Street under the TEP Expanded Alternative. Therefore, even with the implementation of this mitigation measure, this impact would still be considered **significant and unavoidable**.

Mitigation Measures TR-3b through 3d and TR-3h would result in similar findings for the remaining significant intersection impacts at the Mission Bay Campus Site.
The implementation of this Mitigation Measures TR-3e through TR-3g and the inclusion of the additional TDM strategies presented in Section 1.2.5 would improve traffic operations surrounding and within the Mission Bay campus site. The TDM strategies presented in Section 1.2.5 were recently proposed by UCSF and hence were not assumed in the travel demand calculations presented in Chapter 3. These TDM strategies would reduce SOV trips by approximately three percent, which would represent a three percent reduction in the overall vehicle trips generated by the campus site. The implementation of this measure by UCSF and the associated reduction in vehicle trips to the Mission Bay campus site would improve traffic operations at 16th Street/Seventh Street (Moderate Alternative) and Mariposa Street/Third Street (Moderate and Expanded Alternatives) from LOS E to LOS D in the AM peak hour and reduce these impacts to less-than-significant levels.

Mitigation Measure TR-4a: Manage Parking Supply

UCSF will continue to monitor the parking supply at the Mission Bay Campus Site so as not to oversupply parking at this campus site. As presented in Section 4.7, the currently there is a downward trend in parking supply at the Mission Bay Campus Site as it is expected to grow at a lower rate than total population. Monitoring and reducing the future parking supply per person at the Mission Bay Campus Site would improve traffic operations along 16th Street by reducing SOV trips to and from the Mission Bay Campus Site. However, similar to Mitigation Measure TR-3a, any combination of reduced parking at the Mission Bay Campus Site could not reduce vehicular trips by the 90 to 95 percent that would be required to sufficiently lessen the impacts identified along 16th Street under the TEP Expanded Alternative. Therefore, even with the implementation of this mitigation measure, this impact would still be considered significant and unavoidable.

Mitigation Measures TR-4b through 4d would result in similar findings for the remaining significant intersection impacts at the Mission Bay Campus Site.

6.2 IMPROVEMENT MEASURES

Improvement Measure IM-TR-1: Study and Implement Uses to Minimize Transit Trips on the Muni T Third Street Line

- Development of clinical uses on Blocks 33/34 is considered a “secondary use” under the Mission Bay South Redevelopment Plan, which requires findings by the Office of Community Investment and Infrastructure that the use is consistent with the Mission Bay South Redevelopment Plan. UCSF would continue to study the amount of clinical space proposed under the LRDP Variant, and would refine the proposal before bringing it forth to the City for approval. In refining the LRDP Variant, UCSF would consider reducing the size of the clinical facilities at Blocks 33/34 to a level that will reduce the transit ridership on the T Third Street to less than the Muni’s capacity utilization of 85 percent.
**Improvement Measure TR-2: Add Curbside Loading Zone on Folsom Street**

UCSF could work with the SFMTA to add a curbside loading zone on Folsom Street, adjacent to the existing Mission Center building. A 50 foot loading zone would require the removal of approximately two parking spaces on Folsom Street. This loading zone will improve conditions for bicyclists whom may have their path currently blocked due to vehicles loading in the northbound bicycle lane.

**Improvement Measure IM-TR-3: Implement High-Visibility Bicycle Lanes on Harrison Street**

UCSF could work with the SFMTA to implement measures to increase the visibility of southbound bicyclists for vehicles entering the Mission Center campus site from Harrison Street. This could include implement high-visibility green skip striping across the conflict zone in front of the Mission Center campus site driveway along Harrison Street.

**Improvement Measure IM-TR-4: Add Passenger Loading to Scott Street**

UCSF could work with the SFMTA to add a curbside passenger loading zone on Scott Street. An additional 50 foot loading zone would require the removal of approximately two metered parking spaces on Scott Street. This loading zone will reduce overflow for passenger loading on Scott Street.

**Improvement Measure IM-TR-5a: Implement Additional TDM Strategies to Reduce Single Occupancy Vehicle Trips to the Parnassus Heights Campus Site**

- UCSF shall continue to investigate and implement TDM measures targeted at reducing SOV trips. Although UCSF has already identified those TDM measures it can feasibly implement and has included those measures as part of the proposed 2014 LRDP, more measures may be developed or become evident over the 20 year-horizon of the LRDP.

Improvement Measures IM-TR-5b and 5c would result in similar findings at the Mount Zion and Mission Center Campus Sites.
APPENDICES

Appendix A: Approved Scope of Work
Appendix B: Roadway Network Classifications (From SF General Plan)
Appendix C: Intersection Level of Service Calculations
Appendix D: Traffic Volume and Intersection Turning Movement Counts
Appendix E: Analysis Assumptions
Appendix F: Travel Demand Calculations
APPENDIX A: APPROVED SCOPE OF WORK
University of California San Francisco:  
Long-Range Development Plan Environmental Impact Report  
Draft Transportation Scope of Work – July 10, 2013

This document presents the draft scope of work for the transportation component for the University of California San Francisco (UCSF) Long-Range Development Plan (LRDP) Environmental Impact Report (EIR). Fehr & Peers and Adavant Consulting, collectively the “transportation team,” will complete stand-alone transportation impact studies that include technical analysis to support the environmental documentation being prepared for the LRDP for the Parnassus Heights, Mount Zion, Mission Bay, and Mission Center campus sites, as well as San Francisco General Hospital. As noted in the RFP, long-term changes at the University’s Laurel Heights Campus are being considered separately from the LRDP at this time; therefore, this scope of work excludes transportation planning work on the Laurel Heights site.

Task 1 – Project Scoping and Coordination

Although not required, UCSF has traditionally provided the City of San Francisco Planning Department the opportunity to review and comment on proposed transportation analysis work scopes. Thus, prior to beginning work on this study, we will work with UCSF Campus Planning staff and City staff to refine our scope of work. We anticipate that this will include providing the Environmental Planning (“EP”) Section of the Planning Department a chance to review this proposed scope of work, as well communicating with the San Francisco Municipal Transportation Agency (“SFMTA”) and the Successor Agency to the San Francisco Redevelopment Authority (for Mission Bay). This initial collaboration will help minimize potential issues which might arise during later phases of the analysis and the Draft EIR public comment period, such as methodology, assumptions and data collection needs. Comments received during this task will be included in a revised scope of work provided to UCSF and the EIR team. The discussion will focus on items such as:

- Additional data collection (locations, time periods, type of data, adequacy of data, etc.);
- Review of assumptions (study area, land use types, cumulative growth, etc.);
- Methodology (LOS methodology, trip generation methodology and appropriate sources, travel forecasts, etc.); and
- Deliverables (report organization, draft reports, final report).

The transportation team anticipates the need to regularly meet with and discuss the status and issues of the LRDP EIR over the course of the study. This scope of work assumes that this will involve one study team meeting with UCSF staff every two weeks, the EIR team, and local agency staff and stakeholders.

As part of this coordination, the transportation team will confirm the description of the proposed LRDP development plans. The team will include a comparison to the existing uses on the campuses in the Project Description section of the transportation impact study. This section will include a brief description of each of the proposed development plans, including location, type of land uses proposed, their size by population/user type, and proposed time frame for implementation. A map included in the report will indicate the location of the elements of the development plan in relation to the rest of the campus site, as well as other LRDP plans at other sites.
Task 2 – Data Collection

The transportation team has recently collected transportation data for areas around the Parnassus Heights Campus and Mission Bay sites. Additional data will be collected to supplement existing data for those sites, including new intersection turning movement counts and on-street parking occupancy surveys. New data will be collected around the Mission Center Building and Mount Zion sites. We propose to collect the following data:

Field Visit –

As part of the data collection task, the transportation team will visit each of the four campus sites to confirm existing transportation conditions and collect information about traffic and transit operations, bicycle and pedestrian activity, and parking and loading areas. For some of our work, institutional knowledge of key issues and constraints will make these observations more valuable. Therefore, as part of the data collection effort, the transportation team will coordinate with UCSF staff to conduct walking tours at each campus site. During these tours, the team will observe existing conditions, visit areas of concern, and identify potential constraints that should be considered in the analyses.

Traffic –

![Map of Parnassus Heights showing study intersections](image)

Parnassus Heights: This scope of work assumes that a total of 23 study intersections (see left and noted below) would be analyzed in the transportation impact study during the weekday AM and PM peak hour periods. Of these, 12 intersections (yellow) were evaluated as part of the UC Hall Options Study analysis, for which PM peak period counts were collected in 2011. New AM peak period counts will be collected at all study intersections and new PM peak period counts will be collected at the remaining 11 study intersections (violet).

1. 7th/Kirkham 10. Hillway/Parnassus 19. 7th/Lincoln
2. 6th/Kirkham 11. Hill Point/Parnassus 20. 4th/Lincoln
3. 5th/Kirkham 12. Stanyan/Parnassus 21. 3rd-Frederick/Lincoln-Kezar
4. 9th/Judah 13. 9th/Irving 22. Stanyan/Frederick
5. 7th/Judah 14. 7th/Irving 23. Stanyan/Oak-Fell-Kezar
6. 6th/Judah 15. 4th/Irving
7. 5th/Judah-Parnassus 16. 2nd/Irving
8. 4th/Parnassus 17. Arguello/Irving
9. 3rd/Parnassus 18. 9th/Lincoln
Mount Zion: This scope of work assumes that new weekday AM and PM peak period turning movement counts will be collected at 16 study intersections (see right and noted below).

1. Broderick/Bush  
2. Broderick/Sutter  
3. Broderick/Post  
4. Broderick/Geary  
5. Divisadero/Pine  
6. Divisadero/Bush  
7. Divisadero/Sutter  
8. Divisadero/Post

Mission Bay: This scope of work assumes that a total of 21 study intersections (see left and noted below) would be analyzed in the transportation impact study during the weekday AM and PM peak hours periods. New AM peak period counts will be collected at all study intersections and new PM peak period counts will be collected at four study intersections (violet)\(^1\); year 2012 PM peak period data for the remaining 17 intersections (yellow) will be available from the on-going work being performed by Adavant Consulting.\(^2\)

1. King/Third  
2. King/Fourth  
3. Channel/Third  
4. Channel/Fourth  
5. Mission Rock/Third  
6. Mission Bay/Owens  
7. Mission Bay/Seventh  
8. Mission Bay North/Third  
9. Mission Bay South/Third  
10. 16th/Third  
11. 16th/Fourth  
12. 16th/Owens  
13. 16th/Seventh  
14. 16th/Vermont  
15. 16th/Potrero  
16. 16th/Rhode Island  
17. 16th/Potrero Island  
18. Mariposa/Third  
19. Mariposa/Fourth  
20. Mariposa/I-280 NB  
21. Mariposa/I-280 SB  
22. Brannan/Seventh

\(^1\) Counts at Mission Bay/Owens will be collected if the intersection is open at the time the counts are conducted.  
\(^2\) Counts have been collected in late 2011 and in 2012 and are believed to be still valid.
Mission Center: This scope of work assumes that new weekday AM and PM peak period turning movement count would be conducted at up to 15 study intersections (see right and noted below).

1. S. Van Ness/Division
2. 14th/S Van Ness
3. 15th/S Van Ness
4. 16th/S Van Ness
5. Division/Folsom
6. 14th/Folsom
7. 15th/Folsom
8. 16th/Folsom
9. Division/Harrison
10. 14th/Harrison
11. 15th/Harrison
12. 16th/Harrison
13. Tenth/Bryant
14. 16th/Bryant
15. 16th/Mission

Transit –

The transportation team will compile local and regional public transit information on those lines providing service to the four campus sites, using already available data from the local and regional transit operators. The transit description will include the general hours of operation, approximate frequency of service, and major destinations served.

The transportation team will request and summarize UCSF shuttle origins and destinations, operational characteristics and ridership information as provided by UCSF Transportation staff.

Pedestrian/Bicycle –

The transportation team will collect the pedestrian counts during the midday period, and bicycle counts during the AM and PM peak periods.

Parnassus Heights: The transportation team assumes that pedestrian and bicycle counts conducted in 2007 and 2011 are sufficient for use in this analysis because conditions have not substantially changed.

Mission Bay: The transportation team will collect new pedestrian and bicycle counts at up to four intersections or sidewalk locations in or adjacent to the site.

Mount Zion and Mission Center: New pedestrian and bicycle counts will be collected at up to four locations at each site.
Parking –

The transportation team will collect new weekday midday and evening (10:00 AM to 2:00 PM; 6:00 to 8:00 PM) on-street parking occupancy surveys within approximately ¼ mile of each campus site:

Parnassus Heights: Parnassus Avenue, Stanyan Street, Waller Bicycle Learning Area-Kezar Drive, Lincoln Way, 10th Avenue, Kirkham Street

Mission Bay: Mariposa Street, 7th Street-Mississippi Street, Channel Street, Terry Francois Boulevard (Note: On-street parking is generally restricted on most streets within this area, making the amount of data to be collected smaller).

Mount Zion: California Street, Lyon Street-O'Farrell Street, Geary Blvd, Steiner Street

Mission Center: 17th Street, Mission Street, Bryant Street, 12th Street (Note: This data might already be available from the SFMTA, which will be confirmed as part of the initial study coordination.)

General information about current on-street parking regulations (time limits, neighborhood parking areas, meters, etc.) within the parking study area adjacent to each site will also be collected.

Utilization at public off-street parking lots and garages within the study area near the four sites will also be surveyed during the same time periods, as necessary to supplement existing data. Current information regarding hours of operation, and parking rates will also be gathered.

To fully assess the effect of the LRDP development proposals on each site- and/or neighborhood-wide conditions, the transportation team will also request on-campus parking garage usage data from UCSF staff. The team will use this information to document the relative effect that the LRDP will have on-campus parking demand and supply, as well as affects to neighborhood parking conditions. This scope does not include parking turn-over or parking occupancy by vehicle type for spaces along Parnassus Avenue; however, the 2007 data can be updated as an optional task.

Loading –

The transportation team will confirm the existing loading space quantity, location, and type with staff and field review at each campus. These areas could be assessed during the campus site walking tours.

Construction –

The transportation team will request potential construction phasing information for elements of the LRDP development proposals, including duration, proposed construction management plans, worker parking plans, truck routing, etc.
Task 3 – Document Existing Conditions

The transportation team will document existing street traffic, circulation, parking, pedestrian, bicycle, and transit conditions in the vicinity of each campus site, including:

- A base map for each study area describing the street designations, street names, number of lanes, and traffic flow directions.
- Existing vehicular circulation conditions, especially relative to pedestrian and bicycle conditions.
- Intersection level-of-service (LOS) conditions for the AM and PM peak hours, as determined by the 2000 Highway Capacity Manual Operations Methodology.
- Figures indicating the AM and PM peak hour traffic volumes at the study intersections, including the critical lane groups (the lane groups that have the highest flow ratio for a given green signal phase).
- A map and discussion of existing public transit routes and stops, including capacity utilization for the transit lines providing access to each campus site.
- A map and discussion of existing UCSF shuttle service, including operational activities, routes, and stops, hours of service, peak period headways, and type of vehicle shuttle.
- A map and discussion of bicycle routes to/from each site and any changes to the bicycle network being proposed by the SF Bicycle Plan.
- A discussion of pedestrian facilities on and near each campus site, with particular emphasis on pedestrian routes to transit stops.
- Overall pedestrian and bicycle conditions at each campus site.
- Detailed site plans where available as provided by UCSF to illustrate vehicular and pedestrian access locations and parking/loading facilities for specific buildings.
- A map and table presenting the off-street parking supply and midday and evening conditions.
- A map and discussion of on-street parking conditions for midday and evening conditions.
- A description of existing service loading operations, including the location and number of access points and loading spaces.
- Description of existing TDM programs at each UCSF campus site.

Task 4 – Determine Project Travel Demand

Subtask 4.1 Patient/Visitor Transportation Survey

As noted in the RFP, UCSF conducts regular transportation surveys of its faculty, staff and students to monitor its performance related to sustainability objectives and transportation demand management; however, the most recent comprehensive travel survey of the various campus sites that included patients and visitors was prepared in the 1990s. Since that time, UCSF and the transportation system with San Francisco have changed dramatically, including the construction of the Mission Bay site (as well as the Mission Bay neighborhood) and changes to Muni public transportation service throughout the City. This task includes the administration and documentation of a transportation survey to update this data.

Survey Development

Through coordination with UCSF, the transportation team will develop a patient/visitor transportation survey in order to collect information about travel patterns and behavior for each site. The survey will include a brief introduction providing a summary of the intent of the survey and encouraging participation. The transportation team will provide a draft survey to UCSF prior to its administration. We will incorporate one round of comments. The following questions could be included in the survey:
• Where do you live? (city, zip code, cross streets)
• How did you get here today? (auto, transit, bike, walk, etc.)
• If you drove today, where did you park? (on-street/off-street, distance)
• How much will you pay for parking?
• Where did you travel from before you came here? (home, work, school, other; location)
• Where will you be going afterwards? (home, work, school, other; location)
• What was the purpose of your visit to UCSF today? (patient, visit a patient, other)

Survey Distribution
We will conduct the survey on two consecutive weekdays (preferably a Tuesday/Wednesday at each campus site or Wednesday/Thursday) in order to get a representative sample of patients/visitors. We propose two survey delivery options:

Option 1: UCSF Distributes Survey
We prefer that UCSF distribute the surveys, which will reduce patient and visitor disruption and will likely result in a higher response rate. We will work with UCSF to select a representative selection of departments. Once the survey dates are selected, the chosen departments will hand out surveys to all patients and visitors when they check in. They will be told that the survey is voluntary but will be asked to return completed surveys to the receptionist. We expect a high response rate from this distribution method because patients will have time to fill out the survey as they wait for their appointment. Additionally, they will understand that UCSF supports the data collection effort.

To supplement the surveys distributed by UCSF, the transportation team will also set up several tables/kiosks at several locations within the surveyed campuses on the two survey dates and will provide information about the survey intent and will also distribute additional surveys.

Option 2: Transportation Team Conducts Entire Survey
A second option is that the transportation team could undertake is to conduct an intercept survey. This will involve placing surveyors at key locations on each campus site that would stop persons entering the facility and ask whether they are a patient or visitor. Patients and visitors would be asked to complete the survey on the spot before entering the facility. However, this has the potential to create more disruption to campus activities since patients and visitors would be delayed in getting to their appointments, potentially resulting in a higher refusal rate than with Option 1. Option 2 would require a higher budget than Option 1 due to additional labor hours required to administer the survey.

UCSF will provide estimates on the approximate total number of staff, patients and visitors seen during the survey days at each site as well as average annual patient and visitor rates. This information will be used to determine the survey response rate and develop the appropriate survey coefficients.

Survey Analysis
The transportation team will use the survey results to estimate the mode split of patients and visitors for each facility. This data will be used to monitor UCSF’s performance related to sustainability objectives and transportation demand management goals. The information can also assist in obtaining a peak patient/visitor parking demand per facility and in trip generation and trip distribution estimates. The survey results will be compiled in a memorandum and provided to UCSF. We will incorporate one round of revisions to the memo.
Subtask 4.2 Travel Demand
The transportation team will estimate the total number of net new person- and vehicle-trips generated by the LRDP development proposals on a typical weekday and during the weekday AM and PM peak hours for each campus site. The travel demand will be based on the expected increase in campus population by type (i.e., faculty, staff, students, etc.) as provided by UCSF. Individual trip generation rates by population type will be taken from the data developed in Task 4.1, information presented in the UCSF’s Journey-to-Campus data, LRDP Amendment #3 FEIR (2005), recent analyses for UCSF’s Mission Bay Medical Center FEIR (2008), the UC Hall Options Study (2011), Osher Center FEIR (2005 and 2007), and Mount Zion Garage Project FEIR (2011).

Trip Distribution / Modal Split – The trip distribution and modal split allocations will be estimated for each population group based on previously developed factors used in other UCSF studies and the travel surveys conducted as a part of this scope of work. Average vehicle occupancy factors derived from the same sources will then be applied to the auto person-trips to calculate the vehicle-trips.

Parking/Commercial Loading Demand – Peak daily parking demand will be estimated by data collected in Tasks 2 and 4.1, individual peak factors by population type taken from the data presented in the LRDP Amendment #3 FEIR (2005), and most recently used in the analysis of UCSF’s Mission Bay Medical Center FEIR (2008). Commercial loading demand will be based on campus specific data to be provided by UCSF for the proposed uses, and supplemented with the information presented the City’s Transportation Impact Analysis Guidelines (2002).

As described in Task 8 – Documentation, the transportation team will prepare a technical memorandum describing the assumptions and methodology to be used to determine the travel demand at each of the campus sites. The technical memorandum will also summarize the travel demand estimates for patients, visitors and employees for each campus by land use type, mode of travel and place of origin. This will also be submitted to UCSF staff for their review and final approval prior to performing the transportation impact analyses (Task 5).

Task 5 – Transportation Impact Analysis

The transportation team will identify potential transportation impacts associated with LRDP proposals at each campus, including impacts on the study intersections, plus impacts on transit, pedestrian and bicycle circulation. Potential impacts associated with the LRDP parking supply and demand, as well as passenger and freight loading supply and demand conditions will also be identified. The methodology used will be consistent with UCSF criteria for identifying significant impacts. The construction of new medical facilities and the demolition and renovation of some of the existing buildings being proposed as part of the LRDP will take place at different horizon years. Thus, transportation impacts will be evaluated under both existing and future year conditions.

Traffic –

The transportation team will estimate AM and PM peak hour turning movement volumes at the study intersections identified in Task 2 for each campus site, and will perform intersection level of service analysis using the HCM 2000 methodology. The following scenarios will be analyzed:

- Existing (four campus sites)
- Existing plus LRDP (four campus sites)
• Interim Year (±2020) plus LRDP (Mission Bay campus site only)
• 2040 Cumulative, including LRDP (four campus sites)

Interim and future year traffic conditions will be estimated from the most recent AM and PM peak hour highway assignments obtained from City of San Francisco travel demand forecasting model for the appropriate years (2020 and 2040) as developed by the SF County Transportation Authority (SFCTA). The model results will be adjusted, if necessary, to properly reflect the latest information available about major development projects being planned in the vicinity of some campus sites, such as Mission Bay.

Transit –

The transportation team will use the forecasted increase in weekday peak hour transit trips to generally discuss transit conditions with the additional LRDP-generated transit trips. The discussion will also include a qualitative analysis of transit access walk trips from the each campus site to transit, such as inadequate sidewalks, unsafe pedestrian crossings or other related improvements affecting adequate access to transit service. Increased shuttle ridership on UCSF shuttles will also be discussed.

Bicycle/Pedestrian –

The transportation team will qualitatively assess pedestrian and bicycle conditions in the vicinity of each campus site as a result of the LRDP proposals. Potential conflicts between LRDP-generated vehicle traffic and pedestrian and bicycle circulation will be qualitatively assessed, and conflict areas will be identified.

Parking
The transportation team will use the parking information collected to document how parking demand associated with the LRDP proposals could affect on-campus or off-campus parking supply. If the analysis shows that parking demand may exceed supply, the transportation team will work with UCSF to identify potential strategies to reduce parking demand or manage on-street supply to reduce potential consequences overflow parking. We will qualitatively assess the potential for parking to spill over to adjacent neighborhoods.

Loading –

The transportation team will use the loading demand calculated in Task 4 to conduct an overall loading supply/demand evaluation at each campus site. This analysis will also include a discussion of potential transportation-related issues associated with relocating or consolidating loading activities to certain areas of the site.

Based on the travel demand forecasts, the transportation team will qualitatively discuss potential passenger loading issues and activities at each campus site. Passenger loading and unloading operations planned to occur at each site will be identified. The potential for conflicts of these passenger activities with traffic, transit, pedestrian and bicycle flows will be discussed.

Construction –

The transportation team will qualitatively evaluate potential short-term construction impacts that could be created by the LRDP proposals. Construction impact evaluation will address the duration of construction activity, possible truck routings, and estimated daily truck volumes.
Task 6 – Develop and Evaluate Potential Mitigation Measures, TDM Measures and Identify Improvements

Based on the results of impact analysis, the transportation team will work with UCSF staff to identify potential measures, if necessary, to mitigate any significant transportation impacts to a non-significant level. The analysis will include an assessment of additional TDM measures that could be implemented to reduce the number of single-occupant vehicles and increase the number of carpoolers and transit riders on campus, including a reduction in the parking supply ratios, increased parking rates, additional transit incentives, etc. The effectiveness of the specific TDM measures will be estimated based on past experiences at the UCSF campuses, similar plans being proposed for other locations in San Francisco, and best practices at other institutional locations as reported in the literature.

The transportation team will also work with UCSF to identify and assess potential transportation improvements (e.g., provision of bicycle racks, additional TDM measures, etc.) that although not necessary to mitigate transportation impacts, would facilitate and improve travel to/from the campus sites by means other than single occupant automobile.

Task 7 – Transportation Study Report

The transportation team’s first deliverable will be a technical memorandum summarizing the transportation survey methodology, implementation and results, and the travel demand forecast estimates for each campus site, as described in Task 4. The transportation team will respond to one round of comments from UCSF and will submit a final draft technical memorandum to UCSF for inclusion in the transportation study reports.

The transportation team will prepare a Draft One Transportation Study Report for each campus site, incorporating data, analyses, and conclusions from the previous tasks. These reports will be submitted to UCSF staff for review. The transportation team will respond to one round of comments from UCSF and will submit a Draft Two report for each campus site to UCSF. The transportation team will incorporate the final comments from UCSF, and prepare a Final Transportation Study Report for each campus site.

Task 8 – Environmental Impact Report

The transportation team will coordinate with UCSF staff and Environmental Science Associates (ESA) on the preparation of the transportation section for the Administrative Draft document of the UCSF LRDP EIR to be written by ESA. We assume for budgeting purposes 50 hours for coordination and that no new technical analysis will be necessary.

After Draft EIR circulation, we will review relevant public comments with UCSF Staff and ESA on the transportation section to help provide recommended responses. We assume for budgeting purposes 24 hours for the preparation of the response to public comments and that no new technical analysis will be necessary.
APPENDIX B: ROADWAY NETWORK CLASSIFICATIONS (FROM SF GENERAL PLAN)
Roadway Classifications
The San Francisco Planning Department has developed a street hierarchy system for the City and County of San Francisco, in which the function and design of each street are consistent with the character and use of adjacent land. The major classifications in the Vehicle Circulation Plan of the San Francisco General Plan are:

- **Freeways**: Limited access, very high capacity facilities; primary function is to carry intercity traffic; they may, as a result of route location, also serve the secondary function of providing for travel between distant sections in the city.

- **Major Arterials**: Cross-town thoroughfares whose primary function is to link districts within the city and to distribute traffic from and to the freeways; these are routes generally of citywide significance; of varying capacity depending on the travel demand for the specific direction and adjacent land uses.

- **Transit Conflict Streets**: Streets with a primary transit function which are not classified as major arterials but experience significant conflicts with automobile traffic.

- **Secondary Arterials**: Primarily intra-district routes of varying capacity serving as collectors for the major thoroughfares; in some cases supplemental to the major arterial system.

- **Recreational Streets**: A special category of street whose major function is to provide for slow pleasure drives and cyclist and pedestrian use; more highly valued for recreational use than for traffic movement. The order of priority for these streets should be to accommodate: 1) pedestrians, hiking trails or wilderness routes, as appropriate; 2) cyclists; 3) equestrians; 4) automobile scenic driving. This should be slow and consistent with the topography and nature of the area.

- **Collector Streets**: Relatively low-capacity streets serving local distribution functions primarily in large, low-density areas, connecting to major and secondary arterials.

- **Local Streets**: All other streets intended for access to abutting residential and other land uses, rather than for through traffic; generally of lowest capacity.

In addition to the San Francisco Planning Department’s roadway classifications, the freeways, major arterials, and transit conflict streets are included in the Congestion Management Program (CMP) Network and Metropolitan Transportation System (MTS) Network (see below).

Transit Preferential Streets
The Transit Preferential Street network classification system takes into consideration all transportation functions, and identifies the major transit routes where general traffic should be routed away from. There are two classifications of transit preferential streets: Primary Transit Streets, which are either transit-oriented or transit-important; and Secondary Transit Streets.

- **Primary Transit Street – Transit-Oriented**: Not major arterials, with either high transit ridership, a high frequency of service, or surface rail. Along these streets, the emphasis should be on moving transit vehicles, and impacts on automobile traffic should be of secondary concern.
Primary Transit Street – Transit-Important: Major arterials, with either high transit ridership, high frequency of service, or surface rail. Along these streets, the goal is to improve the balance between modes of transportation, and the emphasis should be on moving people and goods, rather than on moving vehicles.

Secondary Transit Street: Medium transit ridership and low-to-medium frequency of service, or medium frequency of service and low-to-medium transit ridership, or connects two or more major destinations.

In general, it is City policy that transit preferential treatments should be concentrated on the most important transit streets, and the treatments applied should respond to all transportation needs of the street. For example, on streets that are major arterials for transit and not for automobile traffic, treatments should emphasize transit priority; on streets that are major arterials for both transit and automobiles, treatments should emphasize a balance between the modes. It is also City policy that automobile facility features (such as driveways and loading docks) should be reduced, relocated or prohibited on transit preferential streets in order to avoid traffic conflicts and automobile congestion.

Citywide Pedestrian Network
The Citywide Pedestrian Network is a classification of streets throughout the City used to identify streets devoted to or primarily oriented to pedestrian use. The main classifications are:

Citywide Pedestrian Network Street: An inter-neighborhood connection with “citywide significance” includes both exclusive pedestrian and pedestrian-oriented vehicular streets. These streets include the Bay, Ridge, and Coast trails, are used by commuters, tourists, general public and recreaters, and connect major institutions with transit facilities.

Neighborhood Network Street: A neighborhood commercial, residential or transit street that serves pedestrians from the general vicinity. Some streets may be part of the Citywide network, but are generally oriented towards neighborhood-serving uses. Types include exclusive pedestrian and pedestrian-oriented vehicular streets. As part of the Neighborhood Network Street network, streets are classified as Neighborhood Commercial Streets, which are streets that are predominately commercial use with parking and loading conflicts, or Neighborhood Network Connection Streets, which are intra-neighborhood connection streets that connect neighborhood destinations.

In general, it is City policy that sufficient pedestrian movement space should be provided to minimize pedestrian congestion, sidewalks should be widened where intensive commercial, recreational or institutional activity is present, and efforts should be made to ensure convenient and safe pedestrian crossings at intersections.

Congestion Management Program (CMP) Network
The CMP Network is the network of freeways, state highways, major arterials and transit conflict streets (see Roadway Classifications, above) established in accordance with state Congestion Management legislation. As part of the CMP, the San Francisco County Transportation Authority is required to determine the level of service (LOS) for the CMP Network streets every two years. The LOS is based on the average travel speed for each
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roadway segment during both the AM and PM peak periods. The level of service standard is LOS E, except for roadway segments that operated at LOS F in 1991 (when the first study was performed). The CMP requires development of “Deficiency Plans” for any CMP-designated roadway that operate at LOS F. These plans include an analysis of the causes of the deficiency, a list of improvements that would have to be made to prevent the deficiency from occurring (including cost estimates), a list of improvements proposed as part of the plan, and an action plan for implementation of the improvements (including an implementation schedule).

**Metropolitan Transportation System (MTS) Network**

The MTS Network is defined by Metropolitan Transportation Commission (MTC) as part of its Regional Transportation Plan. The MTS is a regional network of roadways, transit corridors and transfer points, identified by the MTC on the basis of specific criteria. The criteria identified facilities that provide relief to congested corridors, improve connectivity, accommodate travel demand and serve a regional transportation function. The State highways and major thoroughfares designated in San Francisco’s CMP roadway network are all included in the regional MTS network. There are a few instances in which the local CMP network is not identical to the MTS network due to differences in the criteria used to define each network.
APPENDIX C: INTERSECTION LEVEL OF SERVICE CALCULATIONS
Existing
### Intersection #1: Stanyan / Oak-Fell / Kezar

#### Existing AM

**Intersection #1: Stanyan / Oak-Fell / Kezar**

- **Signal**: Perm + Prot/Rights=Include
- **Base Vol**: 129 616 292
- **Lanes**: 0 1 1 0 1
- **Cycle Time (sec)**: 90
- **Loss Time (sec)**: 11
- **Critical V/C**: 1.302
- **Critical Delay (sec/veh)**: 30.2
- **Average Delay (sec/veh)**: 45.0
- **LOS**: D
- **PHF Adj**: 0.99 0.99 0.99 0.99 0.99
- **MLF Adj**: 1.00 1.00 1.00 1.00 1.00
- **Final Volume**: 0 616 292 129
- **Saturation Flow Module**:
  - **Sat/Lane**: 1900 1900 1900 1900
  - **Adj Del/Veh**: 0.0 174 174.3 47.2
  - **LOS by Move**: A F F D C C A C A B A

#### Street Name: Stanyan Street

- **Approach**: North Bound
- **Volume Module**:
  - **Vol/Sat**: 0.00 0.26 0.26 0.40 0.25 0.25
  - **Green/Cycle**: 0.21 0.21 0.43 0.37 0.37 0.00
  - **Capacity Analysis Module**:
    - **Vol/Sat**: 0.25 0.25 0.25 0.37 0.37 0.37
    - **Note**: Queue reported is the number of cars per lane.

### Existing PM

**Intersection #1: Stanyan / Oak-Fell / Kezar**

- **Signal**: Perm+Prot/Rights=Include
- **Base Vol**: 237 783 277
- **Lanes**: 0 1 1 0 1
- **Cycle Time (sec)**: 90
- **Loss Time (sec)**: 11
- **Critical V/C**: 1.299
- **Critical Delay (sec/veh)**: 72.7
- **Average Delay (sec/veh)**: 57.8
- **LOS**: E
- **PHF Adj**: 0.99 0.99 0.99 0.99 0.99
- **MLF Adj**: 1.00 1.00 1.00 1.00 1.00
- **Final Volume**: 0 616 292 129
- **Saturation Flow Module**:
  - **Sat/Lane**: 1900 1900 1900 1900
  - **Adj Del/Veh**: 0.0 174 174.3 47.2
  - **LOS by Move**: A F F D C C A C A B A

#### Street Name: Stanyan Street

- **Approach**: North Bound
- **Volume Module**:
  - **Vol/Sat**: 0.00 0.26 0.26 0.40 0.25 0.25
  - **Green/Cycle**: 0.21 0.21 0.43 0.37 0.37 0.00
  - **Capacity Analysis Module**:
    - **Vol/Sat**: 0.25 0.25 0.25 0.37 0.37 0.37
    - **Note**: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Base Volume Alternative) - Existing AM

**Intersection #2: 9th Ave / Lincoln**

**Signal=Permit/Rights=Include**

- **Base Vol:** 41 191 0
- **Lanes:** 0 0 1! 0 0
- **Cycle Time (sec):** 90
- **Loss Time (sec):** 10
- **Critical V/C:** 1.017
- **Avg Crit Del (sec/veh):** 52.0
- **Critical Del (sec):** 27
- **Avg Delay (sec):** 36.8
- **LOS:** D

### Level Of Service Computation Report

#### 2000 HCM Operations (Base Volume Alternative) - Existing PM

**Intersection #2: 9th Ave / Lincoln**

**Signal=Permit/Rights=Include**

- **Base Vol:** 125 294 0
- **Lanes:** 0 0 1! 0 0
- **Cycle Time (sec):** 90
- **Loss Time (sec):** 10
- **Critical V/C:** 1.087
- **Avg Crit Del (sec/veh):** 43
- **Critical Del (sec):** 43
- **Avg Delay (sec):** 43
- **LOS:** E

---

**Street Name:** 9th Avenue, Lincoln Way

**Approach:**
- **North Bound:** 0 0 1! 0 0
- **South Bound:** 0 0 1! 0 0
- **East Bound:** 0 0 1! 0 0
- **West Bound:** 0 0 1! 0 0

**Volume Module:**
- **Base Vol:**
- **Growth Adj:**
- **User Adj:**
- **Reduct Voul:**
- **Reduced Voul:**
- **PCE Adj:**
- **MLF Adj:**
- **Final Volume:**

**Sat/Lane:**
- **Min. Green:**
- **Critical Del:**
- **Delay:**
- **Use DelAdj:**
- **Final Sat.:**

**Capacity Analysis Module:**
- **Vol/Sat:**
- **Green/Cycle:**
- **Vol/Cap:**
- **Uniform Del:**
- **IncremDel:**
- **User Del Adj:**
- **Allow Del:**

**LOS by Move:**
- **F**
- **D**
- **E**
- **A**
- **B**

Note: Queue reported is the number of cars per lane.

---

### Level Of Service Computation Report

#### 2000 HCM Operations (Base Volume Alternative) - Existing AM

**Intersection #2: 9th Ave / Lincoln**

**Signal=Permit/Rights=Include**

- **Base Vol:** 6 1506 0
- **Lanes:** 0 0 1! 0 0
- **Cycle Time (sec):** 90
- **Loss Time (sec):** 10
- **Critical V/C:** 1.017
- **Avg Crit Del (sec/veh):** 52.0
- **Critical Del (sec):** 27
- **Avg Delay (sec):** 36.8
- **LOS:** D

### Level Of Service Computation Report

#### 2000 HCM Operations (Base Volume Alternative) - Existing PM

**Intersection #2: 9th Ave / Lincoln**

**Signal=Permit/Rights=Include**

- **Base Vol:** 1506 68
- **Lanes:** 0 0 1! 0 0
- **Cycle Time (sec):** 90
- **Loss Time (sec):** 10
- **Critical V/C:** 1.087
- **Avg Crit Del (sec/veh):** 43
- **Critical Del (sec):** 43
- **Avg Delay (sec):** 43
- **LOS:** E

**Street Name:** 9th Avenue, Lincoln Way

**Approach:**
- **North Bound:** 0 0 1! 0 0
- **South Bound:** 0 0 1! 0 0
- **East Bound:** 0 0 1! 0 0
- **West Bound:** 0 0 1! 0 0

**Volume Module:**
- **Base Vol:**
- **Growth Adj:**
- **User Adj:**
- **Reduced Voul:**
- **PCE Adj:**
- **MLF Adj:**
- **Final Volume:**

**Sat/Lane:**
- **Min. Green:**
- **Critical Del:**
- **Delay:**
- **Use DelAdj:**
- **Final Sat.:**

**Capacity Analysis Module:**
- **Vol/Sat:**
- **Green/Cycle:**
- **Vol/Cap:**
- **Uniform Del:**
- **IncremDel:**
- **User Del Adj:**
- **Allow Del:**

**LOS by Move:**
- **F**
- **D**
- **E**
- **A**
- **B**

Note: Queue reported is the number of cars per lane.
### Level of Service Computation Report

**2000 HCM Operations (Base Volume Alternative)**

#### Intersection #3: 7th Ave / Lincoln

**Signal=Protect/Rights=Include**

- **Base Vol:** 19 0 0
- **Lanes:** 1 0 0
- **Rights=Include Vol Cnt Date:** 5/14/2013
- **Cycle Time (sec):** 90
- **Loss Time (sec):** 8
- **Critical V/C:** 0.961
- **Avg Crit Del (sec/veh):** 44.7
- **Loss Time (sec):** 8
- **Critical V/C:** 0.823
- **Avg Crit Del (sec/veh):** 66.8
- **Cycle Time (sec):** 90
- **Loss Time (sec):** 102

**Street Name:** 7th Avenue

**Approach:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
</tr>
</tbody>
</table>

- **Min. Green:** 0 0 29 0 0
- **YR:** 4.0 4.0

**Volume Module:**

- **Base Vol:** 0 0 373 0 0
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00
- **User Adj:** 1.00 0.00 0.00 0.00 0.00
- **PV:** 0.96 0.96 0.96 0.96 0.96
- **Critical V/C:** 0.998
- **Avg Del (sec/veh):** 23.4
- **Volume:** 0 0 373 0 0

**Saturation Flow Module:**

- **Sat/Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
- **Adjust:** 1.00 0.62 1.00 0.69 1.00 0.75 0.74 0.81 0.74 0.74

**Capacity Analysis Module:**

- **Vol/Sat:** 0.00 0.00 0.23 0.00 0.00 0.02 0.00 0.42 0.42 0.25 0.36 0.36
- **Crit Move:** 0.00 0.00 0.47 0.00 0.21 0.00 0.46 0.46 0.26 0.72 0.72
- **Uniform Del:** 0.00 0.00 20.7 0.00 0.00 35.6 0.00 28.2 28.2 41.5 7.1 7.1
- **IncremeDel:** 0.00 0.00 3.0 0.0 0.0 10.6 10.6 36.8 0.9 0.9
- **User DelAdj:** 1.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

**LOS by Move:**

- **A** 0 0 0 0 0 0 0 0 0 0 0 0

**Note:** Queue reported is the number of cars per lane.

---

### Level of Service Computation Report

**2000 HCM Operations (Base Volume Alternative)**

#### Intersection #3: 7th Ave / Lincoln

**Signal=Protect/Rights=Overlap**

- **Base Vol:** 51 0 0
- **Lanes:** 1 0 0
- **Rights=Include Vol Cnt Date:** n/a
- **Cycle Time (sec):** 90
- **Loss Time (sec):** 102
- **Critical V/C:** 0.823
- **Avg Crit Del (sec/veh):** 66.8
- **Loss Time (sec):** 102
- **Critical V/C:** 0.823
- **Avg Crit Del (sec/veh):** 66.8

**Street Name:** 7th Avenue

**Approach:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
</tr>
</tbody>
</table>

- **Min. Green:** 0 0 29 0 0
- **YR:** 4.0 4.0

**Volume Module:**

- **Base Vol:** 0 0 231 0 0
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00
- **User Adj:** 1.00 0.00 0.00 0.00 0.00
- **PV:** 0.96 0.96 0.96 0.96 0.96
- **Critical V/C:** 0.998
- **Avg Del (sec/veh):** 16.6
- **Volume:** 0 0 231 0 0

**Saturation Flow Module:**

- **Sat/Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
- **Adjust:** 1.00 0.63 1.00 0.68 1.00 0.74 0.74 0.81 0.74 0.74

**Capacity Analysis Module:**

- **Vol/Sat:** 0.00 0.00 0.23 0.00 0.00 0.02 0.00 0.42 0.42 0.25 0.36 0.36
- **Crit Move:** 0.00 0.00 0.47 0.00 0.21 0.00 0.46 0.46 0.26 0.72 0.72
- **Uniform Del:** 0.00 0.00 20.7 0.00 0.00 35.6 0.00 28.2 28.2 41.5 7.1 7.1
- **IncremeDel:** 0.00 0.00 3.0 0.0 0.0 10.6 10.6 36.8 0.9 0.9
- **User DelAdj:** 1.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

**LOS by Move:**

- **A** 0 0 0 0 0 0 0 0 0 0 0 0

**Note:** Queue reported is the number of cars per lane.
Intersection #4: 4th Ave / Lincoln

2000 HCM Unsignalized (Base Volume Alternative)

**Existing AM**

- Intersection #4: 4th Ave / Lincoln
- Signal=Stop/Rights=Include
- Base Vol: 0 0 0 0 0
- Lanes: 0 0 0 0 0
- Cycle Time (sec): 100
- Loss Time (sec): 0
- Critical V/C: 0.846
- Avg Crit Del (sec/veh): 4.8
- Avg Delay (sec/veh): 4.8

**Existing PM**

- Intersection #4: 4th Ave / Lincoln
- Signal=Stop/Rights=Include
- Base Vol: 0 0 0 0 0
- Lanes: 0 0 0 0 0
- Cycle Time (sec): 100
- Loss Time (sec): 0
- Critical V/C: 0.607
- Avg Crit Del (sec/veh): 2.0
- Avg Delay (sec/veh): 2.0

Note: Queue reported is the number of cars per lane.
### Intersection #5: Lincoln Way-Kezar Drive-Third Avenue

**Level Of Service Computation Report**

**2000 HCM Unsignalized (Base Volume Alternative)**

**Existing AM**

- **Intersection #5:** Lincoln Way-Kezar Drive-Third Avenue
- **Signal:** Uncontrol/Rights=Include
- **Base Vol:** 0 1073 0
- **Lanes:** 0 0 2 0 0
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0
- **Critical V/C:** 0.219
- **Avg Crit Del (sec/veh):** 0.8
- **Loss Delay (sec/veh):** 0
- **LOS:** C

**Critical Gap Module:**
- Capacity Module:
  - Sntflot Vol: 1073
  - Potential Cap: 1073
  - Move Cap.: 1073
  - Volume/Cap.: 1073
  - Level Of Service Module:
    - 2Way5tHC: 1073
    - Control Del1: 29.4
    - LOS by Move:
      - Movement: L - T - R
        - LS - LTR - RT
        - LT - LTR - RT
        - Shared Cap.: 1073
        - Shrd ConDel1: 24.1
        - Shared LOS:
          - Approach Del1: 24.1
          - Approach LOS: C

**Existing PM**

- **Intersection #5:** Lincoln Way-Kezar Drive-Third Avenue
- **Signal:** Uncontrol/Rights=Include
- **Base Vol:** 0 2276 0
- **Lanes:** 0 0 2 0 0
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0
- **Critical V/C:** 0.416
- **Avg Crit Del (sec/veh):** 1.5
- **Loss Delay (sec/veh):** 1.5
- **LOS:** D

**Critical Gap Module:**
- Capacity Module:
  - Sntflot Vol: 2276
  - Potential Cap: 2276
  - Move Cap.: 2276
  - Volume/Cap.: 2276
  - Level Of Service Module:
    - 2Way5tHC: 2276
    - Control Del1: 38.2
    - LOS by Move:
      - Movement: L - T - R
        - LS - LTR - RT
        - LT - LTR - RT
        - Shared Cap.: 2276
        - Shrd ConDel1: 28.7
        - Shared LOS:
          - Approach Del1: 28.7
          - Approach LOS: D

Note: Queue reported is the number of cars per lane.
### Level of Service Computation Report

#### 2000 HCM Operations (Base Volume Alternative)

#### Existing AM

**Intersection #6: Stanyan / Frederick**
- **Signal=Permit/Rights=Include**
- **Base Vol:** 162 259 16
- **Lanes:** 1 0 0 1 0
- **Cycle Time (sec):** 60
- **Loss Time (sec):** 14
- **Critical V/C:** 0.864
- **Avg Crit Del (sec/veh):** 36.3
- **Avg Delay (sec):** 26.3

**Street Name:** Stanyan Street  
**Approach:** North Bound  
**Movement:** L - T - R  
**Min. Green:** 25 25 25 25 25 25 21 21 21 21 21 21  
**Y/R: 9.0 9.0 9.0 9.0 9.0 9.0 5.0 5.0 5.0 5.0 5.0 5.0**

#### Growth Adj.: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

#### User DelAdj.: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

#### AdjDel/Veh.: 36.2 36.2 36.2 36.2 36.2 36.2 36.2 36.2 36.2 36.2 36.2 36.2

#### LOS by Move:
- D  
- C  
- C  
- C  
- C  
- C  
- C  
- C  
- C  
- C  
- C  
- C  

**Note:** Queue reported is the number of cars per lane.

---

### Level of Service Computation Report

#### 2000 HCM Operations (Base Volume Alternative)

#### Existing PM

**Intersection #6: Stanyan / Frederick**
- **Signal=Permit/Rights=Include**
- **Base Vol:** 253 380 60
- **Lanes:** 1 0 0 1 0
- **Cycle Time (sec):** 60
- **Loss Time (sec):** 14
- **Critical V/C:** 0.733
- **Avg Crit Del (sec/veh):** 56.0
- **Avg Delay (sec):** 23.8

**Street Name:** Stanyan Street  
**Approach:** North Bound  
**Movement:** L - T - R  
**Min. Green:** 25 25 25 25 25 25 21 21 21 21 21 21  
**Y/R: 9.0 9.0 9.0 9.0 9.0 9.0 5.0 5.0 5.0 5.0 5.0 5.0**

#### Growth Adj.: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

#### User DelAdj.: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

#### AdjDel/Veh.: 56.0 56.0 56.0 56.0 56.0 56.0 56.0 56.0 56.0 56.0 56.0 56.0

#### LOS by Move:
- C  
- C  
- C  
- C  
- C  
- C  
- C  
- C  
- C  
- C  
- C  
- C  

**Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Base Volume Alternative)

**Intersection #7: 9th Ave / Irving**

**Street Name:** 9th Avenue  
**Approach:** North Bound  
**Vol/Cycle:** 21 238*** 64 53

**Volume Module:**
- Base Vol: 21 238
- Lanes: 64
- Critical V/C: 0.90
- Loss Time: 60 sec
- Cycle Time: 18.0
- Adj Del/Veh: 12.6
- LOS: B

**Traffic Flow Module:**
- Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
- Adjustment: 0.69
- Lanes: 0.67
- User DelAdj: 1.00
- Final Sat.: 86 969

**Capacity Analysis Module:**
- Vol/Sat: 0.27
- Crit Moves: 0.40
- Green/Cycle: 0.53
- Volume/Cap: 0.53
- Uniform Del: 8.5
- IncremDel: 2.4
- InitQDel: 0.0
- Delay Adj: 1.00
- AdjDel/Veh: 12.6
- LOS: B

**Note:** Queue reported is the number of cars per lane.

---

**Intersection #7: 9th Ave / Irving**

**Street Name:** 9th Avenue  
**Approach:** North Bound  
**Vol/Cycle:** 29 185*** 71

**Volume Module:**
- Base Vol: 29 185
- Lanes: 71
- Critical V/C: 0.90
- Loss Time: 60 sec
- Cycle Time: 18.0
- Adj Del/Veh: 10.6
- LOS: B

**Traffic Flow Module:**
- Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
- Adjustment: 0.67
- Lanes: 0.67
- User DelAdj: 1.00
- Final Sat.: 129 823

**Capacity Analysis Module:**
- Vol/Sat: 0.27
- Crit Moves: 0.40
- Green/Cycle: 0.53
- Volume/Cap: 0.53
- Uniform Del: 8.5
-IncremDel: 2.4
- InitQDel: 0.0
- Delay Adj: 1.00
- AdjDel/Veh: 12.6
- LOS: B

**Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Base Volume Alternative)

**Existing AM**

**Intersection #8: 7th Ave / Irving**

**Base Vol:** 67 386 11

**Lanes:** 0 1 0 0 1

**Cycle Time (sec):** 75

**Loss Time (sec):** 0

**Critical V/C:** 0.684

**Avg Del (sec/veh):** 23.6

**LOS:** C

**Street Name:** 7th Avenue

**Approach:** North Bound

**Volume Module:**

<table>
<thead>
<tr>
<th>Min. Green</th>
<th>Base Vol</th>
<th>Growth Adj</th>
<th>User DelAdj</th>
</tr>
</thead>
<tbody>
<tr>
<td>38 38 38 38</td>
<td>120 460</td>
<td>1.00 1.00 1.00</td>
<td>1.00 1.00</td>
</tr>
</tbody>
</table>

**Cycle Time (sec):**

| 24 0 | 116*** | 50 0 |

**Loss Time (sec):**

| 0 5 |

**Critical V/C:**

| 58 99 |

**Avg Del (sec/veh):**

| 39 0 |

**LOS:**

| C |

**User DelAdj:**

| 1! 1! |

**Note:** Queue reported is the number of cars per lane.

### Level Of Service Computation Report

#### 2000 HCM Operations (Base Volume Alternative)

**Existing PM**

**Intersection #8: 7th Ave / Irving**

**Base Vol:** 94 478 22

**Lanes:** 0 1 0 0 1

**Cycle Time (sec):** 75

**Loss Time (sec):** 0

**Critical V/C:** 0.786

**Avg Del (sec/veh):** 25.3

**LOS:** C

**Street Name:** 7th Avenue

**Approach:** North Bound

**Volume Module:**

<table>
<thead>
<tr>
<th>Min. Green</th>
<th>Base Vol</th>
<th>Growth Adj</th>
<th>User DelAdj</th>
</tr>
</thead>
<tbody>
<tr>
<td>38 38 38 38</td>
<td>112 269</td>
<td>1.00 1.00 1.00</td>
<td>1.00 1.00</td>
</tr>
</tbody>
</table>

**Cycle Time (sec):**

| 25 0 | 99 0 | 74 0 |

**Loss Time (sec):**

| 19 0 |

**Critical V/C:**

| 1! 1! |

**Avg Del (sec/veh):**

| 82 0 |

**LOS:**

| C |

**User DelAdj:**

| 1! 1! |

**Note:** Queue reported is the number of cars per lane.
**Intersection #9: 4th Ave / Irving**

### Existing AM

- **Base Vol:** 29*** 76     67
- **Lanes:** 0 0 1! 0 0
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0
- **Avg Crit Del (sec/veh):** 10.6
- **Avg Delay (sec/veh):** 10.6
- **Critical V/C:** 0.467
- **Avg Crit Del (sec/veh):** 10.6
- **Vol:** 257
- **Lost Vol:** 0
- **Street Name:** 4th Avenue / Irving Street
- **Approach:** North Bound 1 0 0
  - **Min. Green:** 0
  - **Volume Module:** Base Vol: 12*** 46    29
- **Growth Adj:** 0.9 1 0 0 0
- **Initial Bse:** 12 46 0
- **Note:** Queue reported is the number of cars per lane.

### Existing PM

- **Base Vol:** 69  128***  29
- **Lanes:** 0 0 1! 0 0
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0
- **Avg Crit Del (sec/veh):** 10.8
- **Vol:** 110***   1
- **Lost Vol:** 8
- **Street Name:** 4th Avenue / Irving Street
- **Approach:** North Bound 1 0 0
  - **Min. Green:** 0
  - **Volume Module:** Base Vol: 13*** 40    12
- **Growth Adj:** 0.9 1 0 0 0
- **Initial Bse:** 13 40 0
- **Note:** Queue reported is the number of cars per lane.
### Intersection #10: 2nd Avenue / Irving

#### Existing AM

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>L - T - R</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Street Name: 2nd Avenue

**Approach:**
- **North Bound:**
- **South Bound:**
- **East Bound:**
- **West Bound:**

**Movement:**
- **L - T - R**

**Volume Module:**
- **Base Vol:** 32 16 11 6 11 16 24 271 25 17 97 6

**Growth Adj:**
- 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Initial Base:**
- 32 16 11 6 11 16 24 271 25 17 97 6

**Min. Green:**
- 0 0 0 0 0 0 0 0 0 0 0 0

**Cycle Time (sec):**
- 100

**Loss Time (sec):**
- 0

**Critical V/C:** 0.439

**Avg Crit Del (sec/veh):** 10.1

**Avg Delay (sec/veh):** 10.1

**LOS:** B

**Note:** Queue reported is the number of cars per lane.

---

### Intersection #10: 2nd Avenue / Irving

#### Existing PM

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>L - T - R</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Street Name: 2nd Avenue

**Approach:**
- **North Bound:**
- **South Bound:**
- **East Bound:**
- **West Bound:**

**Movement:**
- **L - T - R**

**Volume Module:**
- **Base Vol:** 58 26 30 5 7 42 31 117 24 16 256 12

**Growth Adj:**
- 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Initial Base:**
- 58 26 30 5 7 42 31 117 24 16 256 12

**Min. Green:**
- 0 0 0 0 0 0 0 0 0 0 0 0

**Cycle Time (sec):**
- 100

**Loss Time (sec):**
- 0

**Critical V/C:** 0.456

**Avg Crit Del (sec/veh):** 10.6

**Avg Delay (sec/veh):** 10.6

**LOS:** B

**Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Unsignalized (Base Volume Alternative)

**Existing AM**

**Intersection #11: Arguello / Irving-Carl**

<table>
<thead>
<tr>
<th>Treatments</th>
<th>Base Vol</th>
<th>Lanes</th>
<th>Rights=Include</th>
<th>Vol Cnt</th>
<th>Date: n/a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signal=Stop/Rights=Include</td>
<td>34 70 26</td>
<td>0 0 1</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>100</td>
</tr>
<tr>
<td>Base Vol:</td>
<td>22 128 115</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>0 0 0</td>
</tr>
<tr>
<td>LOS:</td>
<td>B</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>0 0 0</td>
</tr>
<tr>
<td>Cycle Time (sec):</td>
<td>100</td>
<td>0</td>
<td>128</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Critical V/C:</td>
<td>0.175</td>
<td>0</td>
<td>92</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Avg Crit Del (sec/veh):</td>
<td>4.3</td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>Avg Delay (sec/veh):</td>
<td>4.3</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Cycle Time (sec):</td>
<td>100</td>
<td>0</td>
<td>135</td>
<td>0</td>
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</tr>
<tr>
<td>Critical V/C:</td>
<td>0.175</td>
<td>0</td>
<td>92</td>
<td>0</td>
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<tr>
<td>Avg Crit Del (sec/veh):</td>
<td>4.3</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Avg Delay (sec/veh):</td>
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<td>0</td>
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<td></td>
</tr>
</tbody>
</table>

**Street Name:** Arguello

**Approach:** North Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume Module: Base Vol:</td>
<td>3 8 6 26 70 34 22 128 135</td>
<td>35 92 35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Growth Adj:</td>
<td>1.00 1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>User Adj:</td>
<td>0.92 0.92</td>
<td>0.92</td>
<td>0.92</td>
<td>0.92</td>
</tr>
<tr>
<td>PHF Volume:</td>
<td>24 139 147</td>
<td>38 100 38</td>
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<td></td>
</tr>
<tr>
<td>Reduct Vol:</td>
<td>0 0 0 0</td>
<td>0 0 0 0</td>
<td>0 0 0 0</td>
<td>0 0 0 0</td>
</tr>
<tr>
<td>Final Volume:</td>
<td>3 9 7</td>
<td>28 76 37</td>
<td>24 139 147</td>
<td></td>
</tr>
<tr>
<td>Critical Gap Time: Critical Qp:</td>
<td>7.1</td>
<td>6.5</td>
<td>6.2</td>
<td>7.1</td>
</tr>
<tr>
<td>FollowUpTime:</td>
<td>3.5</td>
<td>4.0</td>
<td>3.3</td>
<td>3.5</td>
</tr>
<tr>
<td>Capacity Module: Cnfln Vol:</td>
<td>512 474 213 463 529 119</td>
<td>138 xxxxxx</td>
<td>286 xxxxxx</td>
<td></td>
</tr>
<tr>
<td>Potent Cap.:</td>
<td>472 489 828 480 434 933</td>
<td>1446 xxxxxx</td>
<td>1276 xxxxxx</td>
<td></td>
</tr>
<tr>
<td>Move Cap.:</td>
<td>379 466 828 480 434 933</td>
<td>1446 xxxxxx</td>
<td>1276 xxxxxx</td>
<td></td>
</tr>
<tr>
<td>Level Of Service Module:</td>
<td>0.01 0.02 0.01 0.06 0.18 0.04 0.02 xxxxxx</td>
<td>0.03 xxxxxx</td>
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<tr>
<td>Level Of Service:</td>
<td>7.5 xxxxxx</td>
<td>7.9 xxxxxx</td>
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</tr>
<tr>
<td>LOS by Mov:</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Movement:</td>
<td>L7 - LTR - RT</td>
<td>L7 - LTR - RT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shared Cap.:</td>
<td>526 xxxxxx</td>
<td>516 xxxxxx</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shrd ConDel1:</td>
<td>12.1 xxxxxx</td>
<td>14.6 xxxxxx</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shared LOS:</td>
<td>* B</td>
<td>* B</td>
<td>* B</td>
<td>* B</td>
</tr>
<tr>
<td>Approach LOS:</td>
<td>12.1 xxxxxx</td>
<td>14.6 xxxxxx</td>
<td>B</td>
<td>B</td>
</tr>
</tbody>
</table>

Note: Queue reported is the number of cars per lane.

### Level Of Service Computation Report

#### 2000 HCM Unsignalized (Base Volume Alternative)

**Existing PM**

**Intersection #11: Arguello / Irving-Carl**

<table>
<thead>
<tr>
<th>Treatments</th>
<th>Base Vol</th>
<th>Lanes</th>
<th>Rights=Include</th>
<th>Vol Cnt</th>
<th>Date: n/a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signal=Uncontrol</td>
<td>78 10 36</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>0 0 0</td>
</tr>
<tr>
<td>Base Vol:</td>
<td>116 113</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>0 0 0</td>
</tr>
<tr>
<td>LOS:</td>
<td>D</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>0 0 0</td>
</tr>
<tr>
<td>Cycle Time (sec):</td>
<td>45</td>
<td>0</td>
<td>35</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Critical V/C:</td>
<td>0.175</td>
<td>0</td>
<td>92</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Avg Crit Del (sec/veh):</td>
<td>4.3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Avg Delay (sec/veh):</td>
<td>4.3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Cycle Time (sec):</td>
<td>45</td>
<td>0</td>
<td>35</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Critical V/C:</td>
<td>0.175</td>
<td>0</td>
<td>92</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Avg Crit Del (sec/veh):</td>
<td>4.3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Avg Delay (sec/veh):</td>
<td>4.3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

**Street Name:** Arguello

**Approach:** North Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume Module: Base Vol:</td>
<td>91 83 50 36 10</td>
<td>78 116 183</td>
<td>4 7</td>
<td>138 45</td>
</tr>
<tr>
<td>Growth Adj:</td>
<td>1.00 1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>User Adj:</td>
<td>0.92 0.92</td>
<td>0.92</td>
<td>0.92</td>
<td>0.92</td>
</tr>
<tr>
<td>PHF Volume:</td>
<td>65 69 60 43 12</td>
<td>93</td>
<td>138 218</td>
<td>5</td>
</tr>
<tr>
<td>Reduct Vol:</td>
<td>0 0 0 0 0</td>
<td>0 0 0 0 0 0</td>
<td>0 0 0 0 0</td>
<td></td>
</tr>
<tr>
<td>Final Volume:</td>
<td>65 69 60 43 12</td>
<td>93</td>
<td>138 218</td>
<td>5</td>
</tr>
<tr>
<td>Critical Gap Time: Critical Qp:</td>
<td>7.1</td>
<td>6.5</td>
<td>6.2</td>
<td>7.1</td>
</tr>
<tr>
<td>FollowUpTime:</td>
<td>3.5</td>
<td>4.0</td>
<td>3.3</td>
<td>3.5</td>
</tr>
<tr>
<td>Capacity Module: Cnfln Vol:</td>
<td>757 731 220 769 707 191</td>
<td>218 xxxxxx</td>
<td>223 xxxxxx</td>
<td></td>
</tr>
<tr>
<td>Potent Cap.:</td>
<td>324 349 819 318 360 851 1352 xxxxxx</td>
<td>1346 xxxxxx</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Move Cap.:</td>
<td>256 308 819 223 318 851 1352 xxxxxx</td>
<td>1346 xxxxxx</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volume/Cap:</td>
<td>0.25 0.22</td>
<td>0.07</td>
<td>0.19</td>
<td>0.04</td>
</tr>
<tr>
<td>Level Of Service Module:</td>
<td>0.3 xxxxxx</td>
<td>0.3 xxxxxx</td>
<td>0.0 xxxxxx</td>
<td>0.3 xxxxxx</td>
</tr>
<tr>
<td>Level Of Service:</td>
<td>8.0 xxxxxx</td>
<td>7.7 xxxxxx</td>
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<td></td>
</tr>
<tr>
<td>LOS by Mov:</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Movement:</td>
<td>L7 - LTR - RT</td>
<td>L7 - LTR - RT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shared Cap.:</td>
<td>351 xxxxxx</td>
<td>436 xxxxxx</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shrd ConDel1:</td>
<td>27.1 xxxxxx</td>
<td>17.4 xxxxxx</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shared LOS:</td>
<td>D</td>
<td>D</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Approach LOS:</td>
<td>27.1 xxxxxx</td>
<td>17.4 xxxxxx</td>
<td>D</td>
<td>C</td>
</tr>
</tbody>
</table>

Note: Queue reported is the number of cars per lane.
## Level Of Service Computation Report

### 2000 HCM Operations (Base Volume Alternative)

#### Intersection #12: 9th Avenue / Judah Street

**Existing AM**

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Base Vol</th>
<th>Lanes</th>
<th>Rights</th>
<th>Vol Cnt Date</th>
<th>Cycle Time (sec)</th>
<th>Loss Time (sec)</th>
<th>Avg Crit Del (sec/veh)</th>
<th>LOS</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00-10:00</td>
<td>16 154 29</td>
<td>0 0 1</td>
<td>Include</td>
<td>5/14/2013</td>
<td>60</td>
<td>8</td>
<td>0</td>
<td>A</td>
<td>2013</td>
</tr>
</tbody>
</table>

- **Base Vol**: 16 154 29  
- **Lanes**: 0 0 1  
- **Rights**: Include  
- **Cycle Time**: 60 sec  
- **Loss Time**: 8 sec  
- **Critical V/C**: 0.550  
- **Critical Del**: 16.3 sec/veh  
- **Delay**: 15.0 sec  
- **LOS**: B

**Base Vol**: Lanes: Base Vol: 0 0 1

- **Cycle Time**: 60 sec
- **Loss Time**: 8 sec
- **Critical V/C**: 0.550
- **Critical Del**: 16.3 sec/veh
- **Delay**: 15.0 sec
- **LOS**: B

### Existing PM

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Base Vol</th>
<th>Lanes</th>
<th>Rights</th>
<th>Vol Cnt Date</th>
<th>Cycle Time (sec)</th>
<th>Loss Time (sec)</th>
<th>Avg Crit Del (sec/veh)</th>
<th>LOS</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00-10:00</td>
<td>29 259 57</td>
<td>0 0 1</td>
<td>Include</td>
<td>5/14/2013</td>
<td>53</td>
<td>0</td>
<td>0</td>
<td>A</td>
<td>2013</td>
</tr>
</tbody>
</table>

- **Base Vol**: 29 259 57  
- **Lanes**: 0 0 1  
- **Rights**: Include  
- **Cycle Time**: 53 sec  
- **Loss Time**: 0 sec  
- **Critical V/C**: 0.589  
- **Critical Del**: 17.1 sec/veh  
- **Delay**: 15.5 sec  
- **LOS**: B

**Base Vol**: Lanes: Base Vol: 0 0 1

- **Cycle Time**: 53 sec
- **Loss Time**: 0 sec
- **Critical V/C**: 0.589
- **Critical Del**: 17.1 sec/veh
- **Delay**: 15.5 sec
- **LOS**: B

---

### Street Name:

- **9th Avenue**
- **Judah Street**

### Approach:

- **North Bound**:  
- **South Bound**:  
- **East Bound**:  
- **West Bound**:  

### Movement:

<table>
<thead>
<tr>
<th>Movement</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Vol</td>
<td>0 0 1</td>
<td>0 0 1</td>
<td>0 0 1</td>
<td>0 0 1</td>
</tr>
</tbody>
</table>

### Volume Module:

- **Base Vol**: 9 289 51 29 154 16  
- **Growth Adj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

### Adj Del/Veh:

- **Adj Del/Veh**: 12.4 12.4 12.4 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6

### LOS by Move:

- **LOS by Move**: B B B A A A A C C B

### HCM2kAvgQ:

- **HCM2kAvgQ**: 5 5 5 2 2 2 0 5 5 0 3 3

### Note:

- Queue reported is the number of cars per lane.

---

### Street Name:

- **9th Avenue**
- **Judah Street**

### Approach:

- **North Bound**:  
- **South Bound**:  
- **East Bound**:  
- **West Bound**:  

### Movement:

<table>
<thead>
<tr>
<th>Movement</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Vol</td>
<td>0 0 1</td>
<td>0 0 1</td>
<td>0 0 1</td>
<td>0 0 1</td>
</tr>
</tbody>
</table>

### Volume Module:

- **Base Vol**: 11 139 34 57 259 29  
- **Growth Adj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

### Adj Del/Veh:

- **Adj Del/Veh**: 9.4 9.4 9.4 9.4 9.4 9.4 9.4 9.4 9.4 9.4 9.4 9.4

### LOS by Move:

- **LOS by Move**: A A A A A A A A A A A A

### HCM2kAvgQ:

- **HCM2kAvgQ**: 2 2 2 5 5 5 0 3 3 1 5 5

### Note:

- Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Base Volume Alternative)

**Existing AM**

**Intersection #13: 7th Avenue / Judah Street**

**Street Name:**
- **7th Avenue**
- **Judah Street**

**Approach:**
- **North Bound**
- **South Bound**
- **East Bound**
- **West Bound**

**Movement:**
- **L** - **T** - **R**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Growth Adj</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>User Adj</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>PHF Volume</td>
<td>75</td>
<td>574</td>
<td>93</td>
<td>27 393</td>
<td>25</td>
<td>114 226</td>
<td>49</td>
<td>89 104</td>
<td>13</td>
<td>111</td>
<td>219</td>
<td>48</td>
</tr>
<tr>
<td>Reduce Vol</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Reduced Vol</td>
<td>75 574</td>
<td>93 27 393</td>
<td>25 114 226</td>
<td>49 89 104</td>
<td>13</td>
<td>211</td>
<td>219</td>
<td>48 86 101</td>
<td>13</td>
<td>111</td>
<td>219</td>
<td>48</td>
</tr>
</tbody>
</table>

| Cycle Time (sec) | 75 | 148 | 25 | 13 | 0 | 31,5 | 1 | 85 |
| Loss Time (sec) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Critical C/V | 0.767 | 0.687 | 0 | 0 | 0 | 0 | 0 | 0 |
| Avg Crit Del (sec/veh) | 44.5 | 36.8 | 0 | 0 | 0 | 0 | 0 | 0 |
| Avg Delay (sec/veh) | 31.5 | 24.6 | 0 | 0 | 0 | 0 | 0 | 0 |

**Volume Module:**

| Base Vol | 73 574 | 90 26 381 | 24 111 219 | 48 86 101 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rights=Include | - | - | - | - | - | - | - | - | - | - | - | - |

**LOS:**
- C

**Saturation Flow Module:**

| Base Vol | 90 359 | 64 20 516 | 69 32 148 | 75 93 226 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rights=Include | - | - | - | - | - | - | - | - | - | - | - | - |

**LOS:**
- C

---

### Level Of Service Computation Report

#### 2000 HCM Operations (Base Volume Alternative)

**Existing PM**

**Intersection #13: 7th Avenue / Judah Street**

**Street Name:**
- **7th Avenue**
- **Judah Street**

**Approach:**
- **North Bound**
- **South Bound**
- **East Bound**
- **West Bound**

**Movement:**
- **L** - **T** - **R**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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</tr>
<tr>
<td>Growth Adj</td>
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<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
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<td>1.00</td>
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<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
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</tr>
<tr>
<td>User Adj</td>
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<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
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<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>PHF Volume</td>
<td>93 370</td>
<td>66 21 532</td>
<td>71 33</td>
<td>153</td>
<td>77</td>
<td>96 233</td>
<td>26</td>
<td>111</td>
<td>219</td>
<td>48</td>
<td>86 101</td>
<td>13</td>
</tr>
<tr>
<td>Reduce Vol</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Reduced Vol</td>
<td>93 370</td>
<td>66 21 532</td>
<td>71 33</td>
<td>153</td>
<td>77</td>
<td>96 233</td>
<td>26</td>
<td>211</td>
<td>219</td>
<td>48</td>
<td>86 101</td>
<td>13</td>
</tr>
</tbody>
</table>

| Cycle Time (sec) | 75 | 148 | 25 | 13 | 0 | 31,5 | 1 | 85 |
| Loss Time (sec) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Critical C/V | 0.697 | 0.567 | 0 | 0 | 0 | 0 | 0 | 0 |
| Avg Crit Del (sec/veh) | 30.6 | 24.6 | 0 | 0 | 0 | 0 | 0 | 0 |
| Avg Delay (sec/veh) | 24.6 | 19.3 | 0 | 0 | 0 | 0 | 0 | 0 |

**Volume Module:**

| Base Vol | 90 359 | 64 20 516 | 69 32 148 | 75 93 226 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rights=Include | - | - | - | - | - | - | - | - | - | - | - | - |

**LOS:**
- C

**Saturation Flow Module:**

| Base Vol | 90 359 | 64 20 516 | 69 32 148 | 75 93 226 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rights=Include | - | - | - | - | - | - | - | - | - | - | - | - |

**LOS:**
- C

---

**Note:** Queue reported is the number of cars per lane.
### Level of Service Computation Report

**2000 HCM 4-Way Stop (Base Volume Alternative)**

#### Existing AM

**Intersection #14: 6th Avenue / Judah Street**

**Signal=Stop/Rights=Include**

- Base Vol: 15 52*** 9
- Lanes: 0 0 1! 0 0
- Critical C/V: 0.656
- Avg Del (sec/veh): 16.8
- Avg Delay (sec/veh): 16.8

**Street Name:** 6th Avenue

**Approach:** North Bound

- Movement: L - T - R  L - T - R  L - T - R  L - T - R
- Min. Green: 0 0 0 0
- Cycle Time (sec): 100
- Loss Time (sec): 0
- Volume Module:
  - Base Vol: 0 0 0 0
  - Growth Adj: 1.00 1.00 1.00 1.00
  - Initial Bse: 6 250 118

**Approach:** South Bound

- Movement: L - T - R  L - T - R  L - T - R  L - T - R
- Min. Green: 0 0 0 0
- Cycle Time (sec): 100
- Loss Time (sec): 0
- Volume Module:
  - Base Vol: 0 0 0 0
  - Growth Adj: 1.00 1.00 1.00 1.00
  - Initial Bse: 9 150 79

**Approach:** East Bound

- Movement: L - T - R  L - T - R  L - T - R  L - T - R
- Min. Green: 0 0 0 0
- Cycle Time (sec): 100
- Loss Time (sec): 0
- Volume Module:
  - Base Vol: 0 0 0 0
  - Growth Adj: 1.00 1.00 1.00 1.00
  - Initial Bse: 16 161 43

**Approach:** West Bound

- Movement: L - T - R  L - T - R  L - T - R  L - T - R
- Min. Green: 0 0 0 0
- Cycle Time (sec): 100
- Loss Time (sec): 0
- Volume Module:
  - Base Vol: 0 0 0 0
  - Growth Adj: 1.00 1.00 1.00 1.00
  - Initial Bse: 25 222 19

#### Existing PM

- **Street Name:** 6th Avenue
- **Approach:** North Bound
- **Movement:** L - T - R  L - T - R  L - T - R  L - T - R
- **Min. Green:** 0 0 0 0
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0
- **Volume Module:**
  - **Base Vol:** 0 0 0 0
  - **Growth Adj:** 1.00 1.00 1.00 1.00
  - **Initial Bse:** 9 150 79

- **Approach:** South Bound
- **Movement:** L - T - R  L - T - R  L - T - R  L - T - R
- **Min. Green:** 0 0 0 0
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0
- **Volume Module:**
  - **Base Vol:** 0 0 0 0
  - **Growth Adj:** 1.00 1.00 1.00 1.00
  - **Initial Bse:** 16 161 43

- **Approach:** East Bound
- **Movement:** L - T - R  L - T - R  L - T - R  L - T - R
- **Min. Green:** 0 0 0 0
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0
- **Volume Module:**
  - **Base Vol:** 0 0 0 0
  - **Growth Adj:** 1.00 1.00 1.00 1.00
  - **Initial Bse:** 25 222 19

- **Approach:** West Bound
- **Movement:** L - T - R  L - T - R  L - T - R  L - T - R
- **Min. Green:** 0 0 0 0
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0
- **Volume Module:**
  - **Base Vol:** 0 0 0 0
  - **Growth Adj:** 1.00 1.00 1.00 1.00
  - **Initial Bse:** 114 269 33

Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

**2000 HCM Unsignalized (Base Volume Alternative)**

**Existing AM**

**Intersection #15: 5th Avenue / Judah Street**

**Signal=Stop/Rights=Include**

**Base Vol:** 26 8 5

**Lanes:** 0 0 1!

**Vol Cnt Date:** 100

**Cycle Time (sec):** 1412 0

**Loss Time (sec):** 0

**Critical V/C:** 0.248

**Avg Crit Del (sec/veh):** 4.8

**Avg Delay (sec/veh):** 4.8

**LOS:** C

**Street Name:** 5th Avenue / Judah Street

**Approach:** North Bound South Bound East Bound West Bound

<table>
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<tr>
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<th>L</th>
<th>T</th>
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<th>L</th>
<th>T</th>
<th>R</th>
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<td>0 34 117 5 8 26 14 412 20 73 288 9</td>
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<tr>
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<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
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<tr>
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<tr>
<td>PHF Adj</td>
<td>0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96</td>
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<td>Reduct Vol</td>
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<tr>
<td>Critical Gap:</td>
<td>Critical Gap: 6.5 6.2 7.1 6.5 6.2 4.1 XXXX XXXX 4.1 XXXX XXXX</td>
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<tr>
<td>FollowUpTim:</td>
<td>FollowUpTim: 4.0 3.3 3.5 4.0 3.3 2.2 XXXX XXXX 2.2 XXXX XXXX</td>
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</table>

**Capacity Module:**

| CNflt Vol: | xxxx 1030 540 1104 1036 405 359 xxxx 500 xxxx xxxx |
| Potent Cap.: | xxxx 233 542 188 232 646 1199 xxxx 1064 xxxx xxxx |
| Move Cap.: | xxxx 193 492 103 191 586 1142 xxxx 1013 xxxx xxxx |
| Volume/Cap: | 0.18 0.25 0.05 0.04 0.05 0.01 xxxx 0.08 xxxx xxxx |

**Level Of Service Module:**

<table>
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<tr>
<th>LTBxTxxx</th>
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<tbody>
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<td>Shrd ConDel1xxx</td>
<td>xxxx 22.2 xxxx 19.5 xxxx xxxx xxxx xxxx</td>
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<td>Shared LOS:</td>
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<td>22.2 19.5</td>
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</tbody>
</table>

**Note:** Queue reported is the number of cars per lane.

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### Level Of Service Computation Report

**2000 HCM Unsignalized (Base Volume Alternative)**

**Existing PM**

**Intersection #15: 5th Avenue / Judah Street**

**Signal=Stop/Rights=Include**

**Base Vol:** 44 21 10

**Lanes:** 0 0 1!

**Vol Cnt Date:** 100

**Cycle Time (sec):** 301 0

**Loss Time (sec):** 0

**Critical V/C:** 0.208

**Avg Crit Del (sec/veh):** 6.9

**Avg Delay (sec/veh):** 6.9

**LOS:** E

**Street Name:** 5th Avenue / Judah Street

**Approach:** North Bound South Bound East Bound West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
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<tr>
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<td>5 17 79 10 21 44 7 301 14 172 375 33</td>
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<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
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<td>User Adj</td>
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<tr>
<td>FinalVolume</td>
<td>6 19 90 11 24 50 8 342 16 195 426 38</td>
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<td>FollowUpTim:</td>
<td>FollowUpTim: 3.5 4.0 3.3 3.5 4.0 3.3 2.2 XXXX XXXX 2.2 XXXX XXXX</td>
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</table>

**Capacity Module:**

| CNflt Vol: | xxxx 1339 1320 450 1356 1310 545 514 xxxx 408 xxxx xxxx |
| Potent Cap.: | xxxx 130 157 609 126 159 538 1052 xxxx 1151 xxxx xxxx |
| Move Cap.: | xxxx 75 113 553 70 114 488 1002 xxxx 1096 xxxx xxxx |
| Volume/Cap: | 0.08 0.17 0.16 0.16 0.21 0.10 0.10 xxxx 0.18 xxxx xxxx |

**Level Of Service Module:**

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<td>Shared LOS:</td>
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**Note:** Queue reported is the number of cars per lane.
## Level Of Service Computation Report

### 2000 HCM 4-Way Stop (Base Volume Alternative)

#### Existing AM

**Intersection #16: 4th Avenue / Parnassus**

**Signal=Stop/Rights=Include**

<table>
<thead>
<tr>
<th>Base Vol</th>
<th>Lanes:</th>
<th>Vol Ctrl Date</th>
<th>Cycle Time (sec)</th>
<th>n/a</th>
<th>Sign/Stop</th>
<th>Right/Include</th>
<th>Lanes</th>
<th>Vol Ctrl Date</th>
<th>Cycle Time (sec)</th>
<th>n/a</th>
<th>Sign/Stop</th>
<th>Right/Include</th>
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<td>$37$</td>
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<td>$0$</td>
<td>$0$</td>
<td>$37$</td>
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<td><strong>$52$</strong></td>
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<tr>
<td>$467$**</td>
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<td>$0$</td>
<td>$0$</td>
<td>$0$</td>
<td>$0$</td>
<td>$37$</td>
<td></td>
<td><strong>$52$</strong></td>
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</tr>
</tbody>
</table>

- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0
- **Reduc Vol:** 0
- **Vol:** 0
- **Reduced Vol:** 0
- **Vol:** 58
- **Reduced Vol:** 0
- **Vol:** 0
- **Reduced Vol:** 0
- **Vol:** 0
- **Reduced Vol:** 0
- **Vol:** 0
- **Reduced Vol:** 0
- **Vol:** 55
- **Reduced Vol:** 0
- **Vol:** 0
- **Reduced Vol:** 0
- **Vol:** 0
- **Reduced Vol:** 0
- **Vol:** 0
- **Reduced Vol:** 0
- **Vol:** 0
- **Reduced Vol:** 0
- **Vol:** 0
- **Reduced Vol:** 0

- **Critical V/C:** 0.707
- **Avg Crit Del (sec/veh):** 14.8
- **Avg Delay (sec/veh):** 14.8

**Street Name:** 4th Avenue

**Approach:** North Bound

<table>
<thead>
<tr>
<th>Movement</th>
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<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
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<tbody>
<tr>
<td>Min. Green:</td>
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</tbody>
</table>

**Volume Module:**

- **Base Vol:** 0
- **Growth Adj:** 1.00
- **User Adj:** 1.00
- **PHF Adj:** 0.95
- **PH Volume:** 58
- **Reduct Vol:** 0
- **Vol:** 55
- **Reduced Vol:** 0
- **Vol:** 0
- **Reduced Vol:** 0
- **Vol:** 0
- **Reduced Vol:** 0
- **Vol:** 0
- **Reduced Vol:** 0
- **Vol:** 0
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- **Reduced Vol:** 0
- **Vol:** 0
- **Reduced Vol:** 0
- **Vol:** 0
- **Reduced Vol:** 0
- **Vol:** 0
- **Reduced Vol:** 0
- **Vol:** 0
- **Reduced Vol:** 0

- **Critical V/C:** 0.789
- **Avg Crit Del (sec/veh):** 19.0
- **Avg Delay (sec/veh):** 19.0

**Street Name:** Parnassus

- **Approach:** South Bound
- **Approach:** East Bound
- **Approach:** West Bound

**Note:** Queue reported is the number of cars per lane.

---

### Existing PM

**Intersection #16: 4th Avenue / Parnassus**

**Signal=Stop/Rights=Include**

<table>
<thead>
<tr>
<th>Base Vol</th>
<th>Lanes:</th>
<th>Vol Ctrl Date</th>
<th>Cycle Time (sec)</th>
<th>n/a</th>
<th>Sign/Stop</th>
<th>Right/Include</th>
<th>Lanes</th>
<th>Vol Ctrl Date</th>
<th>Cycle Time (sec)</th>
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<th>Sign/Stop</th>
<th>Right/Include</th>
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</tr>
</tbody>
</table>

- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0
- **Reduc Vol:** 0
- **Vol:** 0
- **Reduced Vol:** 0
- **Vol:** 58
- **Reduced Vol:** 0
- **Vol:** 0
- **Reduced Vol:** 0
- **Vol:** 0
- **Reduced Vol:** 0
- **Vol:** 0
- **Reduced Vol:** 0
- **Vol:** 0
- **Reduced Vol:** 0
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- **Reduced Vol:** 0
- **Vol:** 0
- **Reduced Vol:** 0
- **Vol:** 0
- **Reduced Vol:** 0
- **Vol:** 0
- **Reduced Vol:** 0
- **Vol:** 0
- **Reduced Vol:** 0

- **Critical V/C:** 0.789
- **Avg Crit Del (sec/veh):** 19.0
- **Avg Delay (sec/veh):** 19.0

**Street Name:** 4th Avenue

**Approach:** North Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green:</td>
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<td>0</td>
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</tr>
</tbody>
</table>

**Volume Module:**

- **Base Vol:** 0
- **Growth Adj:** 1.00
- **User Adj:** 1.00
- **PHF Adj:** 0.86
- **PH Volume:** 38
- **Reduct Vol:** 0
- **Vol:** 52
- **Reduced Vol:** 0
- **Vol:** 0
- **Reduced Vol:** 0
- **Vol:** 0
- **Reduced Vol:** 0
- **Vol:** 0
- **Reduced Vol:** 0
- **Vol:** 0
- **Reduced Vol:** 0
- **Vol:** 0
- **Reduced Vol:** 0
- **Vol:** 0
- **Reduced Vol:** 0
- **Vol:** 0
- **Reduced Vol:** 0
- **Vol:** 0
- **Reduced Vol:** 0
- **Vol:** 0
- **Reduced Vol:** 0

- **Critical V/C:** 0.707
- **Avg Crit Del (sec/veh):** 14.8
- **Avg Delay (sec/veh):** 14.8

**Street Name:** Parnassus

- **Approach:** South Bound
- **Approach:** East Bound
- **Approach:** West Bound

**Note:** Queue reported is the number of cars per lane.
Level of Service Computation Report
2000 HCM Unsignalized (Base Volume Alternative)
Existing AM

Intersection #17: 3rd Avenue / Parnassus

Street Name: 3rd Avenue Parnassus

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

Volume Module: Base Vol: Lanes: Rights=Include Vol Cnt Date: n/a Rights=Include Lanes: Base Vol:

Cycle Time (sec): 100

Loss Time (sec): 0

Critical V/C: 0.058

Avg Crit Del (sec/veh): 0.8

Avg Delay (sec/veh): 0.8

LOS: C

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Note: Queue reported is the number of cars per lane.

Level of Service Computation Report
2000 HCM Unsignalized (Base Volume Alternative)
Existing PM

Intersection #17: 3rd Avenue / Parnassus

Street Name: 3rd Avenue Parnassus

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

Volume Module: Base Vol: Lanes: Rights=Include Vol Cnt Date: n/a Rights=Include Lanes: Base Vol:

Cycle Time (sec): 100

Loss Time (sec): 0

Critical V/C: 0.133

Avg Crit Del (sec/veh): 1.4

Avg Delay (sec/veh): 1.4

LOS: C

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Note: Queue reported is the number of cars per lane.
### Level of Service Computation Report

**2000 HCM Unsignalized (Base Volume Alternative)**

**Existing AM**

**Intersection #18: Hillway / Parnassus**

**Signal=Stop/Rights=Include**

**Base Vol:** 21 0 3

**Lanes:** 0 0 1

**Vol Crit Date:** 10/01/92 10/01/92 10/01/92

**Cycle Time (sec):** 100

**Signal=Uncontrol**

**Loss Time (sec):** 0

**Critical V/C:** 0.049

**Avg Crit Del (sec/veh):** 0.9

**Avg Delay (sec/veh):** 0.9

**LOS:** A

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.076

**Avg Crit Del (sec/veh):** 1.2

**Avg Delay (sec/veh):** 1.2

**LOS:** C

---

**Street Name:** Hillway / Parnassus

**Approach:** North Bound  South Bound  East Bound  West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume Module</td>
<td>Base Vol: 0 0 0 3 0 21 51 348 4 0 347 39</td>
<td>Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td>User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td>PHF Adj: 0.99 0.97 0.99 0.99 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98</td>
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<tr>
<td>Initial Base</td>
<td>Base Vol: 22 1 12 0 0 32 22 297 0 0 333 31</td>
<td>Base Vol: 0 0 0 12 0 32 22 297 0 0 333 31</td>
<td>Base Vol: 0 0 0 12 0 32 22 297 0 0 333 31</td>
<td>Base Vol: 0 0 0 12 0 32 22 297 0 0 333 31</td>
</tr>
</tbody>
</table>

**Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**PHF Adj:** 0.83 0.83 0.83 0.83 0.83 0.83 0.83 0.83 0.83 0.83 0.83 0.83

**PHF Volume:** 0 0 0 14 0 39 27 358 0 0 401 37

**Reduc Vol:** 0 0 0 0 0 0 0 0 0 0 0 0

**FinalVolume:** 0 0 0 14 0 39 27 358 0 0 401 37

**Critical Gap:** 6.4 6.5 6.2 4.1

**FollowUpTime:** 3.5 4.0 3.3 2.2

**Capacity Module:**

**Onflct Vol:** 935 937 474 444 935 937 474 444

**Potent Cap:** 295 265 590 1116 295 265 590 1116

**Move Cap:** 257 228 536 1063 257 228 536 1063

**Volume/Cap:** 0.01 0.04 0.05 0.05 0.01 0.04 0.05 0.05

**Level Of Service Module:**

**2WayStopQ:** 0.2 0.3 0.4 0.5 0.2 0.3 0.4 0.5

**Control Del:** 8.6 8.6 8.6 8.6

**LBS by Move:**

**Movement:** L - T - R - RT L - T - R - RT L - T - R - RT L - T - R - RT

**Shared Cap:** 472 444 444 444

**ShrdConDel:** 13.0 13.0 13.0 13.0

**Shared LOS:** * * A * * A * * A

**Approach Del:** 15.0

**Approach LOS:** B

**Note:** Queue reported is the number of cars per lane.
Intersection #19: Hill Point / Parnassus

Level Of Service Computation Report
2000 HCM Unsignalized (Base Volume Alternative)

Existing AM

Intersection #19: Hill Point / Parnassus
Signal=Stop/Rights=Include
Base Vol: 9 0 5
Lanes: 0 0 1!

Critical V/C: 0.138
Avg Crit Del (sec/veh): 1.8

Cycle Time (sec): 100
Loss Time (sec): 0

Vol Cnt Date: n/a

Street Name: Hill Point                      Parnassus Ave
Approach: North Bound      South Bound       East Bound       West Bound
Movement: L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R

Volume Module:

Base Vol: 41 0 16 5 0 9 13 288 25 17 353 1
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95

Critical Gap Module:
Critical Gap: 7.1 6.5 6.2 7.1 6.5 6.2 4.1 7.1 6.5 6.2 4.1 7.1 6.5 6.2
Follow gap: 3.5 4.0 3.3 3.5 4.0 3.3 2.2 7.1 6.5 6.2 2.2 7.1 6.5 6.2

Capacity Module:

Cnfilt Vol: 756 752 316 760 765 372 373 xxxx xxxx 329 xxxx xxxx
Potent Cap.: 324 339 724 323 333 674 1186 xxxx xxxx 1230 xxxx xxxx

Move Cap.: 313 330 724 309 325 674 1186 xxxx xxxx 1230 xxxx xxxx

Volume/Cap: 0.14 0.00 0.02 0.02 0.02 0.02 0.01 0.01 xxxx xxxx 0.01 xxxx xxxx

Level Of Service Module:

Control Del1:xxxx xxxx xxxx xxxx 0.00 xxxx xxxx 0.00 xxxx xxxx 0.00 xxxx xxxx
LDB by Move: A * * A

Movement: L1 - LTR - RT L2 - LTR - RT L3 - LTR - RT

Shared Cap.: xxxx 373 xxxx xxxx 474 xxxx xxxx xxxx xxxx xxxx

Shared Queue: 0.6 0.3 0.6 0.3 0.6 0.3

Shrd ConDel1:xxxx 16.5 xxxx xxxx 12.8 xxxx 16.5 xxxx 12.8

Shared LOS: * C * B * *

Approach Del1: 16.5 xxxx xxxx 16.5

Approach LOS: C B

Note: Queue reported is the number of cars per lane.

Existing PM

Intersection #19: Hill Point / Parnassus
Signal=Stop/Rights=Include
Base Vol: 7 0 7
Lanes: 0 0 0!

Critical V/C: 0.105
Avg Crit Del (sec/veh): 1.6

Cycle Time (sec): 100
Loss Time (sec): 0

Vol Cnt Date: n/a

Street Name: Hill Point                      Parnassus Ave
Approach: North Bound      South Bound       East Bound       West Bound
Movement: L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R

Volume Module:

Base Vol: 26 0 17 7 0 7 20 304 20 12 328 6
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.87 0.87 0.87 0.87 0.87 0.87 0.87 0.87 0.87 0.87 0.87

Critical Gap Module:
Critical Gap: 7.1 6.5 6.2 7.1 6.5 6.2 4.1 7.1 6.5 6.2 4.1 7.1 6.5 6.2
Follow gap: 3.5 4.0 3.3 3.5 4.0 3.3 2.2 7.1 6.5 6.2 2.2 7.1 6.5 6.2

Capacity Module:

Cnfilt Vol: 819 818 361 825 826 380 384 xxxx xxxx 372 xxxx xxxx
Potent Cap.: 284 310 684 297 298 677 1175 xxxx xxxx 1186 xxxx xxxx

Move Cap.: 284 301 684 277 298 677 1175 xxxx xxxx 1186 xxxx xxxx

Volume/Cap: 0.11 0.00 0.03 0.03 0.00 0.01 0.02 xxxx xxxx 0.01 xxxx xxxx

Level Of Service Module:

Control Del1:xxxx xxxx xxxx xxxx 0.10 xxxx xxxx 0.10 xxxx xxxx 0.10 xxxx xxxx
LDB by Move: A * * A

Movement: L1 - LTR - RT L2 - LTR - RT L3 - LTR - RT

Shared Cap.: xxxx 369 xxxx xxxx 391 xxxx xxxx xxxx xxxx xxxx

Shared Queue: 0.5 0.3 0.5 0.3 0.5 0.3

Shrd ConDel1:xxxx 16.3 xxxx xxxx 14.6 xxxx 16.3 xxxx 14.6

Shared LOS: * C * B * *

Approach Del1: 16.3 xxxx xxxx 16.3

Approach LOS: C B

Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report
#### 2000 HCM Operations (Base Volume Alternative)

**Existing AM**

**Intersection #20: Stanyan / Parnassus**

<table>
<thead>
<tr>
<th>Signal=Permit</th>
<th>Rights=Include</th>
<th>Base Vol</th>
<th>Lanes</th>
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<tbody>
<tr>
<td>113</td>
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<td></td>
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<td>191</td>
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<tr>
<td></td>
<td></td>
<td>18</td>
<td>0</td>
</tr>
</tbody>
</table>

- **Base Vol**: 143  191  18
- **Lanes**: 0 0 1
- **Cycle Time (sec)**: 60
- **Loss Time (sec)**: 0
- **Critical V/C**: 0.854
- **A vg Crit Del (sec/veh)**: 40.7
- **A vg Delay (sec/veh)**: 0
- **LOS**: D

**Street Name:** Stanyan / Parnassus Avenue

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
</tr>
</tbody>
</table>

- **Min. Green**: 30 30 30 30 30 30 30 30 30 30 30 30
- **Cycle Time (sec)**: 60
- **Loss Time (sec)**: 0
- **Critical V/C**: 0.806
- **A vg Crit Del (sec/veh)**: 37.4
- **A vg Delay (sec/veh)**: 29.1
- **LOS**: C

**Volume Module**

- **Base Vol**: 107 220 13 18 191 143 126 113 106 5 161 86
- **Growth Adj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **User DelAdj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **AdjDel/Veh**: 17.6 17.6 17.6 17.6 17.6 17.6 17.6 17.6 17.6 17.6 17.6 17.6
- **LOS by Move**: B B B B B B E E E B B B

**Capacity Analysis Module**

<table>
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<th>0.34</th>
<th>0.34</th>
<th>0.30</th>
<th>0.30</th>
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<th>0.39</th>
<th>0.21</th>
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<th>0.21</th>
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</thead>
<tbody>
<tr>
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<td>0.50</td>
<td>0.50</td>
<td>0.50</td>
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<tr>
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<tr>
<td>Delay/veh</td>
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<td>17.6</td>
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<tr>
<td>LOS by Move</td>
<td>B B</td>
<td>B B</td>
<td>B B</td>
<td>B B</td>
<td>F F</td>
<td>F F</td>
<td>F F</td>
<td>F F</td>
<td>C C</td>
<td>C C</td>
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</tr>
</tbody>
</table>

**Saturation Flow Module**

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
</tr>
</tbody>
</table>

- **Base Vol**: 87 182 16 25 309 101 129 120 98 9 157 44
- **Growth Adj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **User DelAdj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **AdjDel/Veh**: 13.9 13.9 13.9 13.9 13.9 13.9 13.9 13.9 13.9 13.9 13.9 13.9
- **LOS by Move**: B B B B B B B B B B B B

**Capacity Analysis Module**

<table>
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<tr>
<th>Volume/Sat</th>
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<th>0.27</th>
<th>0.27</th>
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<th>0.34</th>
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<th>0.35</th>
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<th>0.35</th>
<th>0.35</th>
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</thead>
<tbody>
<tr>
<td>Green/Cycle</td>
<td>0.50</td>
<td>0.50</td>
<td>0.50</td>
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<td>63.1</td>
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</tbody>
</table>

**Note:** Queue reported is the number of cars per lane.
Intersection #21: 7th Avenue / Kirkham Street

**Existing AM**

<table>
<thead>
<tr>
<th>Base Vol</th>
<th>Lanes</th>
<th>Signal=Permit</th>
<th>Rights=Include</th>
<th>Vol/Crt Date</th>
<th>Cycle Time (sec)</th>
<th>Loss Time (sec)</th>
<th>Critical V/C</th>
<th>Avg Crit Del (sec)</th>
<th>Veh Delay (sec)</th>
<th>LOS</th>
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<tr>
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<tr>
<td>172**</td>
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<td>58</td>
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<td>70.2</td>
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</table>

**Street Name:**
- 7th Avenue
- Kirkham Street

**Approach:**
- North Bound
- South Bound
- East Bound
- West Bound

**Movement:**
- L - T - R
- L - T - R
- L - T - R
- L - T - R

**Min. Green:**
- 45
- 45
- 45
- 45
- 45
- 45
- 22
- 22
- 22
- 22
- 22

**Volume Module:**
- Base Vol: 96 695 32 1 514 53 71 172 137 32 58
- Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- Yr: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
- Cycle Time (sec): 75
- Loss Time (sec): 8
- Critical V/C: 1.134
- Avg Crit Del (sec): 70.2
- Veh Delay (sec): 32

**Capacity Analysis Module:**
- Vol/Sat: 0.69
- Green/Cycle: 0.60
- Volume/Gap: 0.15
- Uniform Del: 15.0 15.0 15.0
- IncremTdl: 82.6 82.6 82.6
- InitQuaDel: 0.0 0.0 0.0
- Delay Adj: 1.00 1.00 1.00
- User DelAdj: 1.00 1.00 1.00
- LOS: C

**Existing PM**

<table>
<thead>
<tr>
<th>Base Vol</th>
<th>Lanes</th>
<th>Signal=Permit</th>
<th>Rights=Include</th>
<th>Vol/Crt Date</th>
<th>Cycle Time (sec)</th>
<th>Loss Time (sec)</th>
<th>Critical V/C</th>
<th>Avg Crit Del (sec)</th>
<th>Veh Delay (sec)</th>
<th>LOS</th>
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<tbody>
<tr>
<td>71</td>
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</tbody>
</table>

**Street Name:**
- 7th Avenue
- Kirkham Street

**Approach:**
- North Bound
- South Bound
- East Bound
- West Bound

**Movement:**
- L - T - R
- L - T - R
- L - T - R
- L - T - R

**Min. Green:**
- 45
- 45
- 45
- 45
- 45
- 45
- 22
- 22
- 22
- 22
- 22

**Volume Module:**
- Base Vol: 75 524 30 0 583 102 30 89 121 30 80 82
- Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- Yr: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
- Cycle Time (sec): 75
- Loss Time (sec): 8
- Critical V/C: 0.877
- Avg Crit Del (sec): 34.2
- Veh Delay (sec): 80

**Capacity Analysis Module:**
- Vol/Sat: 0.53
- Green/Cycle: 0.60
- Volume/Gap: 0.89
- Uniform Del: 12.8 12.8 12.8
- IncremTdl: 15.0 15.0 15.0
- InitQuaDel: 0.0 0.0 0.0
- Delay Adj: 1.00 1.00 1.00
- User DelAdj: 1.00 1.00 1.00
- LOS: C

**Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

**2000 HCM 4-Way Stop (Base Volume Alternative)**

**Existing AM**

**Intersection #22: 6th Avenue / Kirkham Street**

**Signal=Stop/Rights=Include**

- **Base Vol:** 48, 95
- **Lanes:** 0, 0, 1
- **Base Vol:** 99, 90, 9, 26, 54
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0
- **Critical V/C:** 0.635
- **Avg Crit Del (sec/veh):** 13.0
- **Avg Delay (sec/veh):** 13.0
- **Cycle Time:** 100 seconds
- **Loss Time:** 0 seconds
- **Critical V/C:** 0.635
- **Average Critical Delay:** 13.0 seconds/vehicle
- **Average Delay:** 13.0 seconds/vehicle

**Street Name:** 6th Avenue  
**Kirkham Street**

**Approach:** 
- North Bound  
- South Bound  
- East Bound  
- West Bound

**Min. Green:** 0 0 0 0 0 0 0 0 0 0 0 0

**Volume Module:**

- **Base Vol:** 48, 95, 8, 99, 90, 9, 26, 54
- **Growth Adj:** 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00
- **Initial Base:** 48, 95, 8, 99, 90, 9, 26, 54
- **PCE Adj:** 0.88, 0.88, 0.88, 0.88
- **PHF Adj:** 0.88, 0.88, 0.88
- **PHF Volume:** 13, 298, 140
- **Reduct Vol:** 0 0 0 0 0 0 0 0 0 0 0 0
- **Reduced Vol:** 13, 298, 140, 9, 108, 55, 113, 102
- **Loss Time:** 0
- **Critical V/C:** 0.537
- **Avg Crit Del (sec/veh):** 13.1
- **Avg Delay (sec/veh):** 13.1

**Saturation Flow Module:**

- **Adjustment:** 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00
- **Lanes:** 0 0 0 0 0 0 0 0
- **Base Vol:** 99, 177, 11
- **Cycle Time:** 100 seconds
- **Loss Time:** 0
- **Critical V/C:** 0.537
- **Average Critical Delay:** 13.1 seconds/vehicle
- **Average Delay:** 13.1 seconds/vehicle

**Street Name:** 6th Avenue  
**Kirkham Street**

**Approach:** 
- North Bound  
- South Bound  
- East Bound  
- West Bound

**Min. Green:** 0 0 0 0 0 0 0 0 0 0 0 0

**Volume Module:**

- **Base Vol:** 21, 158, 57, 11, 177, 99
- **Growth Adj:** 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00
- **Initial Base:** 21, 158, 57, 11, 177, 99
- **PCE Adj:** 0.88, 0.88, 0.88, 0.88
- **PHF Adj:** 0.88, 0.88, 0.88
- **PHF Volume:** 24, 180, 65
- **Reduced Vol:** 0 0 0 0 0 0 0 0 0 0 0 0
- **Reduced Vol:** 24, 180, 65, 13, 201, 113
- **Loss Time:** 0
- **Critical V/C:** 0.537
- **Average Critical Delay:** 13.1 seconds/vehicle
- **Average Delay:** 13.1 seconds/vehicle
### Level Of Service Computation Report

**2000 HCM 4-Way Stop (Base Volume Alternative)**

**Intersection #23: 5th Avenue / Kirkham Street**

#### Existing AM

**Intersection #23: 5th Avenue / Kirkham Street**
**Signal=Stop/Rights=Include**

- **Base Vol:** 50 3*** 47
- **Lanes:** 0 0 1! 0 0
- **Vol Cnt**
  - **Cycle Time (sec):** 100
  - **Loss Time (sec):** 0
  - **Critical V/C:** 0.302
  - **Avg Crit Del (sec/veh):** 8.6
  - **Avg Delay (sec/veh):** 8.6
- **Street Name:** 5th Avenue  Kirkham Street
- **Approach:** North Bound  South Bound  East Bound  West Bound
- **Movement:** L  -  T  -  R  L  -  T  -  R  L  -  T  -  R  L  -  T  -  R
- **Min. Green:** 0 0 0 0 0 0 0 0
- **Volume Module:**
  - **Base Vol:** 107***
  - **Growth Adj:** 1.00 1.00 1.00 1.00
  - **Initial Bse:** 9 15 0 47
- **LOS:** A
- **Note:** Queue reported is the number of cars per lane.

#### Existing PM

**Intersection #23: 5th Avenue / Kirkham Street**
**Signal=Stop/Rights=Include**

- **Base Vol:** 147 11 38***
- **Lanes:** 0 0 1! 0 0
- **Vol Cnt**
  - **Cycle Time (sec):** 100
  - **Loss Time (sec):** 0
  - **Critical V/C:** 0.279
  - **Avg Crit Del (sec/veh):** 8.6
  - **Avg Delay (sec/veh):** 8.6
- **Street Name:** 5th Avenue  Kirkham Street
- **Approach:** North Bound  South Bound  East Bound  West Bound
- **Movement:** L  -  T  -  R  L  -  T  -  R  L  -  T  -  R  L  -  T  -  R
- **Min. Green:** 0 0 0 0 0 0 0 0
- **Volume Module:**
  - **Base Vol:** 107 34
  - **Growth Adj:** 1.00 1.00 1.00 1.00
  - **Initial Bse:** 13 7 0 38
- **LOS:** A
- **Note:** Queue reported is the number of cars per lane.
Level of Service Computation Report
2000 HCM Operations (Base Volume Alternative)

Intersection #24: King/3rd

Existing AM

Intersection #24: King/3rd

Street Name: 3rd Street

Approach: North Bound  South Bound  East Bound  West Bound

Min. Green:  39   39   39   0   0   0   18   37   37   13   34   34

Base Vol:  53  873  399  0  0  0  718  860  37  336  748  33

Cycle Time (sec): 110

Loss Time (sec): 19

Critical V/C: 0.703

Avg Crit Del (sec/veh): 46.4

Avg Delay (sec/veh): 45.7

LOS: D

Intersection #24: King/3rd

Street Name: 3rd Street

Approach: North Bound  South Bound  East Bound  West Bound

Min. Green:  39   39   39   0   0   0   18   37   37   13   34   34

Base Vol:  53  948  255  0  0  0  872  732  12  130  907  36

Cycle Time (sec): 110

Loss Time (sec): 19

Critical V/C: 0.839

Avg Crit Del (sec/veh): 84.6

Avg Delay (sec/veh): 69.9

LOS: E

Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Base Volume Alternative)

**Intersection #25: King/4th**

<table>
<thead>
<tr>
<th>Street Name:</th>
<th>4th Street</th>
<th>King Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approach:</td>
<td>North Bound</td>
<td>South Bound</td>
</tr>
<tr>
<td>Movement:</td>
<td>L - T - R</td>
<td>L - T - R</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
</tbody>
</table>

#### Base Vol:

<table>
<thead>
<tr>
<th>Vol Cnt Date</th>
<th>4/10/2013</th>
<th>4/10/2013</th>
<th>4/10/2013</th>
<th>4/10/2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Vol:</td>
<td>86 1333</td>
<td>86 1333</td>
<td>86 1333</td>
<td>86 1333</td>
</tr>
<tr>
<td>Lanes:</td>
<td>1 30 28</td>
<td>1 30 28</td>
<td>1 30 28</td>
<td>1 30 28</td>
</tr>
<tr>
<td>Rights=Include</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>LOS</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>Cycle Time (sec)</td>
<td>110</td>
<td>110</td>
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<td>110</td>
</tr>
<tr>
<td>Loss Time (sec)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Critical V/C</td>
<td>0.395</td>
<td>0.395</td>
<td>0.395</td>
<td>0.395</td>
</tr>
<tr>
<td>Avg Crit Del (sec)</td>
<td>42.8</td>
<td>42.8</td>
<td>42.8</td>
<td>42.8</td>
</tr>
<tr>
<td>User DelAdj</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

#### Street Name: 4th Street

<p>| Approach: | North Bound | South Bound | East Bound | West Bound |</p>
<table>
<thead>
<tr>
<th>Movement:</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vol Sat</td>
<td>0.04 0.4</td>
<td>0.02 0.2</td>
<td>0.13 0.1</td>
<td>0.32 0.3</td>
</tr>
<tr>
<td></td>
<td>0.32 0.3</td>
<td>0.15 0.2</td>
<td>0.18 0.1</td>
<td>0.28 0.2</td>
</tr>
<tr>
<td>Crit Moves</td>
<td>***</td>
<td>***</td>
<td>***</td>
<td>***</td>
</tr>
<tr>
<td>Green/Cycle</td>
<td>0.35 0.35</td>
<td>0.49 0.35</td>
<td>0.35 0.35</td>
<td>0.34 0.34</td>
</tr>
<tr>
<td>Vol Exp</td>
<td>0.11 0.11</td>
<td>0.05 0.05</td>
<td>0.38 0.38</td>
<td>0.48 0.46</td>
</tr>
<tr>
<td>Uniform Del</td>
<td>23.8 23.8</td>
<td>14.6 24.6</td>
<td>26.5 26.5</td>
<td>43.6 35.8</td>
</tr>
<tr>
<td>IncrementDel</td>
<td>0.4 0.4</td>
<td>0.1 0.1</td>
<td>0.7 0.7</td>
<td>6.6 16.2</td>
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<tr>
<td>InitQueueDel</td>
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<td>0.0 0.0</td>
<td>0.0 0.0</td>
<td>0.0 0.0</td>
</tr>
<tr>
<td>Delay Adj</td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
</tr>
<tr>
<td>User DelAdj</td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
</tr>
<tr>
<td>Adj Del/Veh</td>
<td>24.2 24.2</td>
<td>14.7 25.7</td>
<td>27.2 27.2</td>
<td>50.2 52.0</td>
</tr>
<tr>
<td>LOS by Move</td>
<td>C C C C</td>
<td>C C C C</td>
<td>C C C C</td>
<td>C C C C</td>
</tr>
<tr>
<td>Note: Queue reported is the number of cars per lane.</td>
<td></td>
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</table>

### Level Of Service Computation Report

#### 2000 HCM Operations (Base Volume Alternative)

**Intersection #25: King/4th**

<table>
<thead>
<tr>
<th>Street Name:</th>
<th>4th Street</th>
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<tbody>
<tr>
<td>Approach:</td>
<td>North Bound</td>
<td>South Bound</td>
</tr>
<tr>
<td>Movement:</td>
<td>L - T - R</td>
<td>L - T - R</td>
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#### Base Vol:

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<th>Vol Cnt Date</th>
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<td>1 30 28</td>
<td>1 30 28</td>
<td>1 30 28</td>
<td>1 30 28</td>
</tr>
<tr>
<td>Rights=Include</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>LOS</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>Cycle Time (sec)</td>
<td>110</td>
<td>110</td>
<td>110</td>
<td>110</td>
</tr>
<tr>
<td>Loss Time (sec)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Critical V/C</td>
<td>0.395</td>
<td>0.395</td>
<td>0.395</td>
<td>0.395</td>
</tr>
<tr>
<td>Avg Crit Del (sec)</td>
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<td>42.8</td>
<td>42.8</td>
</tr>
<tr>
<td>User DelAdj</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
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</table>

#### Street Name: 4th Street

<p>| Approach: | North Bound | South Bound | East Bound | West Bound |</p>
<table>
<thead>
<tr>
<th>Movement:</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vol Sat</td>
<td>0.04 0.4</td>
<td>0.02 0.2</td>
<td>0.13 0.1</td>
<td>0.32 0.3</td>
</tr>
<tr>
<td></td>
<td>0.32 0.3</td>
<td>0.15 0.2</td>
<td>0.18 0.1</td>
<td>0.28 0.2</td>
</tr>
<tr>
<td>Crit Moves</td>
<td>***</td>
<td>***</td>
<td>***</td>
<td>***</td>
</tr>
<tr>
<td>Green/Cycle</td>
<td>0.35 0.35</td>
<td>0.49 0.35</td>
<td>0.35 0.35</td>
<td>0.34 0.34</td>
</tr>
<tr>
<td>Vol Exp</td>
<td>0.11 0.11</td>
<td>0.05 0.05</td>
<td>0.38 0.38</td>
<td>0.48 0.46</td>
</tr>
<tr>
<td>Uniform Del</td>
<td>23.8 23.8</td>
<td>14.6 24.6</td>
<td>26.5 26.5</td>
<td>43.6 35.8</td>
</tr>
<tr>
<td>InincrementDel</td>
<td>0.4 0.4</td>
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<td>0.7 0.7</td>
<td>6.6 16.2</td>
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<td>InitQueueDel</td>
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<td>0.0 0.0</td>
<td>0.0 0.0</td>
</tr>
<tr>
<td>Delay Adj</td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
</tr>
<tr>
<td>User DelAdj</td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
</tr>
<tr>
<td>Adj Del/Veh</td>
<td>24.2 24.2</td>
<td>14.7 25.7</td>
<td>27.2 27.2</td>
<td>50.2 52.0</td>
</tr>
<tr>
<td>LOS by Move</td>
<td>C C C C</td>
<td>C C C C</td>
<td>C C C C</td>
<td>C C C C</td>
</tr>
<tr>
<td>Note: Queue reported is the number of cars per lane.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Level Of Service Computation Report

**2000 HCM Operations (Base Volume Alternative)**

#### Existing AM

**Intersection #26: 7th St/Brannan**

- **Signal=Permit**
- **Rights=Include**
- **Base Vol:** 0 0 0
- **Lanes:** 0 0 0 0 0
- **Cycle Time (sec):** 60
- **Loss Time (sec):** 8
- **Critical V/C:** 0.356
- **Avg Crit Del (sec/veh):** 10.8
- **Avg Delay (sec):** 13.7
- **LOS:** B

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>0</td>
<td>0</td>
<td>21</td>
</tr>
</tbody>
</table>

**Volume Module:**

- **Base Vol:** 24 661 70
- **Growth Adj:** 1.00 1.00 1.00 1.00
- **User Adj:** 1.00 1.00 1.00 1.00
- **PHP Vol:** 376 245 0 245
- **Reduct Vol:** 0 0 0 0
- **Reduced Vol:** 26 715 76
- **PCE Adj:** 1.00 1.00 1.00 1.00
- **MLF Adj:** 1.00 1.00 1.00 1.00
- **Final Volume:** 26 715 76

**Street Name:**

- **7th Street**
- **Brannan Street**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>0</td>
<td>0</td>
<td>21</td>
</tr>
</tbody>
</table>

**Capacity Analysis Module:**

- **Vol/Sat:** 0.24 0.24 0.24 0.24
- **Green/Cycle:** 0.35 0.35 0.35 0.35
- **Vol/Cycle:** 0.69 0.69 0.69 0.69
- **Uniform Del:** 16.7 16.7 16.7 16.7
- **IncremDel:** 3.7 3.7 3.7 3.7
- **InitQuangDel:** 0.0 0.0 0.0 0.0
- **Delay Adj:** 1.00 1.00 1.00 1.00
- **User Del/Wav:** 1.00 1.00 1.00 1.00
- **HCM2kAvgQ:** 8 8 8 8

**Note:** Queue reported is the number of cars per lane.

---

#### Existing PM

**Intersection #26: 7th St/Brannan**

- **Signal=Permit**
- **Rights=Include**
- **Base Vol:** 0 0 0
- **Lanes:** 0 0 0 0 0
- **Cycle Time (sec):** 60
- **Loss Time (sec):** 8
- **Critical V/C:** 0.455
- **Avg Crit Del (sec/veh):** 14.7
- **Avg Delay (sec):** 24.6
- **LOS:** C

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>0</td>
<td>0</td>
<td>21</td>
</tr>
</tbody>
</table>

**Volume Module:**

- **Base Vol:** 44 1109 70
- **Growth Adj:** 1.00 1.00 1.00 1.00
- **User Adj:** 1.00 1.00 1.00 1.00
- **PHP Vol:** 51 1139 101 101
- **Reduct Vol:** 0 0 0 0
- **Reduced Vol:** 45 1139 101
- **PCE Adj:** 1.00 1.00 1.00 1.00
- **MLF Adj:** 1.00 1.00 1.00 1.00
- **Final Volume:** 45 1139 101

**Street Name:**

- **7th Street**
- **Brannan Street**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>0</td>
<td>0</td>
<td>21</td>
</tr>
</tbody>
</table>

**Capacity Analysis Module:**

- **Vol/Sat:** 0.39 0.39 0.39 0.39
- **Green/Cycle:** 0.40 0.40 0.40 0.40
- **Vol/Cycle:** 0.97 0.97 0.97 0.97
- **Uniform Del:** 17.6 17.6 17.6 17.6
- **IncremDel:** 18.8 18.8 18.8 18.8
- **InitQuangDel:** 0.0 0.0 0.0 0.0
- **Delay Adj:** 1.00 1.00 1.00 1.00
- **User Del/Wav:** 1.00 1.00 1.00 1.00
- **HCM2kAvgQ:** 18 18 18 18

**Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report
#### 2000 HCM Operations (Base Volume Alternative)

#### Existing AM

**Intersection #27: Channel/3rd**
- **Signal=Protect/Rights=Include**
- **Base Vol:** 15 286 67***
- **Lanes:** 0 1 1 0 1
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 15
- **Critical V/C:** 0.507
- **Avg Crit Del (sec/veh):** 45.4
- **Avg Delay (sec/veh):** 40.0
- **LOS:** D

**Street Name:** 3rd Street
- **Approach:** North Bound
- **South Bound**
- **East Bound**
- **West Bound**

<table>
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<tr>
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**Saturation Flow:**
- **Vol/Sat:** 0.02 0.34 0.34 0.05 0.10 0.10 0.02 0.02 0.04 0.03 0.03 0.03
- **Min. Green:** 15 36 36 17 38 38 32 32 32 32 32 32
- **Base Vol:** 34 1072 |
- **Volume Module:** >> Count Date: 8 May 2013 << 7:00-8:45am
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

#### Existing PM

**Intersection #27: Channel/3rd**
- **Signal=Protect/Rights=Include**
- **Base Vol:** 13 154 12***
- **Lanes:** 0 1 1 0 1
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 15
- **Critical V/C:** 0.412
- **Avg Crit Del (sec/veh):** 31.5
- **Avg Delay (sec/veh):** 29.6
- **LOS:** C

**Street Name:** 3rd Street
- **Approach:** North Bound
- **South Bound**
- **East Bound**
- **West Bound**

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**Saturation Flow:**
- **Vol/Sat:** 0.01 0.27 0.27 0.01 0.06 0.06 0.02 0.02 0.05 0.08 0.08 0.08
- **Min. Green:** 15 36 36 17 38 38 32 32 32 32 32 32
- **Base Vol:** 20 794 |
- **Volume Module:** >> Count Date: 8 May 2013 << 7:00-8:45am
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Note: Queue reported is the number of cars per lane.
Level of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Existing AM

Intersection #28: Channel/4th

Signal=Protect/Rights=Include
Base Vol: 12  129  56
Lanes: 0 1 0  0 1
Vol Cnt Date: 5/8/2013
Cycle Time (sec): 64
Loss Time (sec): 10
Critical V/C: 0.161
Avg Crit Del (sec/veh): 20.4
Avg Delay (sec): 15.4

Street Name: 4th Street
Approach: North Bound  South Bound  East Bound  West Bound
Movement: L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
Min. Green: 0  21  21  14  35  0  9  19  0  0  10  0
Base Vol: 14  60  6  56  129  12  12  5  9  6  6  38
Growth Adj: 1.00 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
User DelAdj: 1.00 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00

Critical V/C: 0.160
Avg Crit Del (sec/veh): 21.0
Avg Delay (sec): 15.9

Street Name: Channel/4th
Approach: North Bound  South Bound  East Bound  West Bound
Movement: L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
Min. Green: 0  21  21  14  35  0  9  19  0  0  10  0
Base Vol: 14  60  6  56  129  12  12  5  9  6  6  38
Growth Adj: 1.00 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
User DelAdj: 1.00 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00

Cycle Time (sec): 64
Loss Time (sec): 10
Critical V/C: 0.160
Avg Crit Del (sec/veh): 21.0
Avg Delay (sec): 15.9

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.51 0.57  0.67  0.81  0.84  0.84  0.69  0.69  0.67  0.80  0.84  0.86

Capacity Analysis Module:
Vol/Sat: 0.02 0.06  0.06  0.04  0.04  0.10  0.10  0.02  0.02  0.02  0.02  0.01  0.01  0.04
Crt Moves: ****

Vol/Cycle: 0.33 0.33  0.33  0.22  0.55  0.55  0.14  0.30  0.30  0.30  0.16  0.16  0.16

Cycle Time (sec): 64
Loss Time (sec): 10
Critical V/C: 0.160
Avg Crit Del (sec/veh): 21.0
Avg Delay (sec): 15.9

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.43 0.68  0.66  0.81  0.84  0.84  0.70  0.70  0.63  0.78  0.84  0.86

Capacity Analysis Module:
Vol/Sat: 0.01 0.05  0.05  0.05  0.05  0.08  0.08  0.08  0.03  0.03  0.03  0.01  0.01  0.03
Crt Moves: ****

Vol/Cycle: 0.33 0.33  0.33  0.22  0.55  0.55  0.14  0.30  0.30  0.30  0.16  0.16  0.16

Cycle Time (sec): 64
Loss Time (sec): 10
Critical V/C: 0.160
Avg Crit Del (sec/veh): 21.0
Avg Delay (sec): 15.9

Note: Queue reported is the number of cars per lane.
## Level Of Service Computation Report
### 2000 HCM Operations (Base Volume Alternative)  
#### Existing AM

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<th>Intersection #29: Mission Rock/3rd</th>
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<tbody>
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<tr>
<td><strong>Base Vol:</strong> 12 265 58***</td>
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<tr>
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<td><strong>Critical V/C: 0.486</strong></td>
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<td><strong>Avg Crit Del (sec/veh): 41.4</strong></td>
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<td><strong>Avg Delay (sec): 37.4</strong></td>
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<td>North Bound</td>
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<tr>
<td><strong>Movement:</strong></td>
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<td><strong>Min. Green:</strong></td>
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### Existing PM

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<td><strong>Critical V/C: 0.358</strong></td>
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<td><strong>Avg Crit Del (sec/veh): 30.5</strong></td>
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<td><strong>Avg Delay (sec): 28.7</strong></td>
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<td><strong>Avg Crit Del (sec/veh): 30.5</strong></td>
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Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)  Ending AM

Intersection #30: Mission Bay North/3rd
Signal=Protect/Rights=Include

Base Vol: 11 283***
Lanes: 0 1 2 0 0

Cycle Time (sec): 100
Loss Time (sec): 10

Critical V/C: 0.423
Avg Critical Del (sec/veh): 16.5

Cycle Time (sec): 10
Loss Time (sec): 10

Critical V/C: 0.329
Avg Critical Del (sec/veh): 14.0

Street Name: 3rd Street  Mission Bay North
Approach: North Bound  South Bound  East Bound  West Bound
Movement: L - T - R  L - T - R  L - T - R  L - T - R

Min. Green: 14 57 57 15 38 38 0 0 0 13 33 33
Initial Bas: 5 1045 0 0 283 11 0 0 0 11 8 18
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PFP Volume: 5 1122 0 0 304 12 0 0 0 12 9 19

Min. Green: 14 57 57 15 38 38 0 0 0 13 33 33
Initial Bas: 6 784 0 0 315 2 0 0 0 25 10 30
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PFP Volume: 6 834 0 0 333 2 0 0 0 27 11 32

Volume Module: >> Count Date: 8 May 2013 << 7:00-8:45am
Base Vol: 5 1045 0 0 283 11 0 0 0 11 8 18
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Avg Del/Veh: 36.1 16.3 0.0 0.0 18.5 18.5 0.0 0.0 0.0 22.9 22.9 23.1

Volume Module: >> Count Date: n/a
Base Vol: 6 784 0 0 315 2 0 0 0 25 10 30
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Avg Del/Veh: 36.2 13.6 0.0 0.0 18.6 18.6 0.0 0.0 0.0 23.3 23.3 23.5

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.81 0.81 1.00 1.00 0.78 0.77 1.00 1.00 0.79 0.81 0.62
Lanes: 1.00 2.00 0.00 0.00 2.89 0.11 0.00 0.00 0.00 0.59 0.41 1.00

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.81 0.81 1.00 1.00 0.78 0.77 1.00 1.00 0.79 0.81 0.62
Lanes: 1.00 2.00 0.00 0.00 2.89 0.11 0.00 0.00 0.00 0.59 0.41 1.00

Capacity Analysis Module:
Vol/Sat: 0.00 0.36 0.00 0.00 0.07 0.07 0.00 0.00 0.00 0.91 0.01 0.02
Crit Moves: ****
Green/Cycle: 0.15 0.57 0.00 0.00 0.42 0.42 0.00 0.00 0.00 0.33 0.33 0.33
Volume(s): 0.02 0.64 0.00 0.00 0.17 0.17 0.00 0.00 0.00 0.04 0.04 0.05
Uniform Del: 36.0 14.5 0.0 0.0 18.3 18.3 0.0 0.0 0.0 22.7 22.7 22.8
IncremDel: 0.2 1.8 0.0 0.0 0.2 0.2 0.0 0.0 0.0 0.2 0.2 0.2
InitQuasiDel: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Delay Adj: 1.00 1.00 0.00 0.00 1.00 1.00 0.00 0.00 0.00 1.00 1.00 1.00
Delay/Veh: 36.1 16.3 0.0 0.0 18.5 18.5 0.0 0.0 0.0 22.9 22.9 23.1
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 36.1 16.3 0.0 0.0 18.5 18.5 0.0 0.0 0.0 22.9 22.9 23.1

Note: Queue reported is the number of cars per lane.
### Intersection #31: Mission Bay South/3rd

#### Existing AM

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<td>West Bound</td>
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<tr>
<td>Final Volume: 0 1098 16 21 288 0 2 32 19 0 0</td>
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<tr>
<td>Notes: Path reported.</td>
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#### Capacity Analysis Module:

| Vol/Sat: 0.00 0.25 0.50 0.15 0.01 0.00 0.00 0.00 0.00 | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 |
| Crit Moves: 0.00 0.10 0.15 0.20 0.25 0.30 0.35 | 0.40 0.45 0.50 0.55 0.60 0.65 0.70 |
| Uniform DwL: 0.00 0.25 0.50 0.15 0.01 0.00 0.00 0.00 0.00 | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 |
| Increment DwL: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 |
| Delay Adj: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 |
| Adj/Del/Veh: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 |
| Notes: Path reported. | |

### Intersection #31: Mission Bay South/3rd

#### Existing PM

<table>
<thead>
<tr>
<th>Street Name: 3rd Street</th>
<th>Mission Bay South</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approach:</td>
<td></td>
</tr>
<tr>
<td>North Bound</td>
<td></td>
</tr>
<tr>
<td>South Bound</td>
<td></td>
</tr>
<tr>
<td>East Bound</td>
<td></td>
</tr>
<tr>
<td>West Bound</td>
<td></td>
</tr>
<tr>
<td>Movement:</td>
<td></td>
</tr>
<tr>
<td>L - T - R</td>
<td></td>
</tr>
<tr>
<td>L - T - R</td>
<td></td>
</tr>
<tr>
<td>L - T - R</td>
<td></td>
</tr>
<tr>
<td>L - T - R</td>
<td></td>
</tr>
<tr>
<td>Min. Green: 34 34 34 15 57 57 33 33 33</td>
<td>0 0 0</td>
</tr>
<tr>
<td>Base Vol: 0 772 13 5 310 0 18 2 9 0 0</td>
<td></td>
</tr>
<tr>
<td>Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
</tr>
<tr>
<td>User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
</tr>
<tr>
<td>PHP: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95</td>
<td></td>
</tr>
<tr>
<td>PHP Volume: 0 813 14 5 326 0 19 2 9 0 0</td>
<td></td>
</tr>
<tr>
<td>Reduce Vol: 0 0 0 0 0 0 0 0 0</td>
<td></td>
</tr>
<tr>
<td>Reduced Vol: 0 813 14 5 326 0 19 2 9 0 0</td>
<td></td>
</tr>
<tr>
<td>PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
</tr>
<tr>
<td>MELF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
</tr>
<tr>
<td>Final Volume: 0 813 14 5 326 0 19 2 9 0 0</td>
<td></td>
</tr>
<tr>
<td>Notes: Path reported.</td>
<td></td>
</tr>
</tbody>
</table>

#### Capacity Analysis Module:

| Vol/Sat: 0.00 0.25 0.50 0.15 0.01 0.00 0.00 0.00 0.00 | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 |
| Crit Moves: 0.00 0.10 0.15 0.20 0.25 0.30 0.35 | 0.40 0.45 0.50 0.55 0.60 0.65 0.70 |
| Uniform DwL: 0.00 0.25 0.50 0.15 0.01 0.00 0.00 0.00 0.00 | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 |
| Increment DwL: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 |
| Delay Adj: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 |
| Adj/Del/Veh: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 |
| Notes: Path reported. | |

Note: Queue reported is the number of cars per lane.
### Level of Service Computation Report

**FHWA Roundabout (Base Volume Alternative)**

**Intersection #32: Mission Bay/Owens**

**Signal=Yield/Rights=Include**

<table>
<thead>
<tr>
<th>Base Vol</th>
<th>Lanes:</th>
<th>Rights=Include</th>
<th>Vol Cnt Date</th>
<th>Cycle Time (sec)</th>
<th>Loss Time (sec)</th>
<th>Avg Crit Del (sec/veh)</th>
<th>Avg Delay (sec/veh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>5/9/2013</td>
<td>100</td>
<td>0</td>
<td>3.1</td>
<td>3.1</td>
</tr>
<tr>
<td>17</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Critical V/C:** 0.020

**Avg Crit Del (sec/veh):** 3.1

**Avg Delay (sec/veh):** 3.1

**Level Of Service (LOS):** A

**Base Vol:** 0 0 0

**Lanes:** 0 0 1 0 0

**Street Name:** Owens Street

**Approach:**
- North Bound
- South Bound
- East Bound
- West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Vol</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Growth Adj</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**Loss Time (sec):** 0

**User Adj:**
- 1.00
- 1.00
- 1.00
- 1.00

**Growth Adj:**
- 1.00
- 1.00
- 1.00
- 1.00

**Initial Base:**
- 17
- 0
- 0
- 0

**Critical V/C:** 0.095

**Avg Crit Del (sec/veh):** 3.3

**Avg Delay (sec/veh):** 3.3

**Level Of Service (LOS):** A

**Base Vol:** 32 0 1 0 0 0 0 0 103 0 0 0

**Lanes:** 1 0 1 0 0

**Street Name:** Mission Bay

**Approach:**
- North Bound
- South Bound
- East Bound
- West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Vol</td>
<td>32</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Growth Adj</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**Loss Time (sec):** 0

**User Adj:**
- 1.00
- 1.00
- 1.00
- 1.00

**Growth Adj:**
- 1.00
- 1.00
- 1.00
- 1.00

**Initial Base:**
- 32
- 0
- 1
- 0

**Critical V/C:** 0.020
### Level Of Service Computation Report

#### 2000 HCM Operations (Base Volume Alternative)

#### Existing AM

**Intersection #33: Mission Bay/7th**

**Signal=Protect/Rights=Include**

- **Base Vol:** 1 332*** 44
- **Lanes:** 0 0 1 0 1

**Cycle Time (sec):** 100

**Loss Time (sec):** 14

**Critical V/C:** 0.517

**Avg Del (sec/veh):** 19.5

**Critical Del (sec/veh):** 4.5

**Loss Time:** B

**Street Name:** 7th Street

**Approach:** North Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>0</td>
<td>36</td>
<td>36</td>
<td>14</td>
<td>63</td>
<td>0</td>
</tr>
<tr>
<td>Base Vol</td>
<td>2</td>
<td>620</td>
<td>30</td>
<td>44</td>
<td>332</td>
<td>1</td>
</tr>
<tr>
<td>Growth Adj</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>User Adj</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>PHP Vol</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
</tr>
<tr>
<td>PHP Volume</td>
<td>2</td>
<td>647</td>
<td>31</td>
<td>46</td>
<td>349</td>
<td>1</td>
</tr>
<tr>
<td>Delay Adj</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>User DelayAdj</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>PCE Adj</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>MLP Adj</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Final Volume</td>
<td>0</td>
<td>827</td>
<td>31</td>
<td>60</td>
<td>226</td>
<td>0</td>
</tr>
</tbody>
</table>

**LOS:** B

**Sat/Lane:** 0 0 1 0 1

**Min. Green:** 0 36 36 14 63 0

**Base Vol:** 2 620 30 44 332 1

**Growth Adj:** 1 0 0 1 1 0

**User Adj:** 1 0 0 1 1 0

**PHP Vol:** 0.96 0.96 0.96 0.96 0.96 0.96

**Delay Adj:** 0 0 0 0 0 0

**User Delay Adj:** 1 0 0 1 1 0

**PCE Adj:** 1 0 0 1 1 0

**MLP Adj:** 1 0 0 1 1 0

**Loss Time:** C

**Volume Module:** >> Count Date: 9 May 2013 << 7:00-8:45am

- **Base Vol:** 0 786 29 57 215 0
- **Growth Adj:** 0 0 0 0 0 0
- **User Adj:** 0 0 0 0 0 0
- **PHP Adj:** 0.95 0.95 0.95 0.95 0.95 0.95
- **Delay Adj:** 0 0 0 0 0 0

**Critical V/C:** 0.183

**Avg Del (sec/veh):** 11.5

**Critical Del (sec/veh):** 11.5

**Loss Time:** C

**Volume Module:** >> Count Date: 9 May 2013 << 7:00-8:45am

- **Base Vol:** 0 786 29 57 215 0
- **Growth Adj:** 0 0 0 0 0 0
- **User Adj:** 0 0 0 0 0 0
- **PHP Adj:** 0.95 0.95 0.95 0.95 0.95 0.95
- **Delay Adj:** 0 0 0 0 0 0

**Critical V/C:** 0.183

**Avg Del (sec/veh):** 11.5

**Critical Del (sec/veh):** 11.5

**Loss Time:** C

**Volume Module:** >> Count Date: 9 May 2013 << 7:00-8:45am

- **Base Vol:** 0 786 29 57 215 0
- **Growth Adj:** 0 0 0 0 0 0
- **User Adj:** 0 0 0 0 0 0
- **PHP Adj:** 0.95 0.95 0.95 0.95 0.95 0.95
- **Delay Adj:** 0 0 0 0 0 0

**Critical V/C:** 0.183

**Avg Del (sec/veh):** 11.5

**Critical Del (sec/veh):** 11.5

**Loss Time:** C

**Capacity Analysis Module:**

| Vol/Sat | 0.21 | 0.21 | 0.03 | 0.03 | 0.03 | 0.21 | 0.21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.05 |

**Note:** Queue reported is the number of cars per lane.
Level of Service Computation Report
2000 HCM Operations (Base Volume Alternative)

Existing AM

Intersection #34: 16th/3rd
Signal=Protect/Rights=Include
Base Vol: 73  206     18***
Lanes: 0 1 1  0 1

Cycle Time (sec): 100
Loss Time (sec): 15
Critical V/C: 0.556
Avg Crit DEL (sec/veh): 37.7
Avg Delay (sec/veh): 35.8

Street Name: 3rd Street
Approach: North Bound  South Bound  East Bound  West Bound
Movement: L  -  T  -  R  L  -  T  -  R  L  -  T  -  R  L  -  T  -  R

Min. Green: 14  38  38  12  36  36  35  35  35  35  35  35
Base Vol: 297  986  146  348***  18  78
Growth Adj: 1.00 1.00  1.00 1.00  1.00 1.00  1.00 1.00  1.00 1.00  1.00
User Adj: 1.00 1.00  1.00 1.00  1.00 1.00  1.00 1.00  1.00 1.00  1.00

LOS: D  D  C  C  C  C  C  C  C  C  C
HCM2kAvgQ: 5   7   9   10  11   13  14  15  16  17  18
Note: Queue reported is the number of cars per lane.

Existing PM

Intersection #34: 16th/3rd
Signal=Protect/Rights=Include
Base Vol: 146  348***  18
Lanes: 0 1 1  0 1

Cycle Time (sec): 100
Loss Time (sec): 15
Critical V/C: 0.604
Avg Crit DEL (sec/veh): 34.6
Avg Delay (sec/veh): 30.6

Street Name: 3rd Street
Approach: North Bound  South Bound  East Bound  West Bound
Movement: L  -  T  -  R  L  -  T  -  R  L  -  T  -  R  L  -  T  -  R

Min. Green: 14  38  38  12  36  36  35  35  35  35  35  35
Base Vol: 256  624  624  256***  5  71  47
Growth Adj: 1.00 1.00  1.00 1.00  1.00 1.00  1.00 1.00  1.00
User Adj: 1.00 1.00  1.00 1.00  1.00 1.00  1.00 1.00  1.00

LOS: D  C  C  D  C  C  C  D  C  C  C
HCM2kAvgQ: 4  9  9  9   7   7   8   0   3  3  3
Note: Queue reported is the number of cars per lane.
**Level Of Service Computation Report**

### Existing AM

**Intersection #35: 16th/4th**

**Signal=Permit/Rights=Include**

- **Base Vol:** 86
  - **Lanes:** 1 0 0 0 1
  - **Vol Cnt Date:** 5/9/2013
  - **Cycle Time (sec):** 90
  - **Critical V/C:** 0.347
  - **Avg Crit Del (sec/veh):** 26.7
  - **Avg Delay (sec):** 25.6
  - **Cycle Time (sec):** 90
  - **Loss Time (sec):** 15
  - **LOS:** C

- **Street Name:**
  - 4th Street
  - 16th Street

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Base Vol</td>
<td>4 2 17 22 3 86</td>
<td>106 283 22</td>
<td>21 323 78</td>
<td></td>
</tr>
<tr>
<td>Growth Adj</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>User Adj</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>UPL Volume</td>
<td>22</td>
<td>22</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>Deficit Del/Veh</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>LOS</td>
<td>C</td>
<td>C</td>
<td>C</td>
<td>C</td>
</tr>
<tr>
<td>HCM2k Avg Q</td>
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<td>0</td>
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<td>0</td>
</tr>
<tr>
<td>Note</td>
<td>Queue reported is the number of cars per lane.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Existing PM

**Intersection #35: 16th/4th**

**Signal=Permit/Rights=Include**

- **Base Vol:** 142
  - **Lanes:** 1 0 0 0 1
  - **Vol Cnt Date:** n/a
  - **Cycle Time (sec):** 90
  - **Critical V/C:** 0.297
  - **Avg Crit Del (sec/veh):** 26.3
  - **Avg Delay (sec):** 26.8
  - **Cycle Time (sec):** 90
  - **Loss Time (sec):** 15
  - **LOS:** C

- **Street Name:**
  - 4th Street
  - 16th Street

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Base Vol</td>
<td>8 1 35 46 1</td>
<td>142 82 306 4</td>
<td>1 428 44</td>
<td></td>
</tr>
<tr>
<td>Growth Adj</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>User Adj</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>UPL Volume</td>
<td>1 4</td>
<td>1 46</td>
<td>1 428 44</td>
<td></td>
</tr>
<tr>
<td>Deficit Del/Veh</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>LOS</td>
<td>C</td>
<td>C</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>HCM2k Avg Q</td>
<td>1</td>
<td>1</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Note</td>
<td>Queue reported is the number of cars per lane.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Intersection #36: 16th/Owens

**Existing AM**

- **Intersection #36: 16th/Owens**
- **Signal=Permit/Rights=Include**
- **Base Vol: 70*** 1
- **Lanes: 1 0 0 0 2**
- **Cycle Time (sec): 110**
- **Loss Time (sec): 10**
- **Critical V/C: 0.386**
- **Avg Crit Del (sec/veh): 40.0**
- **Avg Delay (sec/veh): 32.4**

**Cycle Distribution**:
- **L**: 1
- **T**: 0
- **R**: 0
- **Loss: C**

**Street Name:** Owens St

**Approach**
- **North Bound**: 0 45 45 45 20 55 55 35 35 35
- **South Bound**: 0 0 0 0 0 0 0 0 0 0
- **East Bound**: 0 0 0 0 0 0 0 0 0 0
- **West Bound**: 0 0 0 0 0 0 0 0 0 0

**Volume Module:** Base Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0

**Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**User Del Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Saturation Flow Module**:
- **Sat/Lane:** 95 95 95 95 95 95 95 95 95 95 95 95
- **Cycles:** 95
- **Max Del:** 95

**Capacity Analysis Module**:
- **Vol/Sat:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
- **Comparison:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
- **Crit Move:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
- **Green/Cycle:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
- **Uniform Del:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
- **IncrementDel:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
- **Delay Adj:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
- **User Del Adj:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

**LOS by Move**:
- **A**: 0
- **B**: 0
- **C**: 0
- **D**: 0
- **E**: 0
- **F**: 0

**Note:** Queue reported is the number of cars per lane.

---

### Intersection #36: 16th/Owens

**Existing PM**

- **Intersection #36: 16th/Owens**
- **Signal=Permit/Rights=Include**
- **Base Vol: 167*** 0
- **Lanes: 1 0 0 0 2**
- **Cycle Time (sec): 77**
- **Loss Time (sec): 10**
- **Critical V/C: 0.270**
- **Avg Crit Del (sec/veh): 18.8**
- **Avg Delay (sec/veh): 29.8**

**Cycle Distribution**:
- **L**: 0 0 0 0 0 0 0 0 0 0 0 0 0
- **T**: 0 0 0 0 0 0 0 0 0 0 0 0 0
- **R**: 0 0 0 0 0 0 0 0 0 0 0 0 0
- **Loss: C**

**Street Name:** Owens St

**Approach**
- **North Bound**: 0 0 0 0 0 0 0 0 0 0 0 0 0
- **South Bound**: 0 0 0 0 0 0 0 0 0 0 0 0 0
- **East Bound**: 0 0 0 0 0 0 0 0 0 0 0 0 0
- **West Bound**: 0 0 0 0 0 0 0 0 0 0 0 0 0

**Volume Module:** Base Vol: 0 0 0 102 0 167 117 289 0 0 501 77

**Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**User Del Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Saturation Flow Module**:
- **Sat/Lane:** 95 95 95 95 95 95 95 95 95 95 95 95
- **Cycles:** 95
- **Max Del:** 95

**Capacity Analysis Module**:
- **Vol/Sat:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
- **Comparison:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
- **Crit Move:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
- **Green/Cycle:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
- **Uniform Del:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
- **IncrementDel:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
- **Delay Adj:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
- **User Del Adj:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

**LOS by Move**:
- **A**: 0
- **B**: 0
- **C**: 0
- **D**: 0
- **E**: 0
- **F**: 0

**Note:** Queue reported is the number of cars per lane.
### Intersection #37: 16th/7th

**Level Of Service Computation Report**

**2000 HCM Operations (Base Volume Alternative)**

#### Existing AM

<table>
<thead>
<tr>
<th>Intersection #37: 16th/7th</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Signal=Split/Rights=Include</strong></td>
</tr>
<tr>
<td><strong>Base Vol:</strong> 34 97 123</td>
</tr>
<tr>
<td><strong>Lanes:</strong> 0 1 0 0 1</td>
</tr>
<tr>
<td><strong>Cycle Time (sec):</strong> 14</td>
</tr>
<tr>
<td><strong>Loss Time (sec):</strong> 1 268</td>
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<tr>
<td><strong>Aug Crit Del (perc):</strong> 43.9</td>
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<tr>
<td><strong>Avg Delay (sec):</strong> 42.8</td>
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<tr>
<td><strong>LOS:</strong> D</td>
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#### Street Name: 7th Street

**Approach:** North Bound South Bound East Bound West Bound

<table>
<thead>
<tr>
<th>Movement</th>
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<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
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<tbody>
<tr>
<td>Min. Green</td>
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<tr>
<td>Base Vol</td>
<td>41 358 123 97</td>
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<td>PFV:</td>
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<tr>
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#### Street Name: 16th Street

**Approach:** North Bound South Bound East Bound West Bound

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<td>34</td>
<td>34</td>
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<tr>
<td>Base Vol</td>
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<tr>
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<tr>
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<td>PFV Volume:</td>
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<td>Final Volume:</td>
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#### Capacity Analysis Module:

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<thead>
<tr>
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<td>Vol/Sat</td>
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<td>IncrementDel:</td>
<td>0.2 4.4</td>
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<td>InitQuDelay:</td>
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<tr>
<td>Delay Adj:</td>
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<tr>
<td>AdjDel/Veh:</td>
<td>28.3 39.6</td>
</tr>
<tr>
<td>LOS by Move:</td>
<td>D</td>
</tr>
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</table>

#### Note: Queue reported is the number of cars per lane.

---

### Existing PM

<table>
<thead>
<tr>
<th>Intersection #37: 16th/7th</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Signal=Split/Rights=Include</strong></td>
</tr>
<tr>
<td><strong>Base Vol:</strong> 35 138 69</td>
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<tr>
<td><strong>Lanes:</strong> 0 1 0 0 1</td>
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<tr>
<td><strong>Cycle Time (sec):</strong> 110</td>
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<td><strong>Loss Time (sec):</strong> 290</td>
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<td><strong>Critical V/C: 0.625</strong></td>
</tr>
<tr>
<td><strong>Avg Crit Del (sec/veh): 62.4</strong></td>
</tr>
<tr>
<td><strong>Avg Delay (sec/veh): 43.9</strong></td>
</tr>
<tr>
<td><strong>LOS:</strong> D</td>
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</tbody>
</table>

#### Street Name: 7th Street

**Approach:** North Bound South Bound East Bound West Bound

<table>
<thead>
<tr>
<th>Movement</th>
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<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
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<td>Min. Green</td>
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<tr>
<td>Growth Adj</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
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<tr>
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<tr>
<td>PFV Volume:</td>
<td>72 336 70 141 36 48 305 77 59 329 296</td>
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<tr>
<td>Reduce Vol:</td>
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<tr>
<td>Reduced Vol:</td>
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<td>PCE Adj:</td>
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<td>MLP Adj:</td>
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<td>72 336 70 141 36 48 305 77 59 329 296</td>
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#### Capacity Analysis Module:

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<tr>
<th>Vol/Sat</th>
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<tr>
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<tr>
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<td>Vol/Sat</td>
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<td>InitQuDelay:</td>
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<td>AdjDel/Veh:</td>
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#### Note: Queue reported is the number of cars per lane.
**Level of Service Computation Report**

**2000 HCM Operations (Base Volume Alternative)**

### Existing AM

**Intersection #38: 16th St/Rhode Island**

- **Signal**: Permit
- **Rights**: Include

<table>
<thead>
<tr>
<th>Base Vol</th>
<th>Lanes</th>
<th>Signal-Perm/Rights-Include</th>
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</thead>
<tbody>
<tr>
<td>10 59 17</td>
<td>0 0 1</td>
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</tr>
</tbody>
</table>

- **Cycle Time (sec)**: 60
- **Loss Time (sec)**: 10
- **Critical V/C**: 0.548
- **Avg Crit Del (sec/veh)**: 14.5
- **Avg Delay (sec/veh)**: 14.5

### Existing PM

**Intersection #38: 16th St/Rhode Island**

- **Signal**: Permit

<table>
<thead>
<tr>
<th>Base Vol</th>
<th>Lanes</th>
<th>Signal-Perm/Rights-Include</th>
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</thead>
<tbody>
<tr>
<td>19 79 27</td>
<td>0 0 1</td>
<td></td>
</tr>
</tbody>
</table>

- **Cycle Time (sec)**: 60
- **Loss Time (sec)**: 10
- **Critical V/C**: 0.525
- **Avg Crit Del (sec/veh)**: 13.9
- **Avg Delay (sec/veh)**: 12.6
Intersection #39: 16th/Vermont

**Level Of Service Computation Report**

**2000 HCM Operations (Base Volume Alternative)**

### Existing AM

#### Intersection #39: 16th/Vermont

- **Signal=Permit/Rights=Include**
- **Base Vol:** 22 0 26
- **Lanes:** 0 0 1 0 0

#### Cycle Time (sec): 60

#### Loss Time (sec): 10

#### Critical V/C: 0.679

- **vg Crit Del (sec/veh):** 22.7
- **vg Delay (sec/veh):** 18.7

#### LOS: B

- **Critical V/C:** 0.679
- **vg Crit Del:** 22.7
- **vg Delay:** 18.7

### Volume Module: >> Count Date: 5/7/2013 << 7:00-8:45am

- **Base Vol:** 219 31 1 398
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00

- **AdjDel/Veh:** 15.8 15.8 15.8 14.1 14.1

- **LOS:** B

### Street Name: Vermont St

#### Approach: North Bound

- **Min. Green:** 21 0 21 0 21 0 21 0 29 0 29 0 29
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

- **Cycle Time:** 60

#### LOS by Move:

- **LOS:** B

### Level Of Service Computation Report

**2000 HCM Operations (Base Volume Alternative)**

### Existing PM

#### Intersection #39: 16th/Vermont

- **Signal=Permit/Rights=Include**
- **Base Vol:** 14 0 16
- **Lanes:** 0 0 1 0 0

#### Cycle Time (sec): 60

#### Loss Time (sec): 10

#### Critical V/C: 0.584

- **vg Crit Del (sec/veh):** 17.9
- **vg Delay (sec/veh):** 15.3

#### LOS: B

- **Critical V/C:** 0.584
- **vg Crit Del:** 17.9
- **vg Delay:** 15.3

### Volume Module: >> Count Date: 7 May 2013 << 7:00-8:45am

- **Base Vol:** 216 131 30
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00

- **AdjDel/Veh:** 15.3 15.3 15.3 15.3 15.3

- **LOS:** B

### Street Name: Vermont St

#### Approach: North Bound

- **Min. Green:** 21 0 21 0 21 0 21 0 29 0 29 0 29
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

- **Cycle Time:** 60

#### LOS by Move:

- **LOS:** B

---

Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Base Volume Alternative)

**Intersection #40: 16th/Potrero**

**Base Vol:** 75

**Cycle Time (sec):** 90

**Cycle Time (sec):** 37

**Loss Time (sec):** 10

**Base Vol:** 31

**Critical V/C:** 0.691

**Avg Delay (sec/veh):** 26.9

**LOS:** C

**Street Name:** Potrero Ave

**Approach:** North Bound

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<th>L - T - R</th>
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</tr>
<tr>
<td>PCE Adj:</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>MLF Adj:</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Final Volume:</td>
<td>112</td>
<td>112</td>
<td>112</td>
<td>112</td>
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</table>

**Saturation Flow Module:**

<table>
<thead>
<tr>
<th>Volume Module:</th>
<th>Base Vol:</th>
<th>110</th>
<th>110</th>
<th>110</th>
<th>110</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Adj:</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>User Adj:</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>PHF:</td>
<td>0.97</td>
<td>0.97</td>
<td>0.97</td>
<td>0.97</td>
<td></td>
</tr>
<tr>
<td>PHF Volume:</td>
<td>119</td>
<td>119</td>
<td>119</td>
<td>119</td>
<td></td>
</tr>
<tr>
<td>Reduct Vol:</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>Reduced Vol:</td>
<td>113</td>
<td>113</td>
<td>113</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>PCE Adj:</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>MLF Adj:</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Final Volume:</td>
<td>115</td>
<td>115</td>
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**Capacity Analysis Module:**

<table>
<thead>
<tr>
<th>Vol/Sat:</th>
<th>0.23</th>
<th>0.23</th>
<th>0.23</th>
<th>0.23</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green/Cycle:</td>
<td>0.60</td>
<td>0.60</td>
<td>0.60</td>
<td>0.60</td>
</tr>
<tr>
<td>Delay/veh:</td>
<td>12.8</td>
<td>12.8</td>
<td>12.8</td>
<td>12.8</td>
</tr>
<tr>
<td>LOS:</td>
<td>C</td>
<td>C</td>
<td>C</td>
<td>C</td>
</tr>
</tbody>
</table>

**Note:** Queue reported is the number of cars per lane.

---

**Intersection #40: 16th/Potrero**

**Base Vol:** 160

**Cycle Time (sec):** 90

**Cycle Time (sec):** 37

**Loss Time (sec):** 10

**Base Vol:** 34

**Critical V/C:** 0.901

**Avg Delay (sec/veh):** 40.1

**LOS:** C

**Street Name:** Potrero Ave

**Approach:** North Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>208</td>
<td>208</td>
<td>208</td>
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<tr>
<td>Growth Adj:</td>
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<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>User Adj:</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>PHF:</td>
<td>0.97</td>
<td>0.97</td>
<td>0.97</td>
<td>0.97</td>
</tr>
<tr>
<td>PHF Volume:</td>
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<td>119</td>
<td>119</td>
<td>119</td>
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<tr>
<td>Reduct Vol:</td>
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<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Reduced Vol:</td>
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<td>116</td>
<td>116</td>
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<tr>
<td>PCE Adj:</td>
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<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>MLF Adj:</td>
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<td>1.00</td>
<td>1.00</td>
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<tr>
<td>Final Volume:</td>
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<td>118</td>
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**Saturation Flow Module:**

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<thead>
<tr>
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<th>Base Vol:</th>
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<th>115</th>
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<th>115</th>
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<tbody>
<tr>
<td>Growth Adj:</td>
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<td>1.00</td>
<td>1.00</td>
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<tr>
<td>User Adj:</td>
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<td>1.00</td>
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<td>1.00</td>
<td></td>
</tr>
<tr>
<td>PHF:</td>
<td>0.97</td>
<td>0.97</td>
<td>0.97</td>
<td>0.97</td>
<td></td>
</tr>
<tr>
<td>PHF Volume:</td>
<td>119</td>
<td>119</td>
<td>119</td>
<td>119</td>
<td></td>
</tr>
<tr>
<td>Reduct Vol:</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>Reduced Vol:</td>
<td>118</td>
<td>118</td>
<td>118</td>
<td>118</td>
<td></td>
</tr>
<tr>
<td>PCE Adj:</td>
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<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
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</tr>
<tr>
<td>MLF Adj:</td>
<td>1.00</td>
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<td>1.00</td>
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<tr>
<td>Final Volume:</td>
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**Capacity Analysis Module:**

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<th>0.28</th>
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<tbody>
<tr>
<td>Green/Cycle:</td>
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<td>0.56</td>
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</tr>
<tr>
<td>Delay/veh:</td>
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<td>12.8</td>
<td>12.8</td>
<td>12.8</td>
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<tr>
<td>LOS:</td>
<td>C</td>
<td>C</td>
<td>C</td>
<td>C</td>
</tr>
</tbody>
</table>

**Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Base Volume Alternative)

### Existing AM

**Intersection #41: Mariposa/3rd**

- **Signal=Protect/Rights=Include**
- **Base Vol:** 69 255 11***
- **Lanes:** 0 1 1 0 1
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 14
- **Critical V/C:** 0.769
- **Avg Crit Del (sec/veh):** 61.2
- **Avg Delay (sec/veh):** 52.2

### Existing PM

**Intersection #41: Mariposa/3rd**

- **Signal=Protect/Rights=Include**
- **Base Vol:** 240 352 16***
- **Lanes:** 0 1 1 0 1
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 15
- **Critical V/C:** 0.512
- **Avg Crit Del (sec/veh):** 29.0
- **Avg Delay (sec/veh):** 28.4

---

**Street Name:** 3rd Street

**Approach:** North Bound  South Bound  East Bound  West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Base Vol</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Growth Adj</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>User Adj</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
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<tr>
<td>PHF Volume</td>
<td>0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>PHF Volume</td>
<td>45 889 25 11 263 71 414 343 24 3 60 12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduct Vol</td>
<td>0 0 0 0 0 0 0 0 0 0 0 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Critical V/C</td>
<td>0.769 0.769 0.769 0.769 0.769 0.769</td>
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<tr>
<td>Avg Crit Del (sec/veh)</td>
<td>61.2</td>
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</tr>
<tr>
<td>Avg Delay (sec/veh)</td>
<td>52.2</td>
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</tr>
</tbody>
</table>

### Volume Module:

- **Base Vol:** 44 870 24 11 255 69 401 332 23 3 58 12
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **PHF Volume:** 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97
- **Reduct Vol:** 0 0 0 0 0 0 0 0 0 0 0 0
- **Critical V/C:** 0.769 0.769 0.769 0.769 0.769 0.769 0.769 0.769 0.769 0.769 0.769 0.769
- **Avg Crit Del (sec/veh):** 61.2
- **Avg Delay (sec/veh):** 52.2

### Saturated Flow Module:

- **Sat/Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
- **Adjustment:** 0.81 0.80 0.79 0.81 0.78 0.77 0.62 0.74 0.74 0.74 0.74 0.74

### Capacity Analysis Module:

- **Vol/Sat:** 0.03 0.30 0.30 0.01 0.11 0.11 0.35 0.26 0.26 0.03 0.03 0.03
- **Crit Moves:** ****
- **Green/Cycle:** 0.17 0.42 0.42 0.14 0.39 0.39 0.30 0.30 0.30 0.30 0.30 0.30
- **Vol/Cycle:** 0.17 0.72 0.72 0.05 0.29 0.29 0.17 0.87 0.87 0.09 0.09 0.09
- **Uniform Del:** 35.2 24.2 24.2 37.3 21.2 21.2 35.0 33.2 33.2 25.2 25.2 25.2
- **IncremDelW:** 1.4 3.6 3.6 0.5 0.7 0.7 101.4 21.2 21.2 0.2 0.2 0.2
- **InitQuedW:** 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
- **Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Delay/Veh:** 36.6 27.8 27.8 37.3 21.9 21.9 136.4 54.3 54.3 25.4 25.4 25.4
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **AdjDel/Veh:** 36.6 27.8 27.8 37.3 21.9 21.9 136.4 54.3 54.3 25.4 25.4 25.4
- **LOS by Move:** D C C C C C C C C C C C

### Note:
- Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Base Volume Alternative)

#### Existing AM

**Intersection #42: Mariposa/4th**

**Signal=Protect/Rights=Include**

<table>
<thead>
<tr>
<th>Base Vol</th>
<th>Lanes:</th>
<th>Rights=Include</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Volume Module:**

- Count Date: 5/7/2013
- Rights=Include
- Lanes: Base Vol: 0

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.353

**Avg Delay (sec/veh):** 9.9

**LOS:** A

---

### Level Of Service Computation Report

#### 2000 HCM Operations (Base Volume Alternative)

#### Existing PM

**Intersection #42: Mariposa/4th**

**Signal=Protect/Rights=Include**

<table>
<thead>
<tr>
<th>Base Vol</th>
<th>Lanes:</th>
<th>Rights=Include</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Volume Module:**

- Count Date: n/a
- Rights=Include
- Lanes: Base Vol: 0

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.427

**Avg Delay (sec/veh):** 20.4

**LOS:** B

---

### Street Name: 4th Street Mariposa Street

**Approach:**

- North Bound
- South Bound
- East Bound
- West Bound

**Movement:**

- L - T - R
- L - T - R
- L - T - R
- L - T - R

**Min. Green:**

- 0
- 0
- 0
- 0

**Growth Adj:**

- 1.00
- 1.00
- 1.00
- 1.00

**User Adj:**

- 1.00
- 1.00
- 1.00
- 1.00

**YPF Volume:**

- 14
- 0
- 0
- 0

**Reduced Vtol:**

- 0
- 0
- 0
- 0

**PCE Adj:**

- 1.00
- 1.00
- 1.00
- 1.00

**RML Adj:**

- 1.00
- 1.00
- 1.00
- 1.00

**Volume Module:**

- Base Vol: 133
- Lanes: 0
- Rights=Include

**Saturation Flow Module:**

- Base Vol: 76

**Capacity Analysis Module:**

- Vol/Sat: 0.01
- Crit Moves: 0.00
- Green/Cycle: 0.03
- Vol/space: 0.35
- Uniform Del: 47.4
- IncremDel: 19.3
- Delay Adj: 1.00
- User DelAdj: 1.00
- AdjDelay/Veh: 66.7

**LOS:** A

---

### Street Name: 4th Street Mariposa Street

**Approach:**

- North Bound
- South Bound
- East Bound
- West Bound

**Movement:**

- L - T - R
- L - T - R
- L - T - R
- L - T - R

**Min. Green:**

- 0
- 0
- 0
- 0

**Growth Adj:**

- 1.00
- 1.00
- 1.00
- 1.00

**User Adj:**

- 1.00
- 1.00
- 1.00
- 1.00

**YPF Volume:**

- 40
- 0
- 0
- 0

**Reduced Vtol:**

- 0
- 0
- 0
- 0

**PCE Adj:**

- 1.00
- 1.00
- 1.00
- 1.00

**RML Adj:**

- 1.00
- 1.00
- 1.00
- 1.00

**Volume Module:**

- Base Vol: 38
- Lanes: 0
- Rights=Include

**Saturation Flow Module:**

- Base Vol: 555

**Capacity Analysis Module:**

- Vol/Sat: 0.03
- Crit Moves: 0.43
- Green/Cycle: 0.07
- Vol/space: 0.43
- Uniform Del: 44.2
- IncremDel: 11.3
- Delay Adj: 1.00
- User DelAdj: 1.00
- AdjDelay/Veh: 55.6

**LOS:** B

---
Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Existing AM

Intersection #43: Mariposa/I-280NB
Signal=Split/Rights=Include
Base Vol: 0 0 0
Lanes: 0 0 0
Cycle Time (sec): 90
Loss Time (sec): 7
Critical V/C: 0.914
Avg Crit Del (sec/veh): 239
Avg Delay (sec/veh): 127.7

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Existing PM

Intersection #43: Mariposa/I-280NB
Signal=Split/Rights=Include
Base Vol: 0 0 0
Lanes: 0 0 0
Cycle Time (sec): 90
Loss Time (sec): 7
Critical V/C: 0.580
Avg Crit Del (sec/veh): 639
Avg Delay (sec/veh): 31.1

Satisfaction Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91
Lanes: 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84

Capacity Analysis Module:
Vol/Sat: 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0.35
Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Existing FB

Intersection #43: Mariposa/I-280NB
Signal=Split/Rights=Include
Base Vol: 0 0 0
Lanes: 0 0 0
Cycle Time (sec): 90
Loss Time (sec): 7
Critical V/C: 0.914
Avg Crit Del (sec/veh): 239
Avg Delay (sec/veh): 127.7

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Existing PB

Intersection #43: Mariposa/I-280NB
Signal=Split/Rights=Include
Base Vol: 0 0 0
Lanes: 0 0 0
Cycle Time (sec): 90
Loss Time (sec): 7
Critical V/C: 0.580
Avg Crit Del (sec/veh): 639
Avg Delay (sec/veh): 31.1

Satisfaction Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91
Lanes: 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84

Capacity Analysis Module:
Vol/Sat: 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0.35
Note: Queue reported is the number of cars per lane.
Intersection #44: Mariposa-280 SB

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
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<tbody>
<tr>
<td>Baseline</td>
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<td>665</td>
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<td>665</td>
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LOS: F

Street Name: I-280 Southbound Ramp
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Volume Module: Baseline: 131 86 0 0
User Adj: 1.00 1.00 1.00 1.00
PHF Adj: 0.96 0.96 0.96 0.96
Growth Adj: 1.00 1.00 1.00 1.00
Critical Gap: 6.5 6.2
Follow-Up Time: 4.0 3.3
Capacity Module:

Intersection #44: Mariposa-280 SB

<table>
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<tr>
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<td>665</td>
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</table>

LOS: F

Street Name: Mariposa Street
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Volume Module: Baseline: 131 86 0 0
User Adj: 1.00 1.00 1.00 1.00
PHF Adj: 0.96 0.96 0.96 0.96
Growth Adj: 1.00 1.00 1.00 1.00
Critical Gap: 6.5 6.2
Follow-Up Time: 4.0 3.3
Capacity Module:
### Intersection #45: Divisadero/Pine

#### Existing AM

- **Intersection**: #45: Divisadero/Pine
- **Signal**: Permit/Rights=Include
- **Base Vol**: 43 436 0
- **Lanes**: 0 1 1 0 0
- **Cycle Time (sec)**: 60
- **Loss Time (sec)**: 8
- **Critical V/C**: 0.546
- **Aug Delay (sec/veh)**: 14.0

#### Existing PM

- **Intersection**: #45: Divisadero/Pine
- **Signal**: Permit/Rights=Include
- **Base Vol**: 71 465 0
- **Lanes**: 0 1 1 0 0
- **Cycle Time (sec)**: 103
- **Critical V/C**: 0.771
- **Aug Delay (sec/veh)**: 14.3

#### Approach

- **Street Name**: Divisadero Street
- **Approach**: North Bound
- **Volume**: 25 488
- **Min. Green (sec)**: 26
- **Loss Time (sec)**: 8
- **Critical V/C**: 0.5
- **User DelAdj**: 1.00

- **Street Name**: Pine Street
- **Approach**: South Bound
- **Volume**: 25 488
- **Min. Green (sec)**: 26
- **Loss Time (sec)**: 8
- **Critical V/C**: 0.5
- **User DelAdj**: 1.00

#### Approach

- **Street Name**: Divisadero Street
- **Approach**: East Bound
- **Volume**: 25 488
- **Min. Green (sec)**: 26
- **Loss Time (sec)**: 8
- **Critical V/C**: 0.5
- **User DelAdj**: 1.00

- **Street Name**: Pine Street
- **Approach**: West Bound
- **Volume**: 25 488
- **Min. Green (sec)**: 26
- **Loss Time (sec)**: 8
- **Critical V/C**: 0.5
- **User DelAdj**: 1.00

#### Traffic Flow Module

- **Sat/Lane**: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
- **Adjustment**: 0.70 0.70 1.00 1.00 0.74 0.74 1.00 1.00 0.72 0.73 0.72
- **Lanes**: 0.10 1.90 0.00 0.00 0.18 0.18 0.00 0.00 0.25 0.51 0.24

#### Capacity Analysis Module

- **Vol/Sat**: 0.20 0.20 0.00 0.00 0.18 0.18 0.00 0.00 0.00 0.27 0.27 0.27

#### Crit Moves

- **Volume/Cycle**: 0.43 0.43 0.00 0.00 0.43 0.43 0.43 0.43 0.43 0.43
- **User DelAdj**: 1.00 1.00 0.00 0.00 1.00 1.00 1.00 1.00 0.00 0.00 0.00
- **User DelAdj**: 1.00 1.00 0.00 0.00 1.00 1.00 1.00 1.00 0.00 0.00 0.00
- **User DelAdj**: 1.00 1.00 0.00 0.00 1.00 1.00 1.00 1.00 0.00 0.00 0.00
- **User DelAdj**: 1.00 1.00 0.00 0.00 1.00 1.00 1.00 1.00 0.00 0.00 0.00

- **Note**: Queue reported is the number of cars per lane.
Intersection #46: Broderick/Bush

Level of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Existing AM

Intersection #46: Broderick/Bush

Volume Module: >> Count Date: 15 May 2013 << 7:45-8:45am
Base Vol: 0 38 24 111 60 0 60 1761 28 0 0 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 0.0 1.00 1.00 0.0 0.0 0.0 0.0
User Adj: 1.00 1.00 1.00 1.00 1.00 0.0 1.00 1.00 0.0 0.0 0.0 0.0
PFW Volume: 0 40 25 116 63 0 63 1834 29 0 0 0
Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 40 25 116 63 0 63 1834 29 0 0 0
PCE Adj: 1.00 1.00 1.00 1.00 1.00 0.0 1.00 1.00 0.0 0.0 0.0 0.0
MLF Adj: 1.00 1.00 1.00 1.00 1.00 0.0 1.00 1.00 0.0 0.0 0.0 0.0
Final Volume: 0 40 25 116 63 0 63 1834 29 0 0 0

Saturation Flow Module:

Street Name: Broderick Street
Approach: North Bound
Min. Green: 0 0 20 20 20 0 0 32 32 0 0 0
Vol/Sat: 0.00 0.05 0.05 0.16 0.16 0.00 0.46 0.46 0.46 0.00 0.00 0.00
User Del: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
Uniform Deli: 0.00 0.14 0.14 0.49 0.49 0.00 0.86 0.86 0.86 0.00 0.00 0.00
IncremDel: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
InitQuasiDel: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
Delay Adj: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
User AdjDel: 1.00 1.00 1.00 1.00 1.00 0.0 1.00 1.00 0.0 0.0 0.0 0.0
AdjDel/Veh: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

Note: Queue reported is the number of cars per lane.

---

Intersection #46: Broderick/Bush

Level of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Existing PM

Intersection #46: Broderick/Bush

Volume Module: >> Count Date: n/a
Base Vol: 0 44 44 53 26 0 34 1184 9 0 0 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 0.0 1.00 1.00 0.0 0.0 0.0 0.0
User Adj: 1.00 1.00 1.00 1.00 1.00 0.0 1.00 1.00 0.0 0.0 0.0 0.0
PFW Volume: 0 56 44 53 26 0 34 1184 9 0 0 0
Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 56 44 53 26 0 34 1184 9 0 0 0
PCE Adj: 1.00 1.00 1.00 1.00 1.00 0.0 1.00 1.00 0.0 0.0 0.0 0.0
MLF Adj: 1.00 1.00 1.00 1.00 1.00 0.0 1.00 1.00 0.0 0.0 0.0 0.0
Final Volume: 0 56 44 53 26 0 34 1184 9 0 0 0

Saturation Flow Module:

Street Name: Broderick Street
Approach: North Bound
Min. Green: 0 0 20 20 20 0 0 32 32 0 0 0
Vol/Sat: 0.00 0.08 0.08 0.07 0.07 0.00 0.29 0.29 0.29 0.00 0.00 0.00
User Del: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
Uniform Deli: 0.00 0.33 0.33 0.33 0.33 0.00 0.53 0.53 0.53 0.53 0.53 0.53
IncremDel: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
InitQuasiDel: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
Delay Adj: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
User AdjDel: 1.00 1.00 1.00 1.00 1.00 0.0 1.00 1.00 0.0 0.0 0.0 0.0
AdjDel/Veh: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

Note: Queue reported is the number of cars per lane.
### Level of Service Computation Report

#### 2000 HCM Operations (Base Volume Alternative)

#### Existing AM

**Intersection #47: Divisadero/Bush**

- **Signal=Perm+Prot/Rights=Include**
- **Base Vol:** 421, 101
- **Lanes:** 0, 0, 1, 1, 0
- **Cycle Time (sec):** 60
- **Loss Time (sec):** 8
- **Critical V/C:** 1.396
- **Avg Crit Del (sec/veh):** 51.1
- **Avg Delay (sec/veh):** 47.9

#### Existing PM

**Intersection #47: Divisadero/Bush**

- **Signal=Permit**
- **Base Vol:** 765
- **Lanes:** 0, 0, 1, 1, 0
- **Cycle Time (sec):** 60
- **Loss Time (sec):** 8
- **Critical V/C:** 1.297
- **Avg Crit Del (sec/veh):** 17.8
- **Avg Delay (sec/veh):** 18.3

### Street Name: Divisadero Street

#### Approach: North Bound

<table>
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<th>T</th>
<th>R</th>
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</thead>
<tbody>
<tr>
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<td>438</td>
<td>89</td>
</tr>
<tr>
<td>Volume</td>
<td>0.00</td>
<td>25.0</td>
<td>25.0</td>
</tr>
<tr>
<td>Delay</td>
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<tr>
<td>User DelAdj</td>
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#### Approach: South Bound

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#### Approach: East Bound

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<td>25.0</td>
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<tr>
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#### Approach: West Bound

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<tr>
<td>Volume</td>
<td>0.00</td>
<td>25.0</td>
<td>25.0</td>
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<tr>
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### Street Name: Bush Street

#### Approach: North Bound

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<tr>
<td>Volume</td>
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<td>Delay</td>
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#### Approach: South Bound

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<td>89</td>
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<tr>
<td>Volume</td>
<td>0.00</td>
<td>25.0</td>
<td>25.0</td>
</tr>
<tr>
<td>Delay</td>
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#### Approach: East Bound

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<td>89</td>
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<td>Volume</td>
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<td>25.0</td>
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#### Approach: West Bound

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<td>Volume</td>
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<tr>
<td>Delay</td>
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<tr>
<td>User DelAdj</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
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</tbody>
</table>

### Capacity Analysis Module

- **Vol/Sat:** 0.20
- **Crt Moves:** 0.20
- **Vol/Cycle:** 0.22
- **Green/Cycle:** 0.22
- **Crt Moves:** 0.20
- **Vol/Cycle:** 0.22
- **Green/Cycle:** 0.22

### Volume Module

- **Base Vol:** 397, 131
- **Volume:** 0.00
- **Delay:** 0.00

### Adj Del/Veh

- **HCM2kAvgQ:** 0.00
- **LOS:** B

Note: Queue reported is the number of cars per lane.
### Intersection #48: Scott/Bush

<table>
<thead>
<tr>
<th>Base Vol</th>
<th>Lanes</th>
<th>Signal/Permit Right/Include</th>
</tr>
</thead>
<tbody>
<tr>
<td>176***</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>63</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

**Existing AM**

- **Street Name:** Scott Street, Bush Street
- **Volume Module:** Base Vol: 0 Lanes: 0
- **Signal/Permit Right/Include:** Permit
- **Cycle Time (sec):** 60
- **Loss Time (sec):** 8
- **Critical V/C:** 0.824
- **vg Crit Del (sec/veh):** 31.0
- **vg Delay (sec/veh):** 29.6
- **L O S:** C
- **Note:** Queue reported is the number of cars per lane.

### Street Name: Scott Street

**Approach:** North Bound

- **Min. Green:** 0
- **User DelAdj:** 1.00

- **Volume Module:** Base Vol: 0 Lanes: 0
- **Growth Adj:** 1.00
- **User Adj:** 1.00
- **User DelAdj:** 1.00
- **AdjDel/Veh:** 0.0
- **LOS:** C

**Movement:** L - T - R

### Street Name: Bush Street

**Approach:** South Bound

- **Min. Green:** 0
- **User DelAdj:** 1.00

- **Volume Module:** Base Vol: 0 Lanes: 0
- **Growth Adj:** 1.00
- **User Adj:** 1.00
- **User DelAdj:** 1.00
- **AdjDel/Veh:** 0.0
- **LOS:** C

**Movement:** L - T - R

---

### Intersection #48: Scott/Bush

<table>
<thead>
<tr>
<th>Base Vol</th>
<th>Lanes</th>
<th>Signal/Permit Right/Include</th>
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<tbody>
<tr>
<td>1170***</td>
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<tr>
<td>55</td>
<td>0</td>
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</table>

**Existing PM**

- **Street Name:** Scott Street, Bush Street
- **Volume Module:** Base Vol: 0 Lanes: 0
- **Signal/Permit Right/Include:** Permit
- **Cycle Time (sec):** 60
- **Loss Time (sec):** 8
- **Critical V/C:** 0.725
- **vg Crit Del (sec/veh):** 16.8
- **vg Delay (sec/veh):** 16.7
- **L O S:** B
- **Note:** Queue reported is the number of cars per lane.

### Street Name: Scott Street

**Approach:** North Bound

- **Min. Green:** 0
- **User DelAdj:** 1.00

- **Volume Module:** Base Vol: 0 Lanes: 0
- **Growth Adj:** 1.00
- **User Adj:** 1.00
- **User DelAdj:** 1.00
- **AdjDel/Veh:** 0.0
- **LOS:** B

**Movement:** L - T - R

### Street Name: Bush Street

**Approach:** South Bound

- **Min. Green:** 0
- **User DelAdj:** 1.00

- **Volume Module:** Base Vol: 0 Lanes: 0
- **Growth Adj:** 1.00
- **User Adj:** 1.00
- **User DelAdj:** 1.00
- **AdjDel/Veh:** 0.0
- **LOS:** B

**Movement:** L - T - R
Intersection #49: Bush/Pierce

Signal=Permit/Rights=Include

**Existing AM**

<table>
<thead>
<tr>
<th>Lanes</th>
<th>Base Vol</th>
<th>Rights=Include</th>
<th>Vol Cnt Date</th>
</tr>
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<tbody>
<tr>
<td>0 0 0</td>
<td>0 35*** 39</td>
<td>53</td>
<td>0 0 0 0 0 0 1 0 0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5/15/2013</td>
</tr>
</tbody>
</table>

**Base Vol**: 0 35*** 39

**Lanes**: 0 0 0 1 0

**Cycle Time (sec)**: 60

**Loss Time (sec)**: 8

**Critical V/C**: 0.619

**vg Crit Del (sec/veh)**: 30.1

**vg Delay (sec/veh)**: 29.5

**LOS**: C

**Existing PM**

<table>
<thead>
<tr>
<th>Lanes</th>
<th>Base Vol</th>
<th>Rights=Include</th>
<th>Vol Cnt Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 0 0</td>
<td>0 32 30</td>
<td>45</td>
<td>0 0 0 0 0 0 1 0 0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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</tr>
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</table>

**Base Vol**: 0 32 30

**Lanes**: 0 0 0 1 0

**Cycle Time (sec)**: 60

**Loss Time (sec)**: 8

**Critical V/C**: 0.476

**vg Crit Del (sec/veh)**: 14.6

**vg Delay (sec/veh)**: 14.5

**LOS**: B

Street Name: Pierce Street, Bush Street

Approach: North Bound, South Bound, East Bound, West Bound


Min. Green: 0 0 23 23 23 0 0 29 29 0 0 0

Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

Volume Module: >> Count Date: 15 May 2013 << 7:45-8:45am

**Base Vol**: 0 39 31

**Growth Adj**: 1.00 1.00 1.00 1.00 1.00 ...

**User DelAdj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**AdjDel/Veh**: 0.0 12.8 12.8 12.8 12.8 0.0 14.7 14.7 14.7 0.0 0.0

**LOS by Move**: B B B B B A C C C A A A

HCM2kAvgQ: 1 1 1 1 1 0 14 14 14 0 0

Note: Queue reported is the number of cars per lane.
### Intersection #50: Broderick/Sutter

**Level Of Service Computation Report**

**2000 HCM 4-Way Stop (Base Volume Alternative)**

**Existing AM**

- **Intersection #50**: Broderick/Sutter
- **Signal=Stop/Rights=Include**
- **Base Vol**: 9 56 31***
- **Lanes**: 0 0 1! 0 0
- **Cycle Time (sec)**: 100
- **Loss Time (sec)**: 0
- **Critical V/C**: 0.209
- **Avg Crit Del (sec/veh)**: 8.2
- **Avg Delay (sec/veh)**: 8.2
- **LOS**: A
- **Base Vol**: 12***
- **Critical V/C**: 0.263
- **Avg Crit Del (sec/veh)**: 8.2
- **Avg Delay (sec/veh)**: 8.2
- **LOS**: A

**Street Name**: Broderick Street
**Approach**: North Bound
**Volume Module**: >> Count Date: 15 May 2013 << 8:00-9:00am
**Base Vol**: 15 43 47 31 56 9 12 106 44 18 55 19
**Growth Adj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
**Initial Bse**: 15 43 47 31 56 9 12 106 44 18 55 19
**Critical V/C**: 0.209
**Avg Crit Del (sec/veh)**: 8.2
**Avg Delay (sec/veh)**: 8.2
**LOS**: A

**Street Name**: Sutter Street
**Approach**: North Bound
**Volume Module**: >> Count Date: 15 May 2013 << 8:00-9:00am
**Base Vol**: 7 46 19 12 19 23 4 65 7 22 135 46
**Growth Adj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
**Initial Bse**: 7 46 19 12 19 23 4 65 7 22 135 46
**Critical V/C**: 0.263
**Avg Crit Del (sec/veh)**: 8.2
**Avg Delay (sec/veh)**: 8.2
**LOS**: A

**Note**: Queue reported is the number of cars per lane.

---

**Existing PM**

- **Intersection #50**: Broderick/Sutter
- **Signal=Stop/Rights=Include**
- **Base Vol**: 23*** 19 12
- **Lanes**: 0 0 1! 0 0
- **Cycle Time (sec)**: 100
- **Loss Time (sec)**: 0
- **Critical V/C**: 0.263
- **Avg Crit Del (sec/veh)**: 8.2
- **Avg Delay (sec/veh)**: 8.2
- **LOS**: A
- **Base Vol**: 7 46 19 12 19 23 4 65 7 22 135 46
- **Growth Adj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Initial Bse**: 7 46 19 12 19 23 4 65 7 22 135 46
- **Critical V/C**: 0.263
**Avg Crit Del (sec/veh)**: 8.2
**Avg Delay (sec/veh)**: 8.2
**LOS**: A

**Note**: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

**2000 HCM Operations (Base Volume Alternative)**

#### Existing AM

**Intersection #51: Divisadero/Sutter**

<table>
<thead>
<tr>
<th>Base Vol</th>
<th>Lanes</th>
<th>Vol Cnt Date</th>
<th>Cycle Time (sec)</th>
<th>Loss Time (sec)</th>
<th>Base Vol: 48 417 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>0</td>
<td>30</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

#### Street Name: Divisadero Street

- **Approach:** North Bound
- **Volume Module:** >> Count Date: 15 May 2013 << 7:45-8:45am
- **Base Vol:** 75 475 58
- **Signal=Permit**
- **Lanes:** 0 1 0 1 0
- **Critical V/C:** 0.453
- **Cycle Time (sec):** 60
- **Loss Time (sec):** 9
- **Critical V/C Del (sec/veh):** 12.3
- **User Del/Adj:** 1.00
- **AdjDel/Veh:** 11.5
- **Note:** Queue reported is the number of cars per lane.

### Existing PM

**Intersection #51: Divisadero/Sutter**

<table>
<thead>
<tr>
<th>Base Vol</th>
<th>Lanes</th>
<th>Vol Cnt Date</th>
<th>Cycle Time (sec)</th>
<th>Loss Time (sec)</th>
<th>Base Vol: 37 514 11</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>0</td>
<td>30</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

#### Street Name: Divisadero Street

- **Approach:** North Bound
- **Volume Module:** >> Count Date: n/a
- **Base Vol:** 22 467 37
- **Signal=Permit**
- **Lanes:** 0 1 0 1 0
- **Critical V/C:** 0.483
- **Cycle Time (sec):** 60
- **Loss Time (sec):** 47
- **Critical V/C Del (sec/veh):** 13.2
- **User Del/Adj:** 1.00
- **AdjDel/Veh:** 12.4
- **Note:** Queue reported is the number of cars per lane.
Level Of Service Computation Report
2000 HCM 4-Way Stop (Base Volume Alternative)

Existing AM

Intersection #52: Sutter/Scott
Signal=Stop/Rights=Include
Base Vol: 33 175 26***
Lanes: 0 0 1! 0 0

Cycle Time (sec): 100
Loss Time (sec): 0

Critical V/C: 0.369
Avg Crit Del (sec/veh): 10.2

Street Name:
Scott Street
Sutter Street

Approach:
North Bound  South Bound  East Bound  West Bound

Movement:  L  T  R  L  T  R  L  T  R  L  T  R  L  T  R

Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0

Volume Module: >> Count Date: 5/15/2013 Rights=Include
Base Vol: 39 177 33 21 59 48 24 81 28
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00
Initial Base: 39 177 20 26 175 33 21 59 48 24 81 28
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92
PHF Volume: 42 192 22 28 190 36 23 64 52 26 88 30
Reduced Vol: 42 192 22 28 190 36 23 64 52 26 88 30

Base Vol: 39 177 33 21 59 48 24 81 28
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Base: 39 177 20 26 175 33 21 59 48 24 81 28
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92
PHF Volume: 28 166 32 24 235 62 22 79 68 26 114 32
Reduced Vol: 28 166 32 24 235 62 22 79 68 26 114 32

MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Volume: 42 192 22 28 190 36 23 64 52 26 88 30

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM 4-Way Stop (Base Volume Alternative)

Existing PM

Intersection #52: Sutter/Scott
Signal=Stop/Rights=Include
Base Vol: 57 216 22***
Lanes: 0 0 1! 0 0

Cycle Time (sec): 100
Loss Time (sec): 0

Critical V/C: 0.469
Avg Crit Del (sec/veh): 11.0

Street Name:
Scott Street
Sutter Street

Approach:
North Bound  South Bound  East Bound  West Bound

Movement:  L  T  R  L  T  R  L  T  R  L  T  R  L  T  R

Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0

Volume Module: >> Count Date: 5/15/2013 Rights=Include
Base Vol: 26 153 29 22 216 57 20 73 63 24 105 29
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Base: 26 153 29 22 216 57 20 73 63 24 105 29
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92
PHF Volume: 28 166 32 24 235 62 22 79 68 26 114 32
Reduced Vol: 28 166 32 24 235 62 22 79 68 26 114 32

MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Volume: 28 166 32 24 235 62 22 79 68 26 114 32

Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM 4-Way Stop (Base Volume Alternative)

**Existing AM**

**Intersection #53: Pierce/Sutter**

**Signal=Stop/Rights=Include**

**Base Vol:** 24 32 11

**Lanes:** 0 0 1! 0 0

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.167

**Avg Delay (sec/veh):** 7.8

**L O S:** A

**Street Name:** Pierce Street

**Approach:** North Bound

**Movement:** L - T - R

**Volume Module:**

<table>
<thead>
<tr>
<th>Base Vol</th>
<th>Lanes</th>
<th>Growth Adj</th>
<th>Initial Bse</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>0</td>
<td>1.00</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>0</td>
<td>1.00</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>0</td>
<td>1.00</td>
<td>34</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Queue reported is the number of cars per lane.

---

### Level Of Service Computation Report

#### 2000 HCM 4-Way Stop (Base Volume Alternative)

**Existing PM**

**Intersection #53: Pierce/Sutter**

**Signal=Stop/Rights=Include**

**Base Vol:** 34 27 13

**Lanes:** 0 0 1! 0 0

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.303

**Avg Delay (sec/veh):** 8.6

**L O S:** A

**Street Name:** Pierce Street

**Approach:** North Bound

**Movement:** L - T - R

**Volume Module:**

<table>
<thead>
<tr>
<th>Base Vol</th>
<th>Lanes</th>
<th>Growth Adj</th>
<th>Initial Bse</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>0</td>
<td>1.00</td>
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<tr>
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<td>1.00</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>0</td>
<td>1.00</td>
<td>34</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Queue reported is the number of cars per lane.
**Level Of Service Computation Report**

**2000 HCM Operations (Base Volume Alternative)**

### Existing AM

**Intersection #54: Broderick/Post**

- **Signal=Permit/Rights=Include**
- **Base Vol:** 46 30 51
- **Lanes:** 0 0 1!
- **Cycle Time (sec):** 60
- **Loss Time (sec):** 7
- **Critical V/C:** 0.478
- **Avg Crit Del (sec/veh):** 15.3
- **Avg Delay (sec/veh):** 14.0
- **LOS:** B

### Approaches:
- **North Bound**
- **South Bound**
- **East Bound**
- **West Bound**

### Movement:
- **L - T - R**
- **L - T - R**
- **L - T - R**
- **L - T - R**

### Volume Module:
- **Base Vol:** 27 20 27 20
- **Growth Adj:** 1.00 1.00 1.00 1.00
- **User DelAdj:** 1.00 1.00 1.00 1.00
- **AdjDel/Veh:** 13.0 13.0 13.0 13.0
- **LOS by Move:** C

### Note:
- Queue reported is the number of cars per lane.

---

### Existing PM

**Intersection #54: Broderick/Post**

- **Signal=Permit/Rights=Include**
- **Base Vol:** 16 37 18
- **Lanes:** 0 0 1!
- **Cycle Time (sec):** 60
- **Loss Time (sec):** 7
- **Critical V/C:** 0.332
- **Avg Crit Del (sec/veh):** 107
- **Avg Delay (sec/veh):** 12.0
- **LOS:** B

### Approaches:
- **North Bound**
- **South Bound**
- **East Bound**
- **West Bound**

### Movement:
- **L - T - R**
- **L - T - R**
- **L - T - R**
- **L - T - R**

### Volume Module:
- **Base Vol:** 21 39 126
- **Growth Adj:** 1.00 1.00 1.00
- **User DelAdj:** 1.00 1.00 1.00
- **AdjDel/Veh:** 15.7 15.7 15.7
- **LOS by Move:** B

### Note:
- Queue reported is the number of cars per lane.
### Intersection #55: Divisadero/Post

**Level Of Service Computation Report**

**2000 HCM Operations (Base Volume Alternative)**

#### Existing AM

**Intersection #55: Divisadero/Post**

**Signal=Permit/Rights=Include**

<table>
<thead>
<tr>
<th>Base Vol</th>
<th>Lanes</th>
<th>Rights=Include</th>
<th>Vol Ctrl Date</th>
<th>Cycle Time (sec)</th>
<th>Signal=Permit/Rights=Include</th>
<th>Base Vol</th>
<th>Lanes</th>
<th>Rights=Include</th>
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</thead>
<tbody>
<tr>
<td>25</td>
<td>0</td>
<td></td>
<td>06/15/2013</td>
<td>24</td>
<td></td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

**Base Vol:** 39  427  33

**Lanes:** 0 1 0  1 0

**Cycle Time (sec):** 60

**Loss Time (sec):** 8

**Aug Crit Del (pct/veh):** 20.5

**Avg Delay (sec):** 17.0

**LOS:** B

#### Street Name: Divisadero Street

- **Approach:** North Bound
- **Lanes:** 0 1 0  1 0
- **Base Vol:** 44  560  83
- **Signal=Permit/Rights=Include**
- **Min. Green:** 31 31 31 31 31
- **Y+R:** 4.5 4.5 4.5 4.5 4.5
- **User Del:** 1.00 1.00 1.00 1.00 1.00
- **User Del Adj:** 1.00 1.00 1.00 1.00 1.00
- **Adj Del/Veh:** 11.2 11.2 11.2 11.2
- **LOS:** B

#### Street Name: Post Street

- **Approach:** South Bound
- **Lanes:** 0 1 0  1 0
- **Base Vol:** 22  495  71
- **Signal=Permit/Rights=Include**
- **Min. Green:** 31 31 31 31 31
- **Y+R:** 4.5 4.5 4.5 4.5 4.5
- **User Del:** 1.00 1.00 1.00 1.00 1.00
- **User Del Adj:** 1.00 1.00 1.00 1.00 1.00
- **Adj Del/Veh:** 10.4 10.4 10.4 10.4
- **LOS:** B

#### Street Name: Divisadero Street

- **Approach:** East Bound
- **Lanes:** 0 1 0  1 0
- **Base Vol:** 25  284  86
- **Signal=Permit/Rights=Include**
- **Min. Green:** 31 31 31 31 31
- **Y+R:** 4.5 4.5 4.5 4.5 4.5
- **User Del:** 1.00 1.00 1.00 1.00 1.00
- **User Del Adj:** 1.00 1.00 1.00 1.00 1.00
- **Adj Del/Veh:** 10.4 10.4 10.4 10.4
- **LOS:** B

#### Street Name: Post Street

- **Approach:** West Bound
- **Lanes:** 0 1 0  1 0
- **Base Vol:** 30  73  24
- **Signal=Permit/Rights=Include**
- **Min. Green:** 31 31 31 31 31
- **Y+R:** 4.5 4.5 4.5 4.5 4.5
- **User Del:** 1.00 1.00 1.00 1.00 1.00
- **User Del Adj:** 1.00 1.00 1.00 1.00 1.00
- **Adj Del/Veh:** 10.4 10.4 10.4 10.4
- **LOS:** B

### Level Of Service Computation Report

**2000 HCM Operations (Base Volume Alternative)**

#### Existing PM

**Intersection #55: Divisadero/Post**

**Signal=Permit/Rights=Include**

<table>
<thead>
<tr>
<th>Base Vol</th>
<th>Lanes</th>
<th>Rights=Include</th>
<th>Vol Ctrl Date</th>
<th>Cycle Time (sec)</th>
<th>Signal=Permit/Rights=Include</th>
<th>Base Vol</th>
<th>Lanes</th>
<th>Rights=Include</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
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<td>06/15/2013</td>
<td>24</td>
<td></td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

**Base Vol:** 20  587  31

**Lanes:** 0 1 0  1 0

**Cycle Time (sec):** 60

**Loss Time (sec):** 8

**Aug Crit Del (pct/veh):** 16.5

**Avg Delay (sec):** 14.3

**LOS:** B

#### Street Name: Divisadero Street

- **Approach:** North Bound
- **Lanes:** 0 1 0  1 0
- **Base Vol:** 22  495  71
- **Signal=Permit/Rights=Include**
- **Min. Green:** 31 31 31 31 31
- **Y+R:** 4.5 4.5 4.5 4.5 4.5
- **User Del:** 1.00 1.00 1.00 1.00 1.00
- **User Del Adj:** 1.00 1.00 1.00 1.00 1.00
- **Adj Del/Veh:** 10.4 10.4 10.4 10.4
- **LOS:** B

#### Street Name: Post Street

- **Approach:** South Bound
- **Lanes:** 0 1 0  1 0
- **Base Vol:** 22  495  71
- **Signal=Permit/Rights=Include**
- **Min. Green:** 31 31 31 31 31
- **Y+R:** 4.5 4.5 4.5 4.5 4.5
- **User Del:** 1.00 1.00 1.00 1.00 1.00
- **User Del Adj:** 1.00 1.00 1.00 1.00 1.00
- **Adj Del/Veh:** 10.4 10.4 10.4 10.4
- **LOS:** B

#### Street Name: Divisadero Street

- **Approach:** East Bound
- **Lanes:** 0 1 0  1 0
- **Base Vol:** 22  495  71
- **Signal=Permit/Rights=Include**
- **Min. Green:** 31 31 31 31 31
- **Y+R:** 4.5 4.5 4.5 4.5 4.5
- **User Del:** 1.00 1.00 1.00 1.00 1.00
- **User Del Adj:** 1.00 1.00 1.00 1.00 1.00
- **Adj Del/Veh:** 10.4 10.4 10.4 10.4
- **LOS:** B

#### Street Name: Post Street

- **Approach:** West Bound
- **Lanes:** 0 1 0  1 0
- **Base Vol:** 22  495  71
- **Signal=Permit/Rights=Include**
- **Min. Green:** 31 31 31 31 31
- **Y+R:** 4.5 4.5 4.5 4.5 4.5
- **User Del:** 1.00 1.00 1.00 1.00 1.00
- **User Del Adj:** 1.00 1.00 1.00 1.00 1.00
- **Adj Del/Veh:** 10.4 10.4 10.4 10.4
- **LOS:** B
### Intersection #56: Scott/Post

#### Existing AM

- **Intersection**: Scott/Post
- **Signal**: Permit/Rights=Include
- **Base Vol**: 29 197 26
- **Lanes**: 0 0 1! 0 0
- **Cycle Time (sec)**: 60
- **Loss Time (sec)**: 7
- **Critical V/C**: 0.641
- **Avg Crit Del (sec/veh)**: 18.5
- **Avg Delay (sec)**: 17.3
- **LOS**: B

#### Street Name: Scott Street

<table>
<thead>
<tr>
<th>Approach</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movement</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
</tr>
<tr>
<td>Base Vol</td>
<td>47 213</td>
<td>73 26 197</td>
<td>29</td>
<td>17 321</td>
</tr>
<tr>
<td>Growth Adj</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>User Adj</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHF Volume</td>
<td>49 222 76</td>
<td>27 28 205</td>
<td>30</td>
<td>18 334</td>
</tr>
<tr>
<td>Reduce Vol</td>
<td>0 0 0 0</td>
<td>0 0 0 0 0 0 0 0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCE Adj</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>MFPI Adj</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Final Volume</td>
<td>49 222 76</td>
<td>27 28 205</td>
<td>30</td>
<td>18 334</td>
</tr>
</tbody>
</table>

#### Volume Module:

- **Base Vol**: 47 213 73 26 197 29
- **Count Date**: 15 May 2013
- **Growth Adj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **User DelAdj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **AdjDel/Veh**: 22.1 22.1 22.1 16.5 16.5 16.5 12.2 12.2 12.2 10.3 10.3 10.3
- **LOS by Move**: C C B B B B B B B A A A

#### HCM2kAvgQ:

- North Bound: 7
- South Bound: 7
- East Bound: 7
- West Bound: 7

### Intersection #56: Scott/Post

#### Existing PM

- **Intersection**: Scott/Post
- **Signal**: Permit/Rights=Include
- **Base Vol**: 14 250 26
- **Lanes**: 0 0 1! 0 0
- **Cycle Time (sec)**: 60
- **Loss Time (sec)**: 24
- **Critical V/C**: 0.484
- **Avg Crit Del (sec/veh)**: 15.0
- **Avg Delay (sec)**: 14.6
- **LOS**: B

#### Street Name: Scott Street

<table>
<thead>
<tr>
<th>Approach</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movement</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
</tr>
<tr>
<td>Base Vol</td>
<td>23 171 53</td>
<td>26 250 14</td>
<td>9 219</td>
<td>35 98</td>
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<tr>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>User Adj</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
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</tr>
<tr>
<td>PHF Volume</td>
<td>23 174 54</td>
<td>27 28 255</td>
<td>14</td>
<td>9 223</td>
</tr>
<tr>
<td>Reduce Vol</td>
<td>0 0 0 0</td>
<td>0 0 0 0 0 0 0 0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCE Adj</td>
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<tr>
<td>Final Volume</td>
<td>23 174 54</td>
<td>27 28 255</td>
<td>14</td>
<td>9 223</td>
</tr>
</tbody>
</table>

#### Volume Module:

- **Base Vol**: 23 171 53 26 250 14
- **Count Date**: n/a
- **Growth Adj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **User DelAdj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **AdjDel/Veh**: 16.5 16.5 16.5 12.2 12.2 12.2 10.3 10.3 10.3
- **LOS by Move**: B B B B B B B B B B B B

#### HCM2kAvgQ:

- North Bound: 4
- South Bound: 4
- East Bound: 4
- West Bound: 3

### Note:

- Queue reported is the number of cars per lane.
**Intersection #57: Pierce/Post**

### Existing AM
- **Base Vol:** 22, 0, 30
- **Lanes:** 0, 0, 1
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0
- **Avg Crit Del (sec/veh):** 1.5
- **Avg Delay (sec/veh):** 1.5

#### Volume Module:
- Initial Bse: 0, 0, 0, 30, 0, 22, 33, 387, 0, 0, 0, 0, 1
- User Adj: 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00
- PHF Adj: 0.96, 0.96, 0.96, 0.96, 0.96, 0.96, 0.96, 0.96
- **Base Vol:** 33, 0, 31, 0, 34, 403, 0, 177, 36
- **Reduct Vol:** 0, 0, 0, 0, 0, 0, 0, 0, 0
- **FinalVolume:** 0, 0, 31, 0, 34, 403, 0, 177, 36

#### Critical Gap Module:
- **Critical Gap:** 6.4, 6.5, 6.2, 4.1
- **FollowUpTime:** 3.5, 4.0, 3.3, 2.2

#### Capacity Module:
- **Cnflct Vol:** 569, 569, 95, 114, 403
- **Potent Cap:** 487, 436, 967, 1488
- **Move Cap:** 478, 424, 967, 1488
- **Volume/Cap:** 0.07, 0.00, 0.02, 0.00
- **Move:** A, A

#### Level Of Service Module:
- **LDS by Move:** L - T - R, L - T - R, L - T - R, L - T - R
- **Shared Con:** LTR, RT, LTR, RT, LTR, RT, LTR, RT
- **Shared LDS:** * B, A
- **Approach LDS:** * 11.5

### Existing PM
- **Base Vol:** 31, 0, 23
- **Lanes:** 0, 0, 1
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0
- **Avg Crit Del (sec/veh):** 1.5
- **Avg Delay (sec/veh):** 1.5

#### Volume Module:
- Initial Bse: 0, 0, 0, 23, 0, 31, 23, 286, 0, 0, 0, 0, 113
- User Adj: 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00
- PHF Adj: 0.92, 0.92, 0.92, 0.92, 0.92, 0.92, 0.92
- **Base Vol:** 23, 0, 31, 0, 25, 311, 0, 0, 0, 0, 123
- **Reduct Vol:** 0, 0, 0, 0, 0, 0, 0, 0, 0
- **FinalVolume:** 0, 0, 31, 0, 25, 311, 0, 0, 0, 0, 123

#### Critical Gap Module:
- **Critical Gap:** 6.4, 6.5, 6.2, 4.1
- **FollowUpTime:** 3.5, 4.0, 3.3, 2.2

#### Capacity Module:
- **Cnflct Vol:** 495, 495, 134
- **Potent Cap:** 534, 476, 915, 1436
- **Move Cap:** 527, 467, 915, 1436
- **Volume/Cap:** 0.05, 0.00, 0.04, 0.02

#### Level Of Service Module:
- **LDS by Move:** L - T - R, L - T - R, L - T - R, L - T - R
- **Shared Con:** LTR, RT, LTR, RT, LTR, RT, LTR, RT
- **Shared LDS:** * B, A
- **Approach LDS:** * 10.6

Note: Queue reported is the number of cars per lane.
Intersection #58: Broderick / Geary

Street Name: Broderick Street  Geary Blvd

Approach:  North Bound  South Bound  East Bound  West Bound

Volume Module: | Count Date: 15 May 2013 << 7:45-8:45am |

Volume: 0 0 0 0 51 0 2045 0 0 932 82

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Critical V/C: 0.090 2 932

vg Crit Del (sec/veh): 0.2

vg Delay (sec/veh): 0.2

LOS: C

Note: Queue reported is the number of cars per lane.

Intersection #58: Broderick / Geary

Street Name: Broderick Street  Geary Blvd

Approach:  North Bound  South Bound  East Bound  West Bound

Volume Module: | Count Date: 15 May 2013 << 7:45-8:45am |

Volume: 0 0 0 0 50 0 1416 0 0 1873 137

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Critical V/C: 0.154 2 1873

vg Crit Del (sec/veh): 0.2

vg Delay (sec/veh): 0.2

LOS: C

Note: Queue reported is the number of cars per lane.
Intersection #59: Divisadero/Geary

**Level Of Service Computation Report**

**2000 HCM Operations (Base Volume Alternative)**

**Existing AM**

**Intersection #59: Divisadero/Geary**

**Signal=Permit/Rights=Include**

**Base Vol:** 105

**Lanes:** 0 1 0 1 0

**Volume Module: Base Vol:**

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<th>R</th>
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**Volume Module: **

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**Note:** Queue reported is the number of cars per lane.
Level of Service Computation Report
2000 HCM Operations (Base Volume Alternative)

Intersection #60: Scott/Geary

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Cycle Time (sec): 90
Loss Time (sec): 9

Critical V/C: 0.783
vg Crit Del (sec/veh): 22.9
vg Delay (sec/veh): 20.7

Street Name: Scott Street
Approach: North Bound
Min. Green: 35
Growth Adj: 1.00
User Adj: 1.00
Critical V/C: 0.739
vg Crit Del (sec/veh): 21.6
vg Delay (sec/veh): 19.9

Street Name: Scott Street
Approach: South Bound
Min. Green: 35
Growth Adj: 1.00
User Adj: 1.00
Critical V/C: 0.739
vg Crit Del (sec/veh): 21.6
vg Delay (sec/veh): 19.9
### Level Of Service Computation Report

#### 2000 HCM Operations (Base Volume Alternative)

#### Existing AM

**Intersection #61: S Van Ness/13th Street**

- **Base Vol:** 46 1053*** 147
- **Lanes:** 0 1 1 1 0
- **Signal=Permit/Rights=Include**
- **Cycle Time (sec):** 90
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00
- **AdjDel/Veh:** 0.0 28.1 28.1 142.1 142.1
- **LOS:** B
- **vg Delay (sec/veh):** 70.7
- **Critical V/C:** 1.093
- **Avg Crit Del (sec/veh):** 113.0

#### Existing PM

**Intersection #61: S Van Ness/13th Street**

- **Base Vol:** 43 1386*** 17
- **Lanes:** 0 1 2 0 0
- **Signal=Permit/Rights=Include**
- **Cycle Time (sec):** 90
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00
- **AdjDel/Veh:** 0.0 19.8 19.8 29.4 29.4
- **LOS:** C
- **vg Delay (sec/veh):** 30.0
- **Critical V/C:** 0.743
- **Avg Crit Del (sec/veh):** 30.4

### Street Name: S Van Ness 13th Street

#### Approach:

- **North Bound:**
  - **Min. Green:** 0 30 30 30 0 39 39 19 7 0 50
  - **Base Vol:** 0 615 105 147 1053 46
  - **Cycle Time:** 90
  - **Growth Adj:** 1.00 1.00 1.00 1.00 1.00
  - **User DelAdj:** 1.00 1.00 1.00 1.00 1.00
  - **AdjDel/Veh:** 0.0 39.8 39.8 239.4 239.4
  - **LOS:** C
  - **vg Delay (sec/veh):** 24.8
  - **Critical V/C:** 0.841
  - **Avg Crit Del (sec/veh):** 84.6

- **South Bound:**
  - **Min. Green:** 0 0 0 0 0 0 0 0 0 0 0
  - **Base Vol:** 0 39 39 19 7 0 50
  - **Cycle Time:** 90
  - **Growth Adj:** 1.00 1.00 1.00 1.00 1.00
  - **User DelAdj:** 1.00 1.00 1.00 1.00 1.00
  - **AdjDel/Veh:** 0.0 24.8 24.8 142.1 142.1
  - **LOS:** B
  - **vg Delay (sec/veh):** 14.5
  - **Critical V/C:** 0.76
  - **Avg Crit Del (sec/veh):** 44.0

- **East Bound:**
  - **Min. Green:** 0 0 0 0 0 0 0 0 0 0 0
  - **Base Vol:** 0 0 0 0 0 0 0 0 0 0 0
  - **Cycle Time:** 90
  - **Growth Adj:** 1.00 1.00 1.00 1.00 1.00
  - **User DelAdj:** 1.00 1.00 1.00 1.00 1.00
  - **AdjDel/Veh:** 0.0 14.5 14.5 84.4 84.4
  - **LOS:** B
  - **vg Delay (sec/veh):** 14.5
  - **Critical V/C:** 1.093
  - **Avg Crit Del (sec/veh):** 142.1

- **West Bound:**
  - **Min. Green:** 0 0 0 0 0 0 0 0 0 0 0
  - **Base Vol:** 0 0 0 0 0 0 0 0 0 0 0
  - **Cycle Time:** 90
  - **Growth Adj:** 1.00 1.00 1.00 1.00 1.00
  - **User DelAdj:** 1.00 1.00 1.00 1.00 1.00
  - **AdjDel/Veh:** 0.0 84.4 84.4 44.0 44.0
  - **LOS:** B
  - **vg Delay (sec/veh):** 44.0
  - **Critical V/C:** 1.093
  - **Avg Crit Del (sec/veh):** 142.1

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</tr>
<tr>
<td>0.08</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>0.09</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

- **Sat/Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
- **Adjustment:** 1.00 0.74 0.74 0.50 0.50 0.50 0.10 0.81 0.63 0.79 0.79 0.76
- **Lanes:** 1.00 1.71 0.29 0.35 0.24 0.11 0.00 2.00 2.00 1.30 0.70
- **Final Sat.:** 0 2409 411 335 240 105 0 3079 2386 2987 1898 1010

#### Capacity Analysis Module:

<table>
<thead>
<tr>
<th>Vol/Sat</th>
<th>0.00</th>
<th>0.27</th>
<th>0.27</th>
<th>0.47</th>
<th>0.47</th>
<th>0.00</th>
<th>0.27</th>
<th>0.48</th>
<th>0.03</th>
<th>0.21</th>
<th>0.21</th>
</tr>
</thead>
</table>

- **Green/Cycle:** 0.00 0.38 0.38 0.38 0.38 0.00 0.43 0.43 0.43 0.81 0.51
- **Vol/Cap:** 0.00 0.72 0.72 1.24 1.24 0.00 0.62 0.10 0.38 0.41 0.41
- **Uniform Del:** 0.23 0.23 0.28 0.28 0.28 0.00 0.18 0.25 0.14 0.16 0.16
- **Increment Del:** 0.33 0.42 0.87 0.87 0.00 0.60 0.71 0.71 0.92 0.92
- **Delay Adj:** 0.00 0.10 0.10 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
- **User Del Adj:** 0.00 0.10 0.10 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

#### Traffic Module:

<table>
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<tr>
<th>Lanes</th>
<th>0</th>
<th>1</th>
<th>1</th>
<th>1</th>
<th>0</th>
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<tr>
<td>Adj</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>LOS</td>
<td>B</td>
<td>C</td>
<td>C</td>
<td>C</td>
<td>C</td>
</tr>
</tbody>
</table>

- **HCM2kAvgQ:** 0 6 6 16 16 16 0 9 10 2 18 17
- **Note:** Queue reported is the number of cars per lane.
### Intersection #62: 13th St / Folsom

#### Existing AM

**Signal** = Permit / **Rights** = Include

- **Base Vol:** 39 126 14
- **Lanes:** 0 1 0 0 1

**Cycle Time (sec):** 75

**Loss Time (sec):** 11

**Critical V/C:** 0.659

**Avg Crit Del (sec/veh):** 26.0

**Avg Delay (sec/veh):** 26.3

**LOS:** C

#### Existing PM

**Signal** = Protect

- **Base Vol:** 104 285 41
- **Lanes:** 0 1 0 0 1

**Cycle Time (sec):** 75

**Loss Time (sec):** 11

**Critical V/C:** 0.578

**Avg Crit Del (sec/veh):** 24.3

**Avg Delay (sec/veh):** 28.8

**LOS:** C

---

### Level Of Service Computation Report

#### 2000 HCM Operations (Base Volume Alternative)

#### Approaches

- **North Bound:** Street Name: Folsom Street
- **South Bound:** Street Name: Folsom Street
- **East Bound:** Street Name: 13th Street
- **West Bound:** Street Name: 13th Street

#### Volume

- **Vmt:** 71

#### Cycle Time (sec)

- **Vol Cnt:** 5/15/2013

#### Queue

- **Base Vol:** 189 125

#### LOS

- **Key:** L = L, T = T, R = R

#### LOS by Move

- **Critical V/C:** 0.659
- **Avg Crit Del (sec/veh):** 26.0
- **Avg Delay (sec/veh):** 26.3
- **LOS:** C

---

### Level Of Service Computation Report

#### 2000 HCM Operations (Base Volume Alternative)

#### Approaches

- **North Bound:** Street Name: Folsom Street
- **South Bound:** Street Name: Folsom Street
- **East Bound:** Street Name: 13th Street
- **West Bound:** Street Name: 13th Street

#### Volume

- **Vmt:** 51

#### Cycle Time (sec)

- **Vol Cnt:** 5/15/2013

#### Queue

- **Base Vol:** 189 125

#### LOS by Move

- **Critical V/C:** 0.578
- **Avg Crit Del (sec/veh):** 24.3
- **Avg Delay (sec/veh):** 28.8
- **LOS:** C

---

### Note

- Queue reported is the number of cars per lane.
### Existing AM

**Intersection #63: 13th St / Harrison**

<table>
<thead>
<tr>
<th>Signal=Permit/Rights=Include</th>
<th>13th St</th>
<th>Harrison St</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Base Vol:</strong></td>
<td>146</td>
<td>371</td>
</tr>
<tr>
<td><strong>Lanes:</strong></td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

**Volume Module:** **Base Vol:** 146 | **Lanes:** 0 | **Rights=Include:** |

**Base Vol: Lanes: Rights=Include Vol Cnt Date:** 5/15/2013 | **Rights=Include Lanes: Base Vol:**

- **Cycle Time (sec):** 60
- **Loss Time (sec):** 10
- **Critical V/C:** 0.685
- **Avg Crit Del (sec/veh):** 17.7
- **Critical V/C:** 0.777
- **Avg Crit Del (sec/veh):** 20.7

**Street Name:** Harrison Street

**Approach:** North Bound | South Bound | East Bound | West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Vol</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Queue reported is the number of cars per lane.

### Level Of Service Computation Report

#### 2000 HCM Operations (Base Volume Alternative)

**Traffic:**

**HCM2kAvgQ:** **Note:** Queue reported is the number of cars per lane.

#### Traffic

<table>
<thead>
<tr>
<th>Lane</th>
<th>Signal=Permit/Rights=Include</th>
<th>13th St</th>
<th>Harrison St</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Base Vol:</strong></td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

**Volume Module:** **Base Vol:** 146 | **Lanes:** 0 | **Rights=Include Vol Cnt Date:** 15 May 2013 | **Rights=Include Lanes: Base Vol:**

- **Cycle Time (sec):** 60
- **Loss Time (sec):** 10
- **Critical V/C:** 0.685
- **Avg Crit Del (sec/veh):** 17.7

**Street Name:** Harrison Street

**Approach:** North Bound | South Bound | East Bound | West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Vol</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Queue reported is the number of cars per lane.
Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Existing AM
Intersection #64: 10th St / Bryant
Signal=Permit/Rights=Include
Base Vol: 0  0     0
Lanes: 0 0 0  0 0
Cycle Time (sec): 90
Loss Time (sec): 11
Critical V/C: 0.556
vg Crit Del (sec/veh): 14.0
vg Delay (sec/veh): 14.0

L O S : B
Lanes: 0 0 3  1 0
Base Vol: 0  664***  153
Signal=Permit/Rights=Include
Crane
Street Name:          Bryant Street                      10th Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
-------------|---------------||---------------||---------------||---------------|
Min. Green:     0   19    19     0    0     0     0   59    59     0    0     0  Y+R:          4.0  5.5   5.5   4.0  4.0   4.0  4.0  5.5   5.5   4.0  4.0   4.0
-------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 15 May 2013 << 8:00-9:00am
Base Vol:       0  612   153     0    0     0   563 1411     0     0    0     0  Growth Adj:  1.00 1.00  1.00  1.00 1.00  ...   0.0  9.0  9.0   0.0   0.0  0.0   0.0  User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 34.7  34.7   0.0  0.0   0.0   9.0  9.0   0.0   0.0  0.0   0.0
LOS by Move:    A    C     C     A    A     A     A    A     A     A    A     A  HCM2kAvgQ:      0    6     6     0    0     0     9    9     0     0    0     0  Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Existing PM
Intersection #64: 10th St / Bryant
Signal=Permit/Rights=Include
Base Vol: 0  0     0
Lanes: 0 0 0  0 0
Cycle Time (sec): 90
Loss Time (sec): 11
Critical V/C: 0.580
vg Crit Del (sec/veh): 16.2
vg Delay (sec/veh): 16.2

L O S : B
Lanes: 0 0 3  1 0
Base Vol: 0  612***  153
Signal=Permit/Rights=Include
Crane
Street Name:          Bryant Street                      10th Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
-------------|---------------||---------------||---------------||---------------|
Min. Green:     0   19    19     0    0     0     0   59    59     0    0     0  Y+R:          4.0  5.5   5.5   4.0  4.0   4.0  4.0  5.5   5.5   4.0  4.0   4.0
-------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: n/a Rights=Include Lanes: Base Vol:
Base Vol:       0  612   153     0    0     0   563 1411     0     0    0     0  Growth Adj:  1.00 1.00  1.00  1.00 1.00  ...   0.0  9.0  9.0   0.0   0.0  0.0   0.0  User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 34.7  34.7   0.0  0.0   0.0   9.0  9.0   0.0   0.0  0.0   0.0
LOS by Move:    A    C     C     A    A     A     A    A     A     A    A     A  HCM2kAvgQ:      0    6     6     0    0     0     9    9     0     0    0     0  Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Base Volume Alternative)

#### Existing AM

**Intersection #65: 14th St / S Van Ness**

- **Signal**: Permit
- **Rights**: Include
- **Base Vol**: 1 340 41
- **Lanes**: 0 1 0 1 0

| Vol Ctrl Date | Cycle Time (sec) | Loss Time (sec) | Critical V/C | Avg Crit Del (sec/veh) | Avg Delay (sec/veh) | LOS | HCM2kAvgQ
|---------------|------------------|----------------|-------------|------------------------|-------------------|-----|---------
| 01/05/2013   | 60               | 0              | 0.637       | 16.9                   | 0                 | B   | A       |
| 79            | 0                | 1              | 15.4        | 0                      | 0                 | B   | A       |

**Street Name**: S Van Ness

- **Approach**: North Bound
- **Volume Module**: >> Count Date: 15 May 2013 << 8:00-9:00am
- **Base Vol**: 1 681 85 43 354 71 565 82 0
- **Growth Adj**: 1.00 1.00 1.00 1.00 1.00
- **User DelAdj**: 1.00 1.00 1.00 1.00 1.00
- **AdjDel/Veh**: 12.2 12.2 12.2 12.2 12.2
- **LOS**: B
- **HCM2kAvgQ**: 5 5 5 2 2 2 2 2 2

**Note**: Queue reported is the number of cars per lane.

### Level Of Service Computation Report

#### 2000 HCM Operations (Base Volume Alternative)

#### Existing PM

**Intersection #65: 14th St / S Van Ness**

- **Signal**: Permit
- **Rights**: Include
- **Base Vol**: 0 778 124
- **Lanes**: 0 1 0 1 0

| Vol Ctrl Date | Cycle Time (sec) | Loss Time (sec) | Critical V/C | Avg Crit Del (sec/veh) | Avg Delay (sec/veh) | LOS | HCM2kAvgQ
|---------------|------------------|----------------|-------------|------------------------|-------------------|-----|---------
| 01/05/2013   | 60               | 0              | 0.762       | 19.3                   | 16.3              | B   | A       |
| 116           | 0                | 1              | 0           | 0                      | 0                 | B   | A       |

**Street Name**: S Van Ness

- **Approach**: North Bound
- **Volume Module**: >> Count Date: 15 May 2013 << 8:00-9:00am
- **Base Vol**: 0 575 61 131 819 68 401 122 0
- **Growth Adj**: 1.00 1.00 1.00 1.00 1.00
- **User DelAdj**: 1.00 1.00 1.00 1.00 1.00
- **AdjDel/Veh**: 0.0 0.0 0.0 0.0 0.0
- **LOS**: B
- **HCM2kAvgQ**: 0 4 8 8 8

**Note**: Queue reported is the number of cars per lane.
### Existing AM

**Intersection #66: 14th St / Folsom**

- **Signal=Permit**
- **Rights=Include**
- **Base Vol:** 0 178 12
- **Lanes:** 0 0 1 1 0

**Cycle Time (sec): 60**

**Loss Time (sec): 7**

**Critical V/C:** 0.671

**Avg Crit Del (sec/veh):** 18.5

**Avg Delay (sec/veh):** 16.0

**LOS:** B

**Lanes:** 0 0 1 1 0

**Base Vol:** 359

### Existing PM

**Intersection #66: 14th St / Folsom**

- **Signal=Permit**
- **Rights=Include**
- **Base Vol:** 0 369 6
- **Lanes:** 0 0 1 1 0

**Cycle Time (sec): 60**

**Loss Time (sec): 7**

**Critical V/C:** 0.534

**Avg Crit Del (sec/veh):** 14.6

**Avg Delay (sec/veh):** 14.9

**LOS:** B

**Lanes:** 0 0 1 1 0

**Base Vol:** 262

---

**Volume Module: >> Count Date: 15 May 2013 << 8:00-9:00am**

- **Base Vol:** 0 608 38 12 178 0 359 223 66 45 0 37
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 ... 0.0 17.1 11.1 11.1 8.3 0.0 8.3
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**AdjDel/Veh:** 0.0 19.2 19.2 13.6 13.6 0.0 17.1 11.1 11.1 8.3 0.0 8.3

**LOS by Move:** A B B B B A B B B A A A

**HCM2kAvgQ:** 0 7 7 1 1 0 5 4 3 1 0 1

*Note: Queue reported is the number of cars per lane.*
**Intersection #67: 14th St / Harrison**

**2000 HCM 4-Way Stop (Base Volume Alternative)**

**Existing AM**

- **Intersection #67: 14th St / Harrison**
- **Signal=Stop/Rights=Include**
- **Base Vol:** 48
  - **Vol Cnt Date:** 5/15/2013
  - **Vol:** 89
  - **Cycle Time (sec):** 100
  - **Loss Time (sec):** 0
  - **Critical V/C:** 0.419
  - **Avg Crit Del (sec/veh):** 11.4
  - **Avg Delay (sec/veh):** 11.4
  - **LOS:** B
- **Street Name:** Harrison Street
- **Approach:** North Bound
  - **Volume:** 48
  - **Min. Green:** 0
  - **Growth Adj:** 1.00
  - **Initial Bse:** 22
  - **Base Vol:** 149
  - **Volume Module:** Count Date: 15 May 2013
  - **Capacity Analysis Module:**
    - **Vol:** 48
    - **Delay/Veh:** 11.7
    - **Loss by Move:** B
    - **Approach Del:** 11.7
    - **LOS by Apps:** B
    - **Note:** Queue reported is the number of cars per lane.

**Existing PM**

- **Base Vol:** 101
  - **Vol Cnt Date:** n/a
  - **Vol:** 63
  - **Cycle Time (sec):** 78
  - **Loss Time (sec):** 0
  - **Critical V/C:** 0.746
  - **Avg Crit Del (sec/veh):** 19.7
  - **Avg Delay (sec/veh):** 19.7
  - **LOS:** C
  - **Street Name:** Harrison Street
  - **Approach:** North Bound
    - **Volume:** 101
    - **Min. Green:** 0
    - **Growth Adj:** 1.00
    - **Initial Bse:** 29
    - **Base Vol:** 145
    - **Volume Module:** Count Date: 15 May 2013
    - **Capacity Analysis Module:**
      - **Vol:** 101
      - **Delay/Veh:** 16.6
      - **Loss by Move:** C
      - **Approach Del:** 16.6
      - **LOS by Apps:** C
      - **Note:** Queue reported is the number of cars per lane.
Intersection #68: 15th St / S Van Ness

**Level Of Service Computation Report**

**2000 HCM Operations (Base Volume Alternative)**

**Existing AM**

Intersection #68: 15th St / S Van Ness
Signal=Permit/Rights=Include

- Base Vol: 47
- Lanes: 0 1 0 1 0
- LS: 0 0
- Cycle Time (sec): 60
- Loss Time (sec): 9
- Critical V/C: 0.629
- Avg Crit Del (sec/veh): 17.4
- Avg Delay (sec/veh): 15.4
- LOS: B

**Street Name:** S Van Ness

- Approach: North Bound
  - Min. Green: 0 29 29 29 29
  - Base Vol: 82
  - Growth Adj: 1.00
  - User Adj: 1.00
  - PHF Adj: 0.92
  - PHF Volume: 89
  - Reduct Vol: 0
  - Reduced Vol: 89
  - PCE Adj: 1.00
  - MGF Adj: 1.00
  - Final Volume: 89
  - Sat/Lane: 1900 1900 1900
  - Adjustment: 0.64
  - Lanes: 0 1.70
  - Capacity Module:
    - Vol/Sat: 0.37
    - Crit Moves: ****

- Movement: L - R - L - T - R
- Volume Module: >> Count Date: 5/15/2013 << 8:00-9:00am
- Base Vol: 82
- Growth Adj: 1.00
- Initial Base: 82
- User Adj: 1.00
- PHF Adj: 0.92
- MGF Adj: 1.00
- Final Volume: 89
- Sat/Lane: 241
- Capacity Module:
  - Vol/Sat: 0.37
  - Crit Moves: ****

**Existing PM**

Intersection #68: 15th St / S Van Ness
Signal=Permit/Rights=Include

- Base Vol: 95
- Lanes: 0 1 0 1 0
- LS: 0 0
- Cycle Time (sec): 60
- Loss Time (sec): 9
- Critical V/C: 0.748
- Avg Crit Del (sec/veh): 20.0
- Avg Delay (sec/veh): 18.4
- LOS: B

**Street Name:** S Van Ness

- Approach: North Bound
  - Min. Green: 0 29 29 29 29
  - Base Vol: 77
  - Growth Adj: 1.00
  - User Adj: 1.00
  - PHF Adj: 0.97
  - PHF Volume: 79
  - Reduct Vol: 0
  - Reduced Vol: 79
  - PCE Adj: 1.00
  - MGF Adj: 1.00
  - Final Volume: 79
  - Sat/Lane: 242
  - Capacity Module:
    - Vol/Sat: 0.33
    - Crit Moves: ****

- Movement: L - R - L - T - R
- Volume Module: >> Count Date: 5/15/2013 << 8:00-9:00am
- Base Vol: 77
- Growth Adj: 1.00
- Initial Base: 77
- User Adj: 1.00
- PHF Adj: 0.97
- MGF Adj: 1.00
- Final Volume: 79
- Sat/Lane: 242
- Capacity Module:
  - Vol/Sat: 0.33
  - Crit Moves: ****

Note: Queue reported is the number of cars per lane.
**Intersection #69: 15th St / Folsom**

<table>
<thead>
<tr>
<th></th>
<th>Base Vol</th>
<th>Lanes</th>
<th>Signal/Perm Rights</th>
<th>Cycle Time (sec)</th>
<th>Vol Cnt Date</th>
<th>User DelAdj</th>
<th>AdjDel/Veh</th>
<th>LOS</th>
<th>Street Name</th>
<th>Base Vol</th>
<th>Lanes</th>
<th>Signal/Perm Rights</th>
<th>Cycle Time (sec)</th>
<th>Vol Cnt Date</th>
<th>User DelAdj</th>
<th>AdjDel/Veh</th>
<th>LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>35 607</td>
<td>28</td>
<td>0 0 1 ! 0 0</td>
<td>60</td>
<td>5/15/2013</td>
<td>1.00</td>
<td>11.1</td>
<td>B</td>
<td>Folsom St</td>
<td>55 528</td>
<td>17</td>
<td>7 493</td>
<td>104</td>
<td>10/3/2013</td>
<td>1.00</td>
<td>11.5</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>35 607</td>
<td>28</td>
<td>0 0 1 ! 0 0</td>
<td>60</td>
<td>5/15/2013</td>
<td>1.00</td>
<td>11.1</td>
<td>B</td>
<td>Folsom St</td>
<td>55 528</td>
<td>17</td>
<td>7 493</td>
<td>104</td>
<td>10/3/2013</td>
<td>1.00</td>
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<td>55 528</td>
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<td>7 493</td>
<td>104</td>
<td>10/3/2013</td>
<td>1.00</td>
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<td>0 0 1 ! 0 0</td>
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<td>5/15/2013</td>
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<td>11.1</td>
<td>B</td>
<td>Folsom St</td>
<td>55 528</td>
<td>17</td>
<td>7 493</td>
<td>104</td>
<td>10/3/2013</td>
<td>1.00</td>
<td>11.5</td>
<td>C</td>
</tr>
</tbody>
</table>

**Existing AM**

Intersection #69: 15th St / Folsom

<table>
<thead>
<tr>
<th></th>
<th>Base Vol</th>
<th>Lanes</th>
<th>Signal/Perm Rights</th>
<th>Cycle Time (sec)</th>
<th>Vol Cnt Date</th>
<th>User DelAdj</th>
<th>AdjDel/Veh</th>
<th>LOS</th>
<th>Street Name</th>
<th>Base Vol</th>
<th>Lanes</th>
<th>Signal/Perm Rights</th>
<th>Cycle Time (sec)</th>
<th>Vol Cnt Date</th>
<th>User DelAdj</th>
<th>AdjDel/Veh</th>
<th>LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>35 607</td>
<td>28</td>
<td>0 0 1 ! 0 0</td>
<td>60</td>
<td>5/15/2013</td>
<td>1.00</td>
<td>11.1</td>
<td>B</td>
<td>Folsom St</td>
<td>55 528</td>
<td>17</td>
<td>7 493</td>
<td>104</td>
<td>10/3/2013</td>
<td>1.00</td>
<td>11.5</td>
<td>C</td>
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<td>10/3/2013</td>
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**Existing PM**

Intersection #69: 15th St / Folsom

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<th>Vol Cnt Date</th>
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<th>AdjDel/Veh</th>
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<th>Street Name</th>
<th>Base Vol</th>
<th>Lanes</th>
<th>Signal/Perm Rights</th>
<th>Cycle Time (sec)</th>
<th>Vol Cnt Date</th>
<th>User DelAdj</th>
<th>AdjDel/Veh</th>
<th>LOS</th>
</tr>
</thead>
<tbody>
<tr>
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<td>28</td>
<td>0 0 1 ! 0 0</td>
<td>60</td>
<td>5/15/2013</td>
<td>1.00</td>
<td>11.1</td>
<td>B</td>
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<td>55 528</td>
<td>17</td>
<td>7 493</td>
<td>104</td>
<td>10/3/2013</td>
<td>1.00</td>
<td>11.5</td>
<td>C</td>
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<tr>
<td></td>
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<td>28</td>
<td>0 0 1 ! 0 0</td>
<td>60</td>
<td>5/15/2013</td>
<td>1.00</td>
<td>11.1</td>
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<td>10/3/2013</td>
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<td>C</td>
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<td>10/3/2013</td>
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<td>60</td>
<td>5/15/2013</td>
<td>1.00</td>
<td>11.1</td>
<td>B</td>
<td>Folsom St</td>
<td>55 528</td>
<td>17</td>
<td>7 493</td>
<td>104</td>
<td>10/3/2013</td>
<td>1.00</td>
<td>11.5</td>
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</table>
Level Of Service Computation Report  
2000 HCM 4-way Stop (Base Volume Alternative)  
Finding 10

Intersection #70: 15th St / Harrison

Signal=Stop
Signal=Stop

Street Name: Harrison Street  
15th Street

Approach: North Bound  
South Bound  
East Bound  
West Bound

Movement: L - T - R  
L - T - R  
L - T - R  
L - T - R

Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0

Volume Module: >> Count Date: 15 May 2013 << 8:00-9:00am

Base Vol: 83 260 6 12 684 159 16 1 23 4 13 11
Lanes: 0 1 0 1 0

Street Name: Harrison Street  
15th Street

Approach: North Bound  
South Bound  
East Bound  
West Bound

Movement: L - T - R  
L - T - R  
L - T - R  
L - T - R

Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0

Volume Module: >> Count Date: 15 May 2013 << 8:00-9:00am

Base Vol: 83 260 6 12 684 159 16 1 23 4 13 11
Lanes: 0 1 0 1 0

Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Base Volume Alternative)

**Intersection #71: 16th St/Mission**

**Signal=Permit/Rights=Include**

**Base Vol:** 
- North Bound: 234
- South Bound: 36
- East Bound: 2
- West Bound: 5

**Lanes:** 
- North Bound: 1
- South Bound: 1
- East Bound: 1
- West Bound: 1

**Cycle Time (sec):** 60

**Loss Time (sec):** 9

**Critical V/C:** 0.686

**Avg Crit Del (sec/veh):** 25.9

**Critical V/C:** 0.574

**Avg Crit Del (sec/veh):** 17.2

**Cycle Time (sec):** 60

**Loss Time (sec):** 9

**Note:** Queue reported is the number of cars per lane.

---

### Street Name: Mission Street

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>L T R</td>
<td>L T R</td>
<td>L T R</td>
<td>L T R</td>
<td>L T R</td>
</tr>
</tbody>
</table>

**Min. Green:** 
- North Bound: 25
- South Bound: 0
- East Bound: 25
- West Bound: 25

**User DelAdj:** 
- North Bound: 1.00
- South Bound: 1.00
- East Bound: 1.00
- West Bound: 1.00

**AdjDel/Veh:** 
- North Bound: 0.0
- South Bound: 12.1
- East Bound: 12.1
- West Bound: 10.4

**LOS by Move:** 
- North: B
- South: B
- East: B
- West: B

**HCM2kAvgQ:** 
- North: 4
- South: 4
- East: 4
- West: 3

---

### Street Name: 16th Street

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<th>East Bound</th>
<th>West Bound</th>
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</thead>
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<tr>
<td>L T R</td>
<td>L T R</td>
<td>L T R</td>
<td>L T R</td>
<td>L T R</td>
</tr>
</tbody>
</table>

**Min. Green:** 
- North Bound: 0
- South Bound: 25
- East Bound: 0
- West Bound: 25

**User DelAdj:** 
- North Bound: 1.00
- South Bound: 1.00
- East Bound: 1.00
- West Bound: 1.00

**AdjDel/Veh:** 
- North: 0.0
- South: 13.4
- East: 13.4
- West: 13.4

**LOS by Move:** 
- North: C
- South: C
- East: C
- West: C

**HCM2kAvgQ:** 
- North: 8
- South: 8
- East: 8
- West: 5
Level of Service Computation Report
2000 HCM Operations (Base Volume Alternative)

Intersection #72: 16th St / S Van Ness

Existing AM

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Signal</th>
<th>Base Vol</th>
<th>Lanes</th>
<th>Rights</th>
<th>Vol Cnt Date</th>
<th>Time (sec)</th>
<th>Min. Green</th>
<th>Y+R:</th>
<th>PCE Adj</th>
<th>LOS:</th>
<th>Cycle Time</th>
<th>Critical V/C</th>
<th>Traffic by Move</th>
<th>HCM2kAvgQ</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>#72: 16th St / S Van Ness</td>
<td>Permit</td>
<td>40 250 105</td>
<td>0 1 0</td>
<td>Include</td>
<td>5/15/2013 60</td>
<td>0 73</td>
<td>31 21 0 21</td>
<td>4.0 4.0 4.0 4.0</td>
<td>40 26</td>
<td>463</td>
<td>36.7</td>
<td>0 22</td>
<td>0.885</td>
<td>87</td>
<td>Queue reported is the number of cars per lane.</td>
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Existing PM

<table>
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<tr>
<th>Intersection</th>
<th>Signal</th>
<th>Base Vol</th>
<th>Lanes</th>
<th>Rights</th>
<th>Vol Cnt Date</th>
<th>Time (sec)</th>
<th>Min. Green</th>
<th>Y+R:</th>
<th>PCE Adj</th>
<th>LOS:</th>
<th>Cycle Time</th>
<th>Critical V/C</th>
<th>Traffic by Move</th>
<th>HCM2kAvgQ</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>#72: 16th St / S Van Ness</td>
<td>Permit</td>
<td>42 677 90***</td>
<td>0 1 0</td>
<td>Include</td>
<td>n/a</td>
<td>0 120</td>
<td>31 23 0 23</td>
<td>4.0 4.0 4.0 4.0</td>
<td>42 15</td>
<td>386</td>
<td>26</td>
<td>0 0</td>
<td>0.779</td>
<td>19.9</td>
<td>Queue reported is the number of cars per lane.</td>
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</table>
### Level Of Service Computation Report

#### 2000 HCM Operations (Base Volume Alternative)

**Intersection #73: 16th St / Folsom**

**Existing AM**

<table>
<thead>
<tr>
<th>Base Vol</th>
<th>Lanes:</th>
<th>Rights=Include</th>
<th>Vol Cnt</th>
<th>Date: 5/15/2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>66</td>
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<td>0</td>
<td>548***</td>
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</tr>
<tr>
<td>3</td>
<td>0</td>
<td>0</td>
<td>Avg Del (delay): 37.6</td>
<td>0</td>
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</table>

**Cycle Time (sec):** 60

**Loss Time (sec):** 10

**Critical V/C:** 0.880

**vg Crit Del (sec/veh):** 51.2

**vg Delay (sec/veh):** 37.6

**Cycle Time (sec):** 60

**Loss Time (sec):** 10

**Critical V/C:** 0.877

**vg Crit Del (sec/veh):** 29.5

**vg Delay (sec/veh):** 27.7

**Cycle Time (sec):** 60

**Loss Time (sec):** 10

**Critical V/C:** 0.877

**vg Crit Del (sec/veh):** 29.5

**vg Delay (sec/veh):** 27.7

---

**Street Name:** Folsom Street

**Approach:**

<table>
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<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
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<tbody>
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<td>North Bound</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>South Bound</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>East Bound</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>West Bound</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
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</table>

**Volume Module:**

- Base Vol: 43 554 57 35 193 25 66 548 38 19 357 53
- Growth Adj: 1.00 1.00 1.00 1.00 1.00
- User Adj: 1.00 1.00 1.00 1.00 1.00
- PHP Volume: 44 571 59 36 199 26 68 565 39 20 368 55
- Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
- PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- Final Volume: 44 571 59 36 199 26 68 565 39 20 368 55

**Satisfaction Flow Module:**

- Base Vol: 31 453 35 41 445 56 65 365 43 47 699 80
- Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- PHP Volume: 33 477 37 43 468 59 68 384 45 49 736 84
- Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
- PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- Final Volume: 33 477 37 43 468 59 68 384 45 49 736 84

**Capacity Analysis Module:**

- Vol/Sat: 0.05 0.46 0.46 0.12 0.16 0.16 0.27 0.27 0.27 0.17 0.17 0.17
- Crit Moves: ****

**Note:** Queue reported is the number of cars per lane.
### Level of Service Computation Report

**2000 HCM Operations (Base Volume Alternative)**

#### Existing AM

**Intersection #74: 16th St / Harrison**

**Signal=Permit**

<table>
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<th>Base Vol</th>
<th>Lanes</th>
<th>Rights=Include</th>
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<tbody>
<tr>
<td>29 288 87</td>
<td>0 1 0 1 0</td>
<td>5 0 5 0 5 0</td>
</tr>
</tbody>
</table>

**Cycle Time (sec): 60**

**Loss Time (sec): 10**

**Critical V/C: 0.661**

**Avg Del (sec/veh): 20.5**

**Adj Del (sec/veh): 49.3**

**LOS:** C

**Street Name:** Harrison Street

**Approach:** North Bound  South Bound  East Bound  West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
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<tbody>
<tr>
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<td>0 0 31 31</td>
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<td></td>
<td></td>
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<tr>
<td>Base Vol</td>
<td>31 272 56 87 288 29 25 579 37 32 379 62</td>
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<tr>
<td>Growth Adj</td>
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<td></td>
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<tr>
<td>User Adj</td>
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<td>PHP Volume</td>
<td>33 286 59 92 303 31 26 609 39 34 399 65</td>
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<td>Critical V/C</td>
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<td>LOS</td>
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#### existing PM

**Intersection #74: 16th St / Harrison**

**Signal=Permit**

<table>
<thead>
<tr>
<th>Base Vol</th>
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<th>Rights=Include</th>
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<tbody>
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<td>75 530 84</td>
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<td>5 0 5 0 5 0</td>
</tr>
</tbody>
</table>

**Cycle Time (sec): 60**

**Loss Time (sec): 10**

**Critical V/C: 0.809**

**Avg Del (sec/veh): 29.6**

**Adj Del (sec/veh): 54.9**

**LOS:** C

**Street Name:** Harrison Street

**Approach:** North Bound  South Bound  East Bound  West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>20 20 20 20 0 20 0 20 0</td>
<td>30 30 0 0 30 30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Base Vol</td>
<td>38 279 46 84 530 75 21 401 26 53 727 52</td>
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</tr>
<tr>
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</tr>
<tr>
<td>Critical V/C</td>
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<tr>
<td>Avg Del (sec/veh)</td>
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</tr>
<tr>
<td>Adj Del (sec/veh)</td>
<td>54.9</td>
<td></td>
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</tr>
<tr>
<td>LOS</td>
<td>C</td>
<td></td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

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**Sat/Lane:**

**Vol/Sat:** 2000 HCM

**Time:** 8:00-9:00am

**Volume Module:** >> Count Date: 15 May 2013 <<

**Base Vol:**

<table>
<thead>
<tr>
<th>Approach</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
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<td>1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900</td>
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<tr>
<td>South Bound</td>
<td>1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900</td>
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</tr>
<tr>
<td>East Bound</td>
<td>1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>West Bound</td>
<td>1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900</td>
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</tbody>
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**Capacity Analysis Module:**

**Vol/Sat:**

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<th>R</th>
<th>L</th>
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<tr>
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<tr>
<td>South Bound</td>
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<tr>
<td>East Bound</td>
<td>0.29 0.29 0.29 0.29 0.29 0.29 0.29 0.29 0.29 0.29 0.29</td>
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<td></td>
<td></td>
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<tr>
<td>West Bound</td>
<td>0.29 0.29 0.29 0.29 0.29 0.29 0.29 0.29 0.29 0.29 0.29</td>
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</tr>
</tbody>
</table>

**Sat/Lane:**

**Vol/Sat:** 2000 HCM

**Time:** 8:00-9:00am

**Volume Module:** >> Count Date: 15 May 2013 <<

**Base Vol:**

<table>
<thead>
<tr>
<th>Approach</th>
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<th>T</th>
<th>R</th>
<th>L</th>
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<td>South Bound</td>
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<tr>
<td>East Bound</td>
<td>5 0 5 0 5 0 5 0 5 0 5 0</td>
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</tr>
<tr>
<td>West Bound</td>
<td>5 0 5 0 5 0 5 0 5 0 5 0</td>
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</tbody>
</table>
Level of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Existing AM

Intersection #75: 16th St / Bryant
Signal=Permit/Rights=Include
Base Vol: 39 99 48
Lanes: 0 0 1! 0 0

Volume Module: > Count Date: 15 May 2013 << 8:00-9:00am
Min. Green: 20 20 20 20 20 20 20 20 20 20 20 20
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 0 0 0 0
Reduce Vol: 0 0 0 0
AdjVol: 0 0 0 0
Cycle Time (sec): 50
Loss Time (sec): 10
Critical V/C: 0.825
vg Crit Del (sec/veh): 25.4
vg Delay (sec/veh): 133

LOS: C

Street Name: Bryant Street 16th Street
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Min. Green: 20 20 20 20 20 20 20 20 20 20 20 20
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 0 0 0 0
Reduce Vol: 0 0 0 0
AdjVol: 0 0 0 0
Cycle Time (sec): 50
Loss Time (sec): 10
Critical V/C: 0.955
vg Crit Del (sec/veh): 45.2
vg Delay (sec/veh): 71

LOS: D

Level of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Existing PM

Intersection #75: 16th St / Bryant
Signal=Permit/Rights=Include
Base Vol: 61 200 68
Lanes: 0 0 1! 0 0

Volume Module: > Count Date: 15 May 2013 << 8:00-9:00am
Min. Green: 20 20 20 20 20 20 20 20 20 20 20 20
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 0 0 0 0
Reduce Vol: 0 0 0 0
AdjVol: 0 0 0 0
Cycle Time (sec): 50
Loss Time (sec): 10
Critical V/C: 0.825
vg Crit Del (sec/veh): 25.4
vg Delay (sec/veh): 133

LOS: C

Street Name: Bryant Street 16th Street
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Min. Green: 20 20 20 20 20 20 20 20 20 20 20 20
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 0 0 0 0
Reduce Vol: 0 0 0 0
AdjVol: 0 0 0 0
Cycle Time (sec): 50
Loss Time (sec): 10
Critical V/C: 0.955
vg Crit Del (sec/veh): 45.2
vg Delay (sec/veh): 71

LOS: D

Note: Queue reported is the number of cars per lane.
Existing Plus LRDP
**Level Of Service Computation Report**

**2000 HCM Operations (Future Volume Alternative)**

**Existing Plus Project AM**

**Intersection #1: Stanyan / Oak-Fell / Kezar**

- **Signal=Perm+Prot/Rights=Include**

- **Base+Add Vol:**
  - **130**
  - **617**
  - **292**

- **Lanes:**
  - **0**
  - **1**
  - **1**

- **Cycle Time:**
  - **90**

- **Critical V/C:**
  - **1.302**

- **Loss Time:**
  - **11**

- **Critical Del:**
  - **61.3**

- **Overall Del:**
  - **45.4**

- **Minimum Flow:**
  - **0**

- **Maximum Flow:**
  - **72**

- **Saturation Flow:**
  - **84**

- **Critical Del:**
  - **74.2**

- **Maximum Del:**
  - **58.9**

- **Vol/Sat:**
  - **0.00**

- **HCM2kAvgQ:**
  - **0**

- **Crit Moves:**
  - **0.25**

- **Green/Cycle:**
  - **0.25**

- **Delay:**
  - **0.00**

- **Veh:**
  - **0.16**

- **Loss By Move:**
  - **A F F D C C A C A B A**

- **Note:** Queue reported is the number of cars per lane.

**Street Name:**

- **Stanyan Street**
- **Kezar / Oak / Fell**

**Approach:**

- **North Bound**
- **South Bound**
- **East Bound**
- **West Bound**

**Movement:**

- **L - T - R**
- **L - T - R**

**Volume Module:**

- **Base Vol:**
  - **724**
  - **616**
  - **129**

- **Added Vol:**
  - **2**
  - **4**
  - **1**

- **User Adj:**
  - **1.00**

- **Initial Fut:**
  - **2012**

- **User Del:**
  - **10.00**

- **Final Volume:**
  - **733**

- **Saturation Flow Module:**

- **Sat/Lane:**
  - **1900 1900 1900 1900 1900 1900 1900 1900 1900**

- **Adj:**
  - **0.00**

- **Lanes:**
  - **0.00**

- **Final Sat.:**
  - **2790 76 743 267 521**

- **Capacity Analysis Module:**

- **Vol/Sat:**
  - **0.00**

- **Sat/Lane:**
  - **1900 1900 1900 1900 1900 1900 1900 1900 1900**

- **Adj:**
  - **0.00**

- **Lanes:**
  - **0.00**

- **Final Sat.:**
  - **2732 108 777 227 689**

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# Level Of Service Computation Report

## 2000 HCM Operations (Future Volume Alternative) - Existing Plus Project AM

### Intersection #2: 9th Ave / Lincoln

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 41 192 0

**Lanes:** 0 0 1

**Cycle Time (sec):** 90

**Loss Time (sec):** 10

**Critical V/C:** 1.018

**vg Crit Del (sec/veh):** 52.4

**vg Delay (sec/veh):** 39.1

**L O S:** D

**Street Name:** 9th Avenue  Lincoln Way

### Approach

<table>
<thead>
<tr>
<th>Movement</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Bound</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Bound</td>
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<td></td>
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</tr>
<tr>
<td>East Bound</td>
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<td></td>
</tr>
<tr>
<td>West Bound</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Volume Module:

| Base Vol | 2 399 | 51 | 0 | 193 | 41 | 1 1506 | 27 | 0 | 835 | 68 |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Growth Adj | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| Initial Base | | | | | | | | | | | |
| Added Vol | 0 | 1 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 3 | 0 |
| PassEvryVol | | | | | | | | | | | |
| Initial Put | 2 | 400 | 51 | 0 | 192 | 41 | 1 1508 | 27 | 0 | 838 | 68 |
| User Adj | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| PHE Volume | 2 | 404 | 52 | 0 | 194 | 41 | 1 1523 | 27 | 0 | 846 | 69 |
| Reduct Vol | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| User Adj | 2 | 404 | 52 | 0 | 194 | 41 | 1 1523 | 27 | 0 | 846 | 69 |
| PCE Adj | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| Prelim Volume | 1 252 | 73 | 0 | 316 | 133 | 0 1091 | 46 | 0 | 1983 | 77 |
| Reduct Vol | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| User Adj | 1 252 | 73 | 0 | 316 | 133 | 0 1091 | 46 | 0 | 1983 | 77 |
| Final Volume | 1 252 | 73 | 0 | 316 | 133 | 0 1091 | 46 | 0 | 1983 | 77 |

### Capacity Analysis Module:

| Vol/Sat | 0.33 0.33 0.33 0.00 0.15 0.15 0.57 0.57 0.00 0.32 0.32 |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Capacity | 4126 | 0 | 297 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| File: | | | | | |
| Note: | | | | | |

### Street Name:

9th Avenue  Lincoln Way

### Approach

<table>
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<tr>
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<th>L - T - R</th>
<th>L - T - R</th>
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</thead>
<tbody>
<tr>
<td>North Bound</td>
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<tr>
<td>South Bound</td>
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</tr>
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<td>East Bound</td>
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</tr>
<tr>
<td>West Bound</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

### Volume Module:

| Base Vol | 1 235 | 69 | 0 | 294 | 125 | 0 1021 | 43 | 0 | 1723 | 72 |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Growth Adj | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| Initial Base | | | | | | | | | | | |
| Added Vol | 0 | 2 | 0 | 0 | 3 | 0 | 5 | 0 | 0 | 9 | 0 |
| PassEvryVol | | | | | | | | | | | |
| Initial Put | 1 | 237 | 69 | 0 | 297 | 125 | 0 1026 | 43 | 0 | 1732 | 72 |
| User Adj | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| PHE Volume | 1 | 252 | 73 | 0 | 316 | 133 | 0 1091 | 46 | 0 | 1983 | 77 |
| Reduct Vol | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| User Adj | 1 252 | 73 | 0 | 316 | 133 | 0 1091 | 46 | 0 | 1983 | 77 |
| Final Volume | 1 252 | 73 | 0 | 316 | 133 | 0 1091 | 46 | 0 | 1983 | 77 |

### Capacity Analysis Module:

| Vol/Sat | 0.24 0.24 0.24 0.00 0.30 0.30 0.00 0.40 0.40 0.00 0.68 0.68 |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Capacity | 4126 | 0 | 297 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| File: | | | | | |
| Note: | | | | | |

---

**Note:** Queue reported is the number of cars per lane.
## Level Of Service Computation Report

### 2000 HCM Operations (Future Volume Alternative)

#### Intersection #3: 7th Ave / Lincoln

**Signal=Protect/Rights=Include**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th>Signal=Permit/Rights=Overlap</th>
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</thead>
<tbody>
<tr>
<td>0</td>
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<td></td>
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</tbody>
</table>

**Cycle Time (sec): 90**

**Loss Time (sec): 8**

**Critical V/C:** 0.964

**User DelAdj:** 1.00

**Critical V/C Delay (sec/veh):** 45.3

**Vehicle Delay (sec/veh):** 32.1

**LOS:** C

**Street Name:** 7th Avenue

**Approach:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
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</thead>
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<tr>
<td>L</td>
<td>T</td>
<td>R</td>
<td>L</td>
<td>T</td>
</tr>
</tbody>
</table>

**Min. Green:** 0 0 29 0 0 24 52 52 52 29 58 58

**Y+R:** 4.0 4.0 4.0 4.0 4.0 4.5 4.5 4.5 5.0 4.5 4.5

**Cycle Time (sec): 90**

**Loss Time (sec): 8**

**Critical V/C:** 0.828

**User DelAdj:** 1.00

**Critical V/C Delay (sec/veh):** 68.3

**Vehicle Delay (sec/veh):** 39.6

**LOS:** D

**Street Name:** Lincoln Way

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
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<tbody>
<tr>
<td>L</td>
<td>T</td>
<td>R</td>
<td>L</td>
<td>T</td>
</tr>
</tbody>
</table>

**Min. Green:** 0 0 38 0 0 24 43 43 43 38 58 58

**Y+R:** 4.0 4.0 4.0 4.0 4.0 4.5 4.5 4.5 5.0 4.5 4.5

**Volume Module:**

**Base Vol:** 0 0 231 0 0 51 0 231 79 484 1774 102

**Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Init Put:** 0 0 0 0 0 0 0 0 0 0 0 0

**User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Pivot Adj:** 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96

**User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**MLP Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**FinalVolume:** 0 0 227 0 0 51 0 231 79 484 1774 102

**Sat/Lane:** 1800 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

**Adjacent:** 1.00 1.00 0.62 1.00 1.00 0.69 1.00 0.75 0.74 0.71 0.74 0.74

**Lanes:** 0.00 0.00 1.00 0.00 0.00 1.00 0.00 1.89 0.11 1.00 1.77 0.23

**Final Sat.:** 0 0 1187 0 0 1303 0 2674 160 1539 2485 322

**Capacity Analysis Module:**

**Vol/Sat:** 0.00 0.00 0.82 0.00 0.00 0.00 0.00 0.82 0.00 0.00 0.00 0.00

**Growth:** 0.00 0.00 0.47 0.00 0.00 0.21 0.00 0.46 0.46 0.26 0.72 0.72

**Vol/Cap:** 0.00 0.00 0.49 0.00 0.00 0.07 0.00 0.91 0.91 0.97 0.50 0.50

**Uniform Del:** 0.00 0.00 0.00 35.6 0.00 28.2 28.2 41.6 7.1 7.1

**IncrementDel:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

**InitQueueDel:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

**Delay Adj:** 0.00 0.00 1.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

**Delay/Veh:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

**User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Delay Adj:** 0.00 0.00 1.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

**User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**LOS by Move:** A A C A A A A A A A A

**HCM2KAvgQ:** 0 0 0 0 0 0 0 0 0 0 0 0

Note: Queue reported is the number of cars per lane.
### Intersection #4: 4th Ave / Lincoln

#### 2000 HCM Unsignalized (Future Volume Alternative)

**Existing Plus Project AM**

- **Intersection #4:** 4th Ave / Lincoln
- **Signal:** Stop / Rights = Include
- **Base + Add Vol:** 0 0 0
- **Lanes:** 0 0 0 0
- **Cycle Time:** 100 seconds
- **Loss Time:** 0 seconds

**Critical V/C:** 3.0101

**vg Crit Del (sec/veh):** 5.01

**vg Delay (sec/veh):** 5.01

**LOS:** F

---

**Street Name:** 4th Avenue

**Approach:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>Northbound</th>
<th>Southbound</th>
<th>Eastbound</th>
<th>Westbound</th>
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</thead>
<tbody>
<tr>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td></td>
</tr>
</tbody>
</table>

#### 2000 HCM Unsignalized (Future Volume Alternative)

**Existing Plus Project PM**

- **Intersection #4:** 4th Ave / Lincoln
- **Signal:** Stop / Rights = Include
- **Base + Add Vol:** 0 0 0
- **Lanes:** 0 0 0 1
- **Cycle Time:** 100 seconds
- **Loss Time:** 0 seconds

**Critical V/C:** 1.6041

**vg Crit Del (sec/veh):** 2.01

**vg Delay (sec/veh):** 2.01

**LOS:** C

---

**Street Name:** 4th Avenue

**Approach:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>Northbound</th>
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<th>Eastbound</th>
<th>Westbound</th>
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<tbody>
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<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td></td>
</tr>
</tbody>
</table>

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**Note:** Queue reported is the number of cars per lane.
## Level Of Service Computation Report

### 2000 HCM Unsignalized (Future Volume Alternative)

### Intersection #5: Lincoln Way-Kezar Drive-Third Avenue

#### Existing Plus Project AM

<table>
<thead>
<tr>
<th>Lane Configuration</th>
<th>Base+Add Vol</th>
<th>Lane</th>
<th>Signal=Uncontrol/Rights=Include</th>
<th>Cycle Time (sec)</th>
<th>Los</th>
<th>Critical V/C</th>
<th>Avg Crit Del (sec/veh)</th>
<th>Avg Delay (sec/veh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base+Add Lanes</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>User Adj.</td>
<td>1.00 0.50</td>
<td>1.00</td>
<td>0.00 0.00</td>
<td>1.00 0.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPH Adj.</td>
<td>0.98 0.98</td>
<td>0.98</td>
<td>0.98 0.98</td>
<td>0.98 0.98</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Critical Gap:**

6.8 kph

**Follow-Up Time:**

3.5 kph

**Capacity Module:**

1177 kph

**Level Of Service Module:**

0.8 kph

**Control Delay:**

29.8 s

**Movement:**

LT - LTR - RT

**LOS by Movement:**

D

**Shrd Con Delay:**

23.0

**Approach LOS:**

C

**Note:** Queue reported is the number of cars per lane.

---

### Existing Plus Project PM

<table>
<thead>
<tr>
<th>Lane Configuration</th>
<th>Base+Add Vol</th>
<th>Lane</th>
<th>Signal=Uncontrol/Rights=Include</th>
<th>Cycle Time (sec)</th>
<th>Los</th>
<th>Critical V/C</th>
<th>Avg Crit Del (sec/veh)</th>
<th>Avg Delay (sec/veh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base+Add Lanes</td>
<td>0 0 2 0</td>
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</tr>
<tr>
<td>User Adj.</td>
<td>1.00 0.50</td>
<td>1.00</td>
<td>0.00 0.00</td>
<td>1.00 0.00</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>PPH Adj.</td>
<td>0.97 0.97</td>
<td>0.97</td>
<td>0.97 0.97</td>
<td>0.97 0.97</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Critical Gap:**

1.6 kph

**Follow-Up Time:**

1.6 kph

**Capacity Module:**

1179 kph

**Level Of Service Module:**

0.8 kph

**Control Delay:**

30.3 s

**Movement:**

LT - LTR - RT

**LOS by Movement:**

D

**Shrd Con Delay:**

29.3

**Approach LOS:**

D

**Note:** Queue reported is the number of cars per lane.
Intersection No: Stanyan / Frederick

**Level Of Service Computation Report**

2000 HCM Operations (Future Volume Alternative)

**Existing Plus Project AM**

Intersection #6: Stanyan / Frederick

Signal=Permit/Rights=Include

Base+Add Vol: 162  260     16

Lanes: 1 0 0  1 0

Cycle Time (sec): 60

Loses: 0 0 0  0 0

Loss Time (sec): 14

Critical V/C: 0.869

Avg Del (sec/veh): 37.1

vg Del (sec/veh): 26.7

vg Delay (sec/veh): 26.7

Delay Adj: 1.00 1.00  1.00 1.00 1.00

Delay/Veh: 37.4 37.4  37.4 37.4 37.4

User DelAdj: 1.00 1.00  1.00 1.00 1.00

LOS by Move:    D    D     D     B    B     B     D    C     C     B    B     B

HCM2kAvgQ:     11   11    11     7    7     3     5    4     4     5    5     5

Note: Queue reported is the number of cars per lane.

Street Name:                      Stanyan Street                   Frederick Street

Approach:      North Bound      South Bound       East Bound       West Bound

-------------|---------------||---------------||---------------||---------------|


Y+R:          9.0  9.0   9.0   9.0   9.0   9.0   9.0   9.0   9.0   9.0   9.0   9.0

Base Vol:      30  437    16    16  259   162   290  269    44    7  118    71

Growth Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00  1.00 1.00

InitPut: 0.95 0.95  0.95 0.95 0.95  0.95 0.95 0.95  0.95 0.95  0.95 0.95

User Adj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00  1.00 1.00

Critical V/C: 0.744

Avg Del (sec/veh): 29.1

vg Del (sec/veh): 24.4

LOS by Move:    C    C     C     C    C     B     C    B     B     C    C     C

HCM2kAvgQ:     9    9     9     7    7     3     5    4     4     5    5     5

Note: Queue reported is the number of cars per lane.

**Level Of Service Computation Report**

2000 HCM Operations (Future Volume Alternative)

**Existing Plus Project PM**

Intersection #6: Stanyan / Frederick

Signal=Permit/Rights=Include

Base+Add Vol: 253  383    60

Lanes: 1 0 0  1 0

Cycle Time (sec): 60

Loses: 0 0 0  0 0

Loss Time (sec): 14

Critical V/C: 0.744

Avg Del (sec/veh): 29.1

vg Del (sec/veh): 24.4

LOS by Move:    C    C     C     C    C     B     C    B     B     C    C     C

HCM2kAvgQ:     9    9     9     7    7     3     5    4     4     5    5     5

Note: Queue reported is the number of cars per lane.

Street Name:                      Stanyan Street                   Frederick Street

Approach:      North Bound      South Bound       East Bound       West Bound

-------------|---------------||---------------||---------------||---------------|


Y+R:          9.0  9.0   9.0   9.0   9.0   9.0   9.0   9.0   9.0   9.0   9.0   9.0

Base Vol:      39  351     8    60  380   253   202  156    69   24    144    72

Growth Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00  1.00 1.00

InitPut: 0.95 0.95  0.95 0.95 0.95  0.95 0.95 0.95  0.95 0.95  0.95 0.95

User Adj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00  1.00 1.00

Critical V/C: 0.744

Avg Del (sec/veh): 29.1

vg Del (sec/veh): 24.4

LOS by Move:    C    C     C     C    C     B     C    B     B     C    C     C

HCM2kAvgQ:     9    9     9     7    7     3     5    4     4     5    5     5

Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #7: 9th Ave / Irving**

**Signal=Permit/Rights=Include**

<table>
<thead>
<tr>
<th>Lanes</th>
<th>Base+Add Vol:</th>
<th>Critical V/C:</th>
<th>Avg Delay (sec):</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>24 158 49</td>
<td>0.576</td>
<td>17.4</td>
</tr>
<tr>
<td></td>
<td>0 0 1! 0 0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>136 117***</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>33 0 22</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Cycle Time (sec): 60**

**Loss Time (sec): 8**

**Volume Module:**

<table>
<thead>
<tr>
<th>Base Vol:</th>
<th>Growth Adj:</th>
<th>Critical V/C:</th>
<th>Avg Delay (sec):</th>
</tr>
</thead>
<tbody>
<tr>
<td>21 238 64 48 157 24</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td>0.576</td>
<td>17.4</td>
</tr>
<tr>
<td>21 239 64 49 158 24</td>
<td>0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21 239 64 49 158 24</td>
<td>0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Street Name:**

- **9th Avenue**
- **Irving Street**

**Approach:**

- **North Bound**
- **South Bound**
- **East Bound**
- **West Bound**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green:</td>
<td>31 31 31 31 31 31 21 21 21 21 21 21</td>
<td>139 139 139 139 139 139 139 139 139 139 139 139</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y+R:</td>
<td>4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cycle Time (sec):</td>
<td>60 60 60 60 60 60 112 112 112 112 112 112</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss Time (sec):</td>
<td>8 8 8 8 8 8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Critical V/C: 0.576**

**Avg Crit Del (sec/veh): 17.4**

**Critical V/C: 0.659**

**Avg Crit Del (sec/veh): 23.5**

**Volume Module:**

<table>
<thead>
<tr>
<th>Base Vol:</th>
<th>Growth Adj:</th>
<th>Critical V/C:</th>
<th>Avg Delay (sec):</th>
</tr>
</thead>
<tbody>
<tr>
<td>21 238 64 48 157 24</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td>0.659</td>
<td>23.5</td>
</tr>
<tr>
<td>21 239 64 49 158 24</td>
<td>0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21 239 64 49 158 24</td>
<td>0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Street Name:**

- **9th Avenue**
- **Irving Street**

**Approach:**

- **North Bound**
- **South Bound**
- **East Bound**
- **West Bound**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green:</td>
<td>32 32 32 32 32 32 20 20 20 20 20 20</td>
<td>139 139 139 139 139 139 139 139 139 139 139 139</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y+R:</td>
<td>4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Cycle Time (sec):</td>
<td>60 60 60 60 60 60 110 110 110 110 110 110</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss Time (sec):</td>
<td>8 8 8 8 8 8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Critical V/C: 0.659**

**Avg Crit Del (sec/veh): 23.5**

**Volume Module:**

<table>
<thead>
<tr>
<th>Base Vol:</th>
<th>Growth Adj:</th>
<th>Critical V/C:</th>
<th>Avg Delay (sec):</th>
</tr>
</thead>
<tbody>
<tr>
<td>21 238 64 48 157 24</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td>0.659</td>
<td>23.5</td>
</tr>
<tr>
<td>21 239 64 49 158 24</td>
<td>0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21 239 64 49 158 24</td>
<td>0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Street Name:**

- **9th Avenue**
- **Irving Street**

**Approach:**

- **North Bound**
- **South Bound**
- **East Bound**
- **West Bound**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green:</td>
<td>32 32 32 32 32 32 20 20 20 20 20 20</td>
<td>139 139 139 139 139 139 139 139 139 139 139 139</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y+R:</td>
<td>4.0 4.0 4.0 4.0 4.0 4.0 100 100 100 100 100 100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cycle Time (sec):</td>
<td>60 60 60 60 60 60 109 110 110 110 110 110</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss Time (sec):</td>
<td>8 8 8 8 8 8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</table>

**Critical V/C: 0.659**

**Avg Crit Del (sec/veh): 23.5**

**Volume Module:**

<table>
<thead>
<tr>
<th>Base Vol:</th>
<th>Growth Adj:</th>
<th>Critical V/C:</th>
<th>Avg Delay (sec):</th>
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</thead>
<tbody>
<tr>
<td>21 238 64 48 157 24</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td>0.659</td>
<td>23.5</td>
</tr>
<tr>
<td>21 239 64 49 158 24</td>
<td>0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21 239 64 49 158 24</td>
<td>0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90</td>
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<td></td>
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</table>
**Level Of Service Computation Report**

**2000 HCM Operations (Future Volume Alternative)**

**Existing Plus Project AM**

Intersection #8: 7th Ave / Irving

**Signal=Permit/Rights=Include**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th>Cycle Time (sec)</th>
<th>Loss Time (sec)</th>
<th>Κ</th>
<th>Avg Crit Del (sec/veh)</th>
<th>Avg Delay (sec/veh)</th>
<th>LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>67 387 14</td>
<td>0 1 0 1 0 0 0 1</td>
<td>75</td>
<td>10</td>
<td></td>
<td>26.8</td>
<td>42.3</td>
<td>C</td>
</tr>
</tbody>
</table>

**Cycle Time (sec): 75**

**Loss Time (sec): 10**

**Critical V/C: 0.700**

**vg Crit Del (sec/veh): 28.8**

**vg Delay (sec/veh): 24.3**

**Street Name:** 7th Avenue                      Irving Street

**Approach:** North Bound      South Bound       East Bound       West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>38</td>
<td>38</td>
<td>38</td>
<td>38</td>
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<td>28</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>28</td>
</tr>
</tbody>
</table>

**Volume Module:**

| Base Vol: 120 460 92 11 386 67 | 24 116 58 39 78 |
|---|---|---|---|---|---|---|
| Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| Added Vol: 0 1 8 3 1 0 0 7 0 5 4 0 |
| PassedByVol: 0 0 0 0 0 0 0 0 0 0 0 0 |
| Initial Put: 120 461 100 14 387 67 |
| User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |

**Critical V/C: 0.798**

**vg Crit Del (sec/veh): 31.1**

**vg Delay (sec/veh): 25.6**

**Street Name:** 7th Avenue                      Irving Street

**Approach:** North Bound      South Bound       East Bound       West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>38</td>
<td>38</td>
<td>38</td>
<td>38</td>
<td>38</td>
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<td>28</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>28</td>
</tr>
</tbody>
</table>

**Volume Module:**

| Base Vol: 112 290 69 22 478 94 | 25 99 74 82 168 19 |
|---|---|---|---|---|---|---|
| Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| Added Vol: 0 1 4 2 1 0 0 11 0 4 6 0 |
| PassedByVol: 0 0 0 0 0 0 0 0 0 0 0 0 |
| Initial Put: 112 291 73 24 478 94 |
| User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |

**Critical V/C: 0.823**

**vg Crit Del (sec/veh): 35.4**

**vg Delay (sec/veh): 29.0**

**Street Name:** 7th Avenue                      Irving Street

**Approach:** North Bound      South Bound       East Bound       West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>38</td>
<td>38</td>
<td>38</td>
<td>38</td>
<td>38</td>
<td>38</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>28</td>
</tr>
</tbody>
</table>

**Volume Module:**

| Base Vol: 120 460 92 11 386 67 | 24 116 58 39 78 |
|---|---|---|---|---|---|---|
| Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| Added Vol: 0 1 8 3 1 0 0 7 0 5 4 0 |
| PassedByVol: 0 0 0 0 0 0 0 0 0 0 0 0 |
| Initial Put: 120 461 100 14 387 67 |
| User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |

**Critical V/C: 0.798**

**vg Crit Del (sec/veh): 31.1**

**vg Delay (sec/veh): 25.6**

**LOS by Move:**    B    C     C     B    C     C     C    C     C     B    B     B

**HCM2kAvgQ:**      2    6     6     0     16    16     4    4     4     6    6

Note: Queue reported is the number of cars per lane.
## Level Of Service Computation Report

**2000 HCM 4-Way Stop (Future Volume Alternative)**

### Existing Plus Project AM

**Intersection #9: 4th Ave / Irving**

- **Signal=Stop/Rights=Include**
- **Base+Add Vol:** 29 76 70
- **Lanes:** 0 0 1
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0
- **Critical V/C:** 0.499
- **Critical Del (sec/veh):** 11.0
- **Delay (sec/veh):** 11.0

### Existing Plus Project PM

**Intersection #9: 4th Ave / Irving**

- **Signal=Stop/Rights=Include**
- **Base+Add Vol:** 69 128 32
- **Lanes:** 0 0 1
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0
- **Critical V/C:** 0.500
- **Critical Del (sec/veh):** 11.1
- **Delay (sec/veh):** 11.1

---

### Street Name: 4th Avenue

- **Approach:** North Bound
  - **Min. Green:** 0
  - **Volume Module:**
    - **Base Vol:** 12 46 26 67 76 29 36 257 10 7 143 9
    - **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
    - **Initial Bse:** 12 46 26 67 76 29 36 257 10 7 143 9
    - **ApprAdjDel:** 9.2 10.4 10.4 10.4
  - **LOS:** B
- **Saturation Flow Module:**
  - **Adjustment:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
  - **Min. Green:** 0
  - **Volume Module:**
    - **Base Vol:** 13 40 12 29 128 69 11 110 8 29 276 17
    - **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
    - **Initial Bse:** 13 40 12 29 128 69 11 110 8 29 276 17
    - **ApprAdjDel:** 9.1 10.7 10.7 10.7
  - **LOS:** B
- **Final Sat.:** 124 370 105 93 370 200 49 569 16 62 607 38

---

### Street Name: Irving Street

- **Approach:** South Bound
  - **Min. Green:** 0
  - **Volume Module:**
    - **Base Vol:** 12 46 26 67 76 29 36 257 10 7 143 9
    - **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
    - **Initial Bse:** 12 46 26 67 76 29 36 257 10 7 143 9
    - **ApprAdjDel:** 9.2 10.4 10.4 10.4
  - **LOS:** B
- **Saturation Flow Module:**
  - **Adjustment:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
  - **Min. Green:** 0
  - **Volume Module:**
    - **Base Vol:** 13 40 12 29 128 69 11 110 8 29 276 17
    - **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
    - **Initial Bse:** 13 40 12 29 128 69 11 110 8 29 276 17
    - **ApprAdjDel:** 9.1 10.7 10.7 10.7
  - **LOS:** B
- **Final Sat.:** 124 370 105 93 370 200 49 569 16 62 607 38

---

**Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM 4-Way Stop (Future Volume Alternative)

**Existing Plus Project AM**

**Intersection #10: 2nd Avenue / Irving**

**Signal=Stop/Rights=Include**

**Base+Add Vol:** 16 12*** 6

**Lanes:** 0 0 1! 0 0

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.464

**Avg Crit Del (sec/veh):** 10.3

**Avg Delay (sec/veh):** 10.3

**Street Name:** 2nd Avenue / Irving

**Approach:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td></td>
</tr>
</tbody>
</table>

**Volume Module:**

<table>
<thead>
<tr>
<th>Lanes</th>
<th>Base Vol</th>
<th>Growth Adj</th>
<th>Initial Bse</th>
<th>Appr Adj Del</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 0 1! 0 0</td>
<td>36 18 18 18 18</td>
<td>1.00 1.00 1.00 1.00 1.00</td>
<td>31 15 24 19 23</td>
<td>6.6 6.6 6.6 6.6 6.6</td>
</tr>
</tbody>
</table>

**LOS by Approach:**

| Movement | A | A | B | B | A |

| Movement | LOS by Approach | A | A | B | B | A |

**Capacity Analysis Module:**

| Vo1/Sat | 0.57 0.57 0.57 0.57 0.57 | 0.06 0.06 0.06 0.06 0.06 | 0.06 0.06 0.06 0.06 0.06 | 0.06 0.06 0.06 0.06 0.06 |

**Saturation Flow Module:**

| Lanes | 0.97 0.97 0.97 0.97 0.97 | 0.49 0.49 0.49 0.49 0.49 | 0.35 0.35 0.35 0.35 0.35 | 0.47 0.47 0.47 0.47 0.47 |

**Note:** Queue reported is the number of cars per lane.

---

### Level Of Service Computation Report

#### 2000 HCM 4-Way Stop (Future Volume Alternative)

**Existing Plus Project PM**

**Intersection #10: 2nd Avenue / Irving**

**Signal=Stop/Rights=Include**

**Base+Add Vol:** 42 10 5***

**Lanes:** 0 0 1! 0 0

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.479

**Avg Crit Del (sec/veh):** 10.9

**Avg Delay (sec/veh):** 10.9

**Street Name:** 2nd Avenue / Irving

**Approach:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td></td>
</tr>
</tbody>
</table>

**Volume Module:**

<table>
<thead>
<tr>
<th>Lanes</th>
<th>Base Vol</th>
<th>Growth Adj</th>
<th>Initial Bse</th>
<th>Appr Adj Del</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 0 1! 0 0</td>
<td>58 26 30 5 7</td>
<td>1.00 1.00 1.00 1.00 1.00</td>
<td>31 17 24 16 256</td>
<td>12</td>
</tr>
</tbody>
</table>

**LOS by Approach:**

| Movement | A | A | A | B |

**Saturation Flow Module:**

| Lanes | 0.95 0.95 0.95 0.95 0.95 | 0.53 0.53 0.53 0.53 0.53 | 0.09 0.09 0.09 0.09 0.09 | 0.17 0.17 0.17 0.17 0.17 |

**Capacity Analysis Module:**

| Vo1/Sat | 0.32 0.32 0.32 0.32 0.32 | 0.30 0.30 0.30 0.30 0.30 | 0.10 0.10 0.10 0.10 0.10 | 0.21 0.21 0.21 0.21 0.21 |

**Saturation Flow Module:**

| Lanes | 0.95 0.95 0.95 0.95 0.95 | 0.53 0.53 0.53 0.53 0.53 | 0.09 0.09 0.09 0.09 0.09 | 0.17 0.17 0.17 0.17 0.17 |

**Note:** Queue reported is the number of cars per lane.
Intersection #11: Arguello / Irving-Carl

**Level Of Service Computation Report**

**2000 HCM Unsignalized (Future Volume Alternative)**

**Existing Plus Project AM**

**Intersection #11: Arguello / Irving-Carl**

**Signal=Stop/Rights=Include**

**Base+Add Vol**: 36 70 26

**Lanes**: 0 0 1! 0 0

**Cycle Time (sec)**: 100

**Loss Time (sec)**: 0

**Critical V/C**: 0.184

**Avg Crit Del (sec/veh)**: 4.6

**Cycle Del (sec)**: 135

**Avg Delay (sec/veh)**: 4.6

**Street Name**: Arguello

**Approach**: North Bound

**Movement**: L T R

**Volume Module**: Base Vol: 3 8 6 26 70 34 22 128 135 35 92 35

**Initial Base**: 3 8 6 26 70 34 22 128 135 35 92 35

**Added Vol**: 9 1 6 0 0 0 0 7 12 6 0 0

**PasserByVol**: 0 0 0 0 0 0 0 0 0 0 0 0

**User Adj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**PHF Adj**: 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92

**PHF Volume**: 13 10 13 28 76 39 24 147 160 45 100 38

**Reduct Vol**: 0 0 0 0 0 0 0 0 0 0 0 0

**Final Volume**: 13 10 13 28 76 39 24 147 160 45 100 38

**Critical Gap Module**: Critical Gp: 7.1 6.5 6.2 7.1 6.5 6.2 4.1 xxxx xxxx

**FollowUpTim**: 3.5 4.0 3.3 3.5 4.0 3.3 2.2 xxxx xxxx

**Capacity Module**: ChfList Vol: 540 502 227 494 563 119 138 xxxx xxxx

**Potent Cap**: 452 472 813 486 436 933 1446 xxxx xxxx

**Move Cap**: 358 447 813 451 413 933 1446 xxxx xxxx

**Volume/Cap**: 0.04 0.02 0.02 0.06 0.18 0.04 0.02 0.04 0.04 0.04 0.04 0.04

**Level Of Service Module**: 0.1xxxx xxxx 0.1xxxx xxxx

**Control Del1**:xxxx xxxx xxxx 0.1xxxx 0.1xxxx 0.1xxxx 0.1xxxx

**LQD by Move**: A A A

**Movement**: LT - LTR - RT L2 - LTR - RT LT - LTR - LT LT - LTR - RT

**Shared Cap**: 482 xxxx xxxx 496 xxxx xxxx

**SharedQueue**: 0.2xxxx xxxx xxxx

**Shrd CondDel**: 13.1xxxx xxxx 15.2xxxx xxxx xxxx xxxx xxxx

**Shared LOS**: * B * * * *

**ApproachDel**: 13.1 15.2 xxxx xxxx

**ApproachLOS**: B C *

**Note**: Queue reported is the number of cars per lane.

---

**Interaction #11: Arguello / Irving-Carl**

**Level Of Service Computation Report**

**2000 HCM Unsignalized (Future Volume Alternative)**

**Existing Plus Project PM**

**Intersection #11: Arguello / Irving-Carl**

**Signal=Stop/Rights=Include**

**Base+Add Vol**: 79 12 36

**Lanes**: 0 0 1! 0 0

**Cycle Time (sec)**: 100

**Loss Time (sec)**: 0

**Critical V/C**: 0.289

**Avg Crit Del (sec/veh)**: 10.8

**Cycle Del (sec)**: 187

**A vg Delay (sec/veh)**: 10.8

**Street Name**: Arguello

**Approach**: North Bound

**Movement**: L T R

**Volume Module**: Base Vol: 91 83 50 36 10 78 116 183 4 7 138 45

**Initial Base**: 91 83 50 36 10 78 116 183 4 7 138 45

**Added Vol**: 8 4 5 0 2 1 0 4 10 4 0 0

**PasserByVol**: 0 0 0 0 0 0 0 0 0 0 0 0

**Initial Put**: 99 87 55 36 12 79 116 187 14 11 138 45

**User Adj**: 0.60 0.70 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**PHF Adj**: 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84

**PHF Volume**: 71 73 65 43 14 94 138 223 17 13 164 54

**Reduct Vol**: 0 0 0 0 0 0 0 0 0 0 0 0

**Final Volume**: 71 73 65 43 14 94 138 223 17 13 164 54

**Critical Gap Module**: Critical Gp: 7.1 6.5 6.2 7.1 6.5 6.2 4.1 xxxx xxxx

**FollowUpTim**: 3.5 4.0 3.3 3.5 4.0 3.3 2.2 xxxx xxxx

**Capacity Module**: ChfList Vol: 779 751 231 793 733 191 218 xxxx xxxx

**Potent Cap**: 313 340 808 306 348 851 1352 xxxx xxxx

**Move Cap**: 244 259 808 209 306 851 1352 xxxx xxxx

**Volume/Cap**: 0.29 0.24 0.08 0.21 0.05 0.11 0.10 xxxx xxxx

**Level Of Service Module**: 0.3xxxx xxxx 0.0xxxx xxxx

**Control Del1**:xxxx xxxx xxxx 0.3xxxx 0.3xxxx 0.3xxxx 0.3xxxx

**LQD by Move**: A A A

**Movement**: LT - LTR - RT L2 - LTR - RT LT - LTR - LT LT - LTR - RT

**Shared Cap**: 340 xxxx xxxx 417 xxxx xxxx

**SharedQueue**: 3.9xxxx xxxx xxxx

**Shrd CondDel**: 31.0xxxx xxxx 18.5xxxx xxxx xxxx xxxx

**Shared LOS**: * B * * * *

**ApproachDel**: 31.0 18.5 xxxx xxxx

**ApproachLOS**: D C *

**Note**: Queue reported is the number of cars per lane.
### Intersection #12: 9th Avenue / Judah Street

**Level Of Service Computation Report**

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>L T R</td>
<td>L T R</td>
<td>L T R</td>
<td>L T R</td>
<td>L T R</td>
</tr>
<tr>
<td>Min. Green</td>
<td>31 31 31 31 31 31</td>
<td>21 21 21 21 21 21</td>
<td>4.0 4.0 4.0 4.0 4.0 4.0</td>
<td>4.0 4.0 4.0 4.0 4.0 4.0</td>
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</table>

**Volume Module:**

<table>
<thead>
<tr>
<th>Base Vol</th>
<th>9 289</th>
<th>51</th>
<th>29</th>
<th>154</th>
<th>16</th>
<th>0</th>
<th>298</th>
<th>16</th>
<th>27 105 54</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Adj</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Base</td>
<td>9 289</td>
<td>51</td>
<td>29</td>
<td>154</td>
<td>16</td>
<td>0</td>
<td>298</td>
<td>16</td>
<td>27 105 54</td>
</tr>
<tr>
<td>Added Vol</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>PasserByVol</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Initial Put</td>
<td>9 289</td>
<td>51</td>
<td>30</td>
<td>154</td>
<td>16</td>
<td>0</td>
<td>300</td>
<td>16</td>
<td>108 55</td>
</tr>
<tr>
<td>User Adj</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
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</tr>
<tr>
<td>PFH Volume</td>
<td>9 301</td>
<td>53</td>
<td>31</td>
<td>160</td>
<td>17</td>
<td>0</td>
<td>313</td>
<td>17</td>
<td>28 113 57</td>
</tr>
<tr>
<td>Reduce Vol</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Reduce Vol</td>
<td>9 301</td>
<td>53</td>
<td>31</td>
<td>160</td>
<td>17</td>
<td>0</td>
<td>313</td>
<td>17</td>
<td>28 113 57</td>
</tr>
<tr>
<td>PCE Adj</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
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<tr>
<td>FinalVolume</td>
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<td>31</td>
<td>160</td>
<td>17</td>
<td>0</td>
<td>313</td>
<td>17</td>
<td>28 113 57</td>
</tr>
</tbody>
</table>

**Saturation Flow Module:**

| Sat/Lane | 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 |
|----------|---------------|---------------|---------------|---------------|
| Adj/ment | 0.71 0.71 0.71 0.71 0.71 0.71 0.71 0.71 0.71 0.71 0.71 0.71 |
| Lanes | 0.02 0.03 0.15 0.15 0.15 0.07 0.08 0.00 0.95 0.05 0.10 0.66 0.34 |
| Final Sat | 35 1119 197 191 978 102 | 0.147 | 907 1187 867 441 |

**Capacity Analysis Module:**

| Vol/Sat | 0.27 0.27 0.27 0.16 0.16 0.16 0.00 0.21 0.21 0.02 0.13 0.13 |
|---------|----------------|----------------|----------------|----------------|
| Crit Moves | **** | **** | **** | **** |
| Green/Cycle | 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 |
| Volume/Cap | 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 |
| Uniform Del | 9.6 9.6 9.6 8.4 8.4 8.4 | 0.0 | 16.0 16.0 13.0 14.6 14.6 |
| IncrementDel | 12.8 12.8 12.8 11.3 11.3 11.3 | 0.0 | 4.7 4.7 3.3 2.3 2.3 |
| IntqDel1 | 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 | 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 |
| Delay Adj | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| Delay/Veh | 12.4 12.4 12.4 9.7 9.7 9.7 | 0.0 | 20.7 20.7 13.3 16.9 16.9 |
| User Del/Adj | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| ADJ/veh | 30 30 30 30 30 30 30 30 30 30 30 30 |

**LOS by Move:**

<table>
<thead>
<tr>
<th>LOS by Move</th>
<th>B B B A A A C C B B B</th>
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</thead>
<tbody>
<tr>
<td>HCM2kAvgQ</td>
<td>2 2 2 5 5 5 5 5 5 5 5 5</td>
</tr>
</tbody>
</table>

Note: Queue reported is the number of cars per lane.
### Intersection #13: 7th Avenue / Judah Street

#### Traffic Flow and Signal Timing

**Approach:**
- **North Bound**
- **South Bound**
- **East Bound**
- **West Bound**

**Volume Module:**
- **Base Vol:** 73 557 90 26 381 24
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Delay/Veh:** 13.5 58.1 58.1 14.3 19.0 19.0 16.0 19.4 19.4 16.8 15.0 15.0
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Cycle Time:** 75
**Loss Time:** 8

**Critical V/C:** 0.779
**vg Crit Del (sec/veh):** 48.3
**vg Delay (sec/veh):** 33.6

**Street Name:**
- **7th Avenue**
- **Judah Street**

**LOS:**
- **C**

### Traffic Flow and Signal Timing

**Approach:**
- **North Bound**
- **South Bound**
- **East Bound**
- **West Bound**

**Volume Module:**
- **Base Vol:** 90 359 64 20 516 69
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Delay/Veh:** 22.9 20.2 20.2 11.0 36.8 36.8 14.0 18.2 18.2 16.5 18.8 18.8
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Cycle Time:** 75
**Loss Time:** 8

**Critical V/C:** 0.706
**vg Crit Del (sec/veh):** 31.3
**vg Delay (sec/veh):** 25.1

**Street Name:**
- **7th Avenue**
- **Judah Street**

**LOS:**
- **C**

---

**Capacity Analysis Module:**

**Vol/Sat:** 0.12 0.49 0.49 0.09 0.30 0.30 0.11 0.21 0.21 0.12 0.09 0.09

**Green/Cycle:** 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48

**Capacity:** 42 64 20 90 120 150

**User Del:** 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

**Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Delay/Veh:** 13.5 60.1 60.1 14.3 19.0 19.0 16.0 19.4 19.4 16.8 15.0 15.0

**LOS by Move:**
- **B**
- **E**
- **R**

**HCMAvgQ:** 1 8 1

Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

**2000 HCM 4-Way Stop (Future Volume Alternative)**

**Existing Plus Project AM**

**Intersection #14: 6th Avenue / Judah Street**

**Signal=Stop/Rights=Include**

**Base+Add Vol: 15  52  9***

**Lanes: 0 0 1! 0 0**

**Cycle Time (sec): 100**

**Loss Time (sec): 0**

**Critical V/C: 0.661**

**vg Crit Del (sec/veh): 17.2**

**vg Delay (sec/veh): 17.2**

**LOS:** C

**Street Name:** 6th Avenue / Judah Street

**Approach:**
- North Bound
- South Bound
- East Bound
- West Bound

**Min. Green:** [Details]

**Volume Module:**

- **Base Vol:** 6 250 118 9 52 15 26 315 8 73 233 38
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Critical V/C:** 0.751
- **vg Crit Del (sec/veh):** 17.4
- **vg Delay (sec/veh):** 17.4
- **LOS:** C

**Saturation Flow Module:**

- **Adjusted:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Lanes:** 0.02 0.67 0.31 0.12 0.68 0.20 0.07 0.91 0.02 0.21 0.68 0.11

**Capacity Analysis Module:**

- **Vol/Sat:** 0.66 0.66 0.66 0.66 0.66 0.66 0.66 0.66 0.66 0.66 0.66 0.66

---

### Level Of Service Computation Report

**2000 HCM 4-Way Stop (Future Volume Alternative)**

**Existing Plus Project PM**

**Intersection #14: 6th Avenue / Judah Street**

**Signal=Stop/Rights=Include**

**Base+Add Vol: 43  161  16***

**Lanes: 0 0 1! 0 0**

**Cycle Time (sec): 100**

**Loss Time (sec): 0**

**Critical V/C: 0.751**

**vg Crit Del (sec/veh): 17.4**

**vg Delay (sec/veh): 17.4**

**LOS:** C

**Street Name:** 6th Avenue / Judah Street

**Approach:**
- North Bound
- South Bound
- East Bound
- West Bound

**Min. Green:** [Details]

**Volume Module:**

- **Base Vol:** 9 150 79 16 161 43 25 222 19 114 269 33
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Critical V/C:** 0.751
- **vg Crit Del (sec/veh):** 17.4
- **vg Delay (sec/veh):** 17.4
- **LOS:** C

**Saturation Flow Module:**

- **Adjusted:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Lanes:** 0.04 0.63 0.33 0.07 0.73 0.20 0.09 0.84 0.07 0.27 0.65 0.08

**Capacity Analysis Module:**

- **Vol/Sat:** 0.48 0.48 0.48 0.48 0.46 0.46 0.46 0.52 0.52 0.52 0.75 0.75 0.75

---

**Note:** Queue reported is the number of cars per lane.
### Level of Service Computation Report

#### 2000 HCM Unsignalized (Future Volume Alternative)

**Existing Plus Project AM**

**Intersection #15: 5th Avenue / Judah Street**

**Signal=Stop/Rights=Include**

**Base+Add Vol:** 26  8  5

**Lanes:** 0 0 1! 0 0

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.252

**Avg Crit Del (sec/veh):** 4.9

**Critical Gap:** 6.5 6.2 7.1 6.5 6.2

**FollowUpTIme:** 4.0 3.3 4.0 3.3

**Volume/Cap:** 0.19 0.25 0.05 0.04 0.05 0.01 0.08 0.08

**LOS by Movement:** L T - R L T - R L T - R L T - R

**Shrd ConDel:** 22.9 19.9 19.9 19.9

**Approach Del:** 22.9 19.9

**Approach LOS:** C

**Note:** Queue reported is the number of cars per lane.

---

### Level of Service Computation Report

#### 2000 HCM Unsignalized (Future Volume Alternative)

**Existing Plus Project PM**

**Intersection #15: 5th Avenue / Judah Street**

**Signal=Stop/Rights=Include**

**Base+Add Vol:** 44  21  10

**Lanes:** 0 0 1! 0 0

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.213

**Avg Crit Del (sec/veh):** 7.2

**Critical Gap:** 6.5 6.2 7.1 6.5 6.2

**FollowUpTIme:** 3.5 4.0 3.3 3.5 4.0 3.3

**Volume/Cap:** 0.08 0.20 0.16 0.17 0.21 0.10 0.01 0.18

**LOS by Movement:** L T - R L T - R L T - R L T - R

**Shrd ConDel:** 28.6 43.6 46.0 43.6

**Approach Del:** 28.6

**Approach LOS:** D

**Note:** Queue reported is the number of cars per lane.
**Level Of Service Computation Report**

**2000 HCM 4-Way Stop (Future Volume Alternative)**

**Intersection #16: 4th Avenue / Parnassus**

**Signal=Stop/Rights=Include**

**Base+Add Vol:** 52 0 37

**Lanes:** 0 0 1

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.720

**Critical Del (sec/veh):** 15.2

**Note:** Queue reported is the number of cars per lane.

---

**Street Name:**

4th Avenue  Parnassus

**Approach:**

<table>
<thead>
<tr>
<th>Movement</th>
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<th>West Bound</th>
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<tbody>
<tr>
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<td>L  -  T  -  R</td>
<td>L  -  T  -  R</td>
<td>L  -  T  -  R</td>
<td>L  -  T  -  R</td>
</tr>
</tbody>
</table>

**Volume Module:**

**Base Vol:** 52 0 37

**Growth Adj:** 1.00 1.00 1.00 1.00

**User Adj:** 0 0 0 0

**PHF Adj:** 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95

**Reduced Vol:** 0 0 0 0

**Reduced Veh:** 0 0 0 0

**PCE Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**MLF Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Final Volume:** 0 0 0 0

**Saturation Flow Module:**

**Base Veh:** 52 0 37

**Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**User Adj:** 0 0 0 0

**PHF Adj:** 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86

**Reduced Veh:** 0 0 0 0

**PCE Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**MLF Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Final Volume:** 0 0 0 0

**Capacity Analysis Module:**

**Vol/Sat:** xxxxx xxxxx 0.16 0.00 0.16 0.72 0.72 xxxxx xxxxx 0.51 0.51

**Crit Misses:**

**Delay/Veh:** 0.0 0.0 0.0 9.5 9.5 9.5 18.2 18.2 0.0 0.0 12.3 12.3

**Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**AdjDelay/Veh:** 0.0 0.0 0.0 9.5 9.5 9.5 18.2 18.2 0.0 0.0 12.3 12.3

**LDG by Mov:** A A A A C C B B B B B B

**ApproachDel:** xxxxx 9 18.2 12.3

**Delay Adj:** xxxxx 1.00 1.00

**ApprDelayDel:** xxxxx 9.5 18.2 12.3

**LOS by Appr:** A A A A A A A A A A A A

**All Approach:** 0.0 0.0 0.0 0.2 0.2 2.3 2.3 2.3 1.0 1.0 1.0

**Note:** Queue reported is the number of cars per lane.

---

**Intersection #16: 4th Avenue / Parnassus**

**Signal=Stop/Rights=Include**

**Base+Add Vol:** 134 0 45

**Lanes:** 0 0 0

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.810

**Critical Del (sec/veh):** 20.0

**Note:** Queue reported is the number of cars per lane.

---

**Street Name:**

4th Avenue  Parnassus

**Approach:**

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<td>L  -  T  -  R</td>
<td>L  -  T  -  R</td>
</tr>
</tbody>
</table>

**Volume Module:**

**Base Veh:** 134 0 45

**Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**User Adj:** 0 0 0 0

**PHF Adj:** 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86

**Reduced Veh:** 0 0 0 0

**PCE Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**MLF Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Final Volume:** 0 0 0 0

**Saturation Flow Module:**

**Base Veh:** 0 0 0 45 0 134 33 346 0 0 438 42

**Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**User Adj:** 0 0 0 0

**PHF Adj:** 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86

**Reduced Veh:** 0 0 0 0 0 0 0 0 0 0 0 0

**PCE Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**MLF Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Final Volume:** 0 0 0 0 0 0 0 0 0 0 0 0

**Capacity Analysis Module:**

**Vol/Sat:** xxxxx xxxxx 0.36 0.00 0.36 0.67 0.67 0.00 0.00 0.61 0.61

**Crit Misses:**

**Delay/Veh:** 0.0 0.0 0.0 11.6 0.0 11.6 17.5 17.5 0.0 0.0 25.1 25.1

**Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**AdjDelay/Veh:** 0.0 0.0 0.0 11.6 0.0 11.6 17.5 17.5 0.0 0.0 25.1 25.1

**LDG by Mov:** A A A A A A A A A A A A

**ApproachDel:** 11.6 17.5 25.1

**Delay Adj:** xxxxx 1.00 1.00

**ApprDelayDel:** 11.6 17.5 25.1

**LOS by Appr:** A A A A A A A A A A A A

**All Approach:** 0.0 0.0 0.0 0.5 0.5 0.5 1.7 1.7 1.7 3.3 3.3 3.3

**Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Unsignalized (Future Volume Alternative)

**Existing Plus Project AM**

**Intersection #17: 3rd Avenue / Parnassus**

- **Signal=Stop/Rights=Include**
- **Base+Add Vol:** 17 0 13
- **Lanes:** 0 0 1! 0 0
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0
- **Aug Crit Del (sec/veh):** 0.8
- **Aug Delay (sec/veh):** 0.8
- **Critical V/C:** 0.070
- **Avg Crit Del (sec/veh):** 0.8
- **Avg Delay (sec/veh):** 0.8
- **Loss Time:** C
- **L O S: C**

**Street Name:** 3rd Avenue / Parnassus

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<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
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<tr>
<td>Volume Module:</td>
<td>Base Vol:</td>
<td>0 0 0 11 0 17 26 486 0 0 326 48</td>
<td>Growth Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
</tr>
<tr>
<td>Initial Vol:</td>
<td>0 0 0 11 0 17 26 486 0 0 326 48</td>
<td>Added Vol:</td>
<td>0 0 0 2 0 0 0 7 0 0 11 0</td>
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<tr>
<td>Initial Put:</td>
<td>0 0 0 13 0 17 26 493 0 0 337 48</td>
<td>User Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
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<tr>
<td>PHF Adj:</td>
<td>0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91</td>
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<tr>
<td>PHF Volume:</td>
<td>0 0 0 0 0 0 0 0 7 0 0 0 0 20</td>
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<tr>
<td>Initial Bse:</td>
<td>0 0 0 0 0 0 0 0 7 0 0 0 0 20</td>
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<td></td>
<td></td>
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<tr>
<td>Added Vol:</td>
<td>0 0 0 0 0 0 0 0 7 0 0 0 0 20</td>
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<tr>
<td>Critical Gap:</td>
<td>6.4 6.5 6.2 4.1</td>
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<tr>
<td>Follow Up Time:</td>
<td>3.5 4.0 3.3 2.2</td>
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<tr>
<td>Capacity:</td>
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<td>Level Of Service Module:</td>
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<tr>
<td>Level Of Service:</td>
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</tr>
</tbody>
</table>

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**Existing Plus Project PM**

**Intersection #17: 3rd Avenue / Parnassus**

- **Signal=Stop/Rights=Include**
- **Base+Add Vol:** 29 0 27
- **Lanes:** 0 0 1! 0 0
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0
- **Aug Crit Del (sec/veh):** 1.4
- **Aug Delay (sec/veh):** 1.4
- **Critical V/C:** 0.142
- **Avg Crit Del (sec/veh):** 1.4
- **Avg Delay (sec/veh):** 1.4
- **Loss Time:** C
- **L O S: C**

**Street Name:** 3rd Avenue / Parnassus

<table>
<thead>
<tr>
<th>Approach</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
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<td>Movement</td>
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<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
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<tr>
<td>Volume Module:</td>
<td>Base Vol:</td>
<td>0 0 0 26 0 29 20 378 0 0 422 60</td>
<td>Growth Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
</tr>
<tr>
<td>Initial Vol:</td>
<td>0 0 0 26 0 29 20 378 0 0 422 60</td>
<td>Added Vol:</td>
<td>0 0 0 1 0 0 0 6 0 0 11 0</td>
<td></td>
</tr>
<tr>
<td>Initial Put:</td>
<td>0 0 0 27 0 29 20 384 0 0 433 60</td>
<td>User Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
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<tr>
<td>PHF Adj:</td>
<td>0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>PHF Volume:</td>
<td>0 0 0 0 0 0 0 0 7 0 0 0 0 20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Bse:</td>
<td>0 0 0 0 0 0 0 0 7 0 0 0 0 20</td>
<td></td>
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<tr>
<td>Added Vol:</td>
<td>0 0 0 0 0 0 0 0 7 0 0 0 0 20</td>
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<tr>
<td>Critical Gap Module:</td>
<td></td>
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<tr>
<td>Critical Gap:</td>
<td>6.4 6.5 6.2 4.1</td>
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<tr>
<td>Follow Up Time:</td>
<td>3.5 4.0 3.3 2.2</td>
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<td>Capacity Module:</td>
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<tr>
<td>Capacity:</td>
<td>2453 2453 2453 2453</td>
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<tr>
<td>Level Of Service Module:</td>
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<tr>
<td>Level Of Service:</td>
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</tbody>
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Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

**2000 HCM Unsignalized (Future Volume Alternative)**

**Existing Plus Project AM**

**Intersection #18: Hillway / Parnassus**

**Signal=Stop/Rights=Include**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th>Signal=Uncontrol</th>
<th>Rights=Include Vol Cnt Date</th>
<th>Rights=Include Lanes</th>
<th>Base+Add</th>
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<tbody>
<tr>
<td>21</td>
<td>0</td>
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</tbody>
</table>

**Cycle Time (sec): 100**

**Loss Time (sec): 0**

**Critical V/C: 0.049**

**vg Crit Del (sec/veh): 0.9**

**vg Delay (sec/veh): 0.9**

**Los: B**

**Volume Module:**

- Base Vol: 0 0 0 21 51 348 4 0 347 39
- Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- Initial Base: 0 0 0 3 0 21 51 348 4 0 347 39
- Added Vol: 0 0 0 0 0 0 0 3 0 0 0 8 0
- PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0 0
- Initial Jul: 0 0 0 3 0 21 51 351 4 0 355 39
- User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- PHF Adj: 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98
- PHF Volume: 0 0 0 3 0 21 52 358 4 0 362 40
- Reduce Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0
- Final Volume: 0 0 0 3 0 21 52 359 4 0 362 40

**Approach:**

- **North Bound**
  - L - T - R
- **South Bound**
  - L - T - R
- **East Bound**
  - L - T - R
- **West Bound**
  - L - T - R

**Approach Del:**

- North Bound: xxxxxx 13.1 15.4
- South Bound: C

**Approach LOS:**

- North Bound: B
- South Bound: C

**Note:** Queue reported is the number of cars per lane.

---

**Level Of Service Computation Report**

**2000 HCM Unsignalized (Future Volume Alternative)**

**Existing Plus Project PM**

**Intersection #18: Hillway / Parnassus**

**Signal=Stop/Rights=Include**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th>Signal=Uncontrol</th>
<th>Rights=Include Vol Cnt Date</th>
<th>Rights=Include Lanes</th>
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<td>32</td>
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</tbody>
</table>

**Cycle Time (sec): 100**

**Loss Time (sec): 0**

**Critical V/C: 0.077**

**vg Crit Del (sec/veh): 1.2**

**vg Delay (sec/veh): 1.2**

**Los: C**

**Volume Module:**

- Base Vol: 0 0 0 12 0 32 22 297 0 0 333 31
- Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- Initial Base: 0 0 0 12 0 32 22 297 0 0 333 31
- Added Vol: 0 0 0 0 0 0 0 1 0 0 5 0
- PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0 0
- Initial Jul: 0 0 0 12 0 32 22 298 0 0 338 31
- User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- PHF Adj: 0.83 0.83 0.83 0.83 0.83 0.83 0.83 0.83 0.83 0.83 0.83 8.83
- PHF Volume: 0 0 0 14 0 39 27 359 5 0 407 37
- Reduce Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0
- Final Volume: 0 0 0 14 0 39 27 359 5 0 407 37

**Approach:**

- **North Bound**
  - L - T - R
- **South Bound**
  - L - T - R
- **East Bound**
  - L - T - R
- **West Bound**
  - L - T - R

**Approach Del:**

- North Bound: xxxxxx 15.4 15.4
- South Bound: C

**Approach LOS:**

- North Bound: B
- South Bound: C

**Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Unsignalized (Future Volume Alternative)

#### Existing Plus Project AM

**Intersection #19: Hill Point / Parnassus**

- **Signal=Stop/Rights=Include**
- **Base+Add Vol:** 9 0 5
- **Lanes:** 0 0 1

**Critical V/C:** 0.140

**Avg Crit Del (sec/veh):** 1.8

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Approach Del:** 16.7

**Note:** Queue reported is the number of cars per lane.

#### Level Of Service Computation Report

#### 2000 HCM Unsignalized (Future Volume Alternative)

#### Existing Plus Project PM

**Intersection #19: Hill Point / Parnassus**

- **Signal=Stop/Rights=Include**
- **Base+Add Vol:** 7 0 7
- **Lanes:** 0 0 1

**Critical V/C:** 0.106

**Avg Crit Del (sec/veh):** 1.6

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Approach Del:** 16.4

**Note:** Queue reported is the number of cars per lane.
Intersection #20: Stanyan / Parnassus

Street Name: Stanyan
Approach: North Bound
Vol: 124 210 13 18 143 106 5 161
Lane: 0 0 1 0 0
YRt: 0 0 0 0 0
Delay Adj: 1.00 1.00 1.00 1.00 1.00
Delay/Veh: 18.5 18.5 18.5 15.1 15.1
User DelAdj: 1.00 1.00 1.00 1.00 1.00
LOS: D

HCM2kAvgQ: 7 7 7 6 6 14 14 5 5

Note: Queue reported is the number of cars per lane.

Capacity Analysis Module:
Vol/Sat: 0.35 0.35 0.35 0.31 0.31 0.31 0.39 0.39 0.39 0.21 0.21 0.21
Crt Moves: ****
Green/Cycle: 0.50 0.50 0.50 0.50 0.50 0.35 0.35 0.35 0.35 0.35
Volume/Cap: 0.69 0.69 0.69 0.69 0.69 0.61 0.61 0.61 0.61 0.61
Uniform Del: 11.5 11.5 11.5 10.8 10.8 10.8 19.5 19.5 19.5 16.1 16.1 16.1
IncMntDel: 7.0 7.0 7.0 4.3 4.3 4.3 87.0 87.0 87.0 5.9 5.9 5.9
IntQDel: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Delay/Veh: 18.5 18.5 18.5 15.1 15.1 15.1 16.3 16.3 16.3 22.0 22.0 22.0
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Yhr: 18.5 18.5 18.5 15.1 15.1 15.1 26.0 26.0 26.0
LOS by Move: B B B B B B E E E B B B
HCM2kAvgQ: 7 7 7 6 6 14 14 5 5 5
Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #21: 7th Avenue / Kirkham Street**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 53

**Lanes:** 0 0 1

**Cycle Time (sec):** 75

**Loss Time (sec):** 8

**Critical V/C:** 1.149

**vg Crit Del (sec/veh):** 105.7

**vg Delay (sec/veh):** 74.0

**L O S:** E

**Street Name:** 7th Avenue / Kirkham Street

**Approach:**
- **North Bound**
- **South Bound**
- **East Bound**
- **West Bound**

<table>
<thead>
<tr>
<th>Movement</th>
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<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
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<td>Min. Green</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
</tr>
<tr>
<td>YR (sec)</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
</tr>
</tbody>
</table>

**Volume Module:**

- **Base Vol:** 96
- **Growth Adj:** 1.00
- **Delay Adj:** 1.00
- **Delay/Veh:** 105.8
- **User DelAdj:** 1.00
- **LOS by Move:** F

**HCM2kAvgQ:** 39

Note: Queue reported is the number of cars per lane.

---

### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #21: 7th Avenue / Kirkham Street**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 78

**Lanes:** 0 0 1

**Cycle Time (sec):** 75

**Loss Time (sec):** 8

**Critical V/C:** 0.891

**vg Crit Del (sec/veh):** 35.8

**vg Delay (sec/veh):** 31.0

**L O S:** C

**Street Name:** 7th Avenue / Kirkham Street

**Approach:**
- **North Bound**
- **South Bound**
- **East Bound**
- **West Bound**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
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<tbody>
<tr>
<td>Min. Green</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
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</tr>
<tr>
<td>YR (sec)</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
</tr>
</tbody>
</table>

**Volume Module:**

- **Base Vol:** 75
- **Growth Adj:** 1.00
- **Delay Adj:** 1.00
- **Delay/Veh:** 29.3
- **User DelAdj:** 1.00
- **LOS by Move:** C

**HCM2kAvgQ:** 17

Note: Queue reported is the number of cars per lane.
### 6th Avenue/Kirkham Street

#### Existing Plus Project AM

<table>
<thead>
<tr>
<th>Street Name:</th>
<th>6th Avenue</th>
<th>Kirkham Street</th>
</tr>
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<tbody>
<tr>
<td>Approach:</td>
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<td>South Bound</td>
</tr>
<tr>
<td>Movement:</td>
<td>L - T - R</td>
<td>L - T - R</td>
</tr>
</tbody>
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**Volume Module:**

<table>
<thead>
<tr>
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<th>Base Vol</th>
<th>Growth Adj</th>
<th>Initial Base</th>
<th>ApprAdjVol</th>
<th>LOS</th>
<th>AllWayAvgQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>11 262</td>
<td>1.00</td>
<td>11 262</td>
<td>26 54</td>
<td>B</td>
<td>0.7</td>
</tr>
<tr>
<td>1</td>
<td>123</td>
<td>1.00</td>
<td>123</td>
<td>54 21</td>
<td>B</td>
<td>0.7</td>
</tr>
<tr>
<td>2</td>
<td>85 48</td>
<td>1.00</td>
<td>85 48</td>
<td>21 0</td>
<td>B</td>
<td>0.7</td>
</tr>
<tr>
<td>3</td>
<td>99 90</td>
<td>1.00</td>
<td>99 90</td>
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<td>B</td>
<td>0.7</td>
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**Saturation Flow Module:**

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<th>Growth Adj</th>
<th>Initial Base</th>
<th>ApprAdjVol</th>
<th>LOS</th>
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<td>99 90</td>
<td>0</td>
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<td>0.7</td>
</tr>
</tbody>
</table>

**Capacity Analysis Module:**

<table>
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<th>Base Vol</th>
<th>Growth Adj</th>
<th>Initial Base</th>
<th>ApprAdjVol</th>
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<td>1.00</td>
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<td>0.7</td>
</tr>
</tbody>
</table>

**Note:** Queue reported is the number of cars per lane.

#### Existing Plus Project PM

<table>
<thead>
<tr>
<th>Street Name:</th>
<th>6th Avenue</th>
<th>Kirkham Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approach:</td>
<td>North Bound</td>
<td>South Bound</td>
</tr>
<tr>
<td>Movement:</td>
<td>L - T - R</td>
<td>L - T - R</td>
</tr>
</tbody>
</table>

**Volume Module:**

<table>
<thead>
<tr>
<th>Lane</th>
<th>Base Vol</th>
<th>Growth Adj</th>
<th>Initial Base</th>
<th>ApprAdjVol</th>
<th>LOS</th>
<th>AllWayAvgQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>21 158</td>
<td>1.00</td>
<td>21 158</td>
<td>103 186</td>
<td>B</td>
<td>0.9</td>
</tr>
<tr>
<td>1</td>
<td>57 111</td>
<td>1.00</td>
<td>57 111</td>
<td>103 186</td>
<td>B</td>
<td>0.9</td>
</tr>
<tr>
<td>2</td>
<td>177 99</td>
<td>1.00</td>
<td>177 99</td>
<td>103 186</td>
<td>B</td>
<td>0.9</td>
</tr>
<tr>
<td>3</td>
<td>99 51</td>
<td>1.00</td>
<td>99 51</td>
<td>103 186</td>
<td>B</td>
<td>0.9</td>
</tr>
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</table>

**Saturation Flow Module:**

<table>
<thead>
<tr>
<th>Lane</th>
<th>Base Vol</th>
<th>Growth Adj</th>
<th>Initial Base</th>
<th>ApprAdjVol</th>
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<td>177 99</td>
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<td>99 51</td>
<td>103 186</td>
<td>B</td>
<td>0.9</td>
</tr>
</tbody>
</table>

**Capacity Analysis Module:**

<table>
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<tr>
<th>Lane</th>
<th>Base Vol</th>
<th>Growth Adj</th>
<th>Initial Base</th>
<th>ApprAdjVol</th>
<th>LOS</th>
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<td>1.00</td>
<td>99 51</td>
<td>103 186</td>
<td>B</td>
<td>0.9</td>
</tr>
</tbody>
</table>

**Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

**2000 HCM 4-Way Stop (Future Volume Alternative)**

**Existing Plus Project AM**

**Intersection #23: 5th Avenue / Kirkham Street**

**Signal=Stop/Rights=Include**

**Base+Add Vol:** 50  3***  48

**Lanes:** 0 0 1! 0 0

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.309

**Avg Crit Del (sec/veh):** 8.6

**Avg Delay (sec/veh):** 8.6

**LOS:** A

**Street Name:** 5th Avenue / Kirkham Street

**Approach**

**North Bound**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L - T - R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>0</td>
</tr>
<tr>
<td>Volume Module:</td>
<td>Base Vol: 9 15 0 47 3 50 107 99 11 1 36 28</td>
</tr>
</tbody>
</table>

**South Bound**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L - T - R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>0</td>
</tr>
<tr>
<td>Volume Module:</td>
<td>Base Vol: 9 15 0 47 3 50 107 99 11 1 36 28</td>
</tr>
</tbody>
</table>

**East Bound**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L - T - R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>0</td>
</tr>
<tr>
<td>Volume Module:</td>
<td>Base Vol: 9 15 0 47 3 50 107 99 11 1 36 28</td>
</tr>
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</table>

**West Bound**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L - T - R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>0</td>
</tr>
<tr>
<td>Volume Module:</td>
<td>Base Vol: 9 15 0 47 3 50 107 99 11 1 36 28</td>
</tr>
</tbody>
</table>

**Capacity Analysis Module:**

**Vol/Sat:** 0.38 0.62 0.00 0.48 0.03 0.49 0.48 0.47 0.05 0.01 0.58 0.41

**Final Sat.:** 262 407 0.00 369 375 40 12 467 339

**LOS by Appr:** A

**AllWayAvgQ:** 0.0 0.0 0.0 0.3 0.3 0.3 0.2 0.2 0.2 0.3 0.3 0.3

---

**Street Name:** 5th Avenue / Kirkham Street

**Approach**

**North Bound**

<table>
<thead>
<tr>
<th>Movement</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>0</td>
</tr>
<tr>
<td>Volume Module:</td>
<td>Base Vol: 147 11 39</td>
</tr>
</tbody>
</table>

**South Bound**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L - T - R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>0</td>
</tr>
<tr>
<td>Volume Module:</td>
<td>Base Vol: 147 11 39</td>
</tr>
</tbody>
</table>

**East Bound**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L - T - R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>0</td>
</tr>
<tr>
<td>Volume Module:</td>
<td>Base Vol: 147 11 39</td>
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**West Bound**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L - T - R</th>
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<tbody>
<tr>
<td>Min. Green</td>
<td>0</td>
</tr>
<tr>
<td>Volume Module:</td>
<td>Base Vol: 147 11 39</td>
</tr>
</tbody>
</table>

**Capacity Analysis Module:**

**Vol/Sat:** 0.38 0.62 0.00 0.48 0.03 0.49 0.48 0.47 0.05 0.01 0.58 0.41

**Final Sat.:** 437 230 0.00 363 23 376 0.00 31 0 579 190

Note: Queue reported is the number of cars per lane.
Intersection #24: King/3rd

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
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</thead>
<tbody>
<tr>
<td>Lanes</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Volume</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>LOS</td>
<td>D</td>
<td>E</td>
<td>D</td>
<td>E</td>
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</table>

Street Name: 3rd Street

Approach:

<table>
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<tr>
<th>Movement</th>
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<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lanes</td>
<td>53</td>
<td>53</td>
<td>53</td>
<td>53</td>
</tr>
<tr>
<td>Volume</td>
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<td>255</td>
<td>0</td>
</tr>
<tr>
<td>LOS</td>
<td>C</td>
<td>C</td>
<td>C</td>
<td>A</td>
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Saturation Flow Module:

<table>
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<tr>
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<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
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</thead>
<tbody>
<tr>
<td>Lanes</td>
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<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Volume</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>LOS</td>
<td>D</td>
<td>E</td>
<td>D</td>
<td>E</td>
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</tbody>
</table>

Capacity Analysis Module:

| Volume | 0.18 0.18 0.30 0.00 0.00 0.00 0.16 0.29 0.29 0.15 0.26 0.26 |
|--------|-----------------|-----------------|-----------------|-----------------|
| Green/Cycle | ***  | ***  | ***  | ***  | ***  |
| Uniform Del | 27.8 27.8 20.4 0.0 0.0 45.9 34.3 34.3 47.5 35.5 35.5 |
| Increment Del | 0.8 0.8 4.2 0.0 0.0 30.4 10.2 10.2 82.9 8.9 8.9 |
| InitQueDel | 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 |
| Delay Adj | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| Delay/Veh | 28.6 28.6 24.6 0.0 0.0 76.3 44.4 44.4 130.4 44.4 44.4 |
| LOS by Move | C C C A A A E D E D D | HCM2kAvgQ | 7 7 9 0 0 0 14 14 15 16 16 |

Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #25: King/4th**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 203 761*** 72

**Lanes:** 1 1 1 0 1

**Cycle Time (sec):** 110

**Loss Time (sec):** 19

**Critical V/C:** 0.771

**Avg Crit Del (sec/veh):** 46.4

**Avg Delay (sec/veh):** 43.7

**Firefox D**

**Critical V/C:** 0.634

**Avg Crit Del (sec/veh):** 56.8

**Avg Delay (sec/veh):** 53.4

**Firefox D**

<table>
<thead>
<tr>
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<th>4th Street</th>
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</thead>
<tbody>
<tr>
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<td>South Bound</td>
</tr>
<tr>
<td></td>
<td>East Bound</td>
<td>West Bound</td>
</tr>
<tr>
<td>Movement:</td>
<td>L  -  T  -  R</td>
<td>L  -  T  -  R</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Growth Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00</td>
<td>1.00 1.00 1.00 1.00 1.00</td>
</tr>
<tr>
<td>Initial Vol:</td>
<td>28 28 28 28 28</td>
<td>86 86 86 86 86</td>
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<tr>
<td>Added Vol:</td>
<td>0 0 0 0 0</td>
<td>0 0 0 0 0</td>
</tr>
<tr>
<td>Passing Vol:</td>
<td>0 0 0 0 0</td>
<td>0 0 0 0 0</td>
</tr>
<tr>
<td>Initial Put:</td>
<td>7 54 35 72 76i 203</td>
<td>86 86 86 86 86</td>
</tr>
<tr>
<td>User Adj:</td>
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<td>1.00 1.00 1.00 1.00 1.00</td>
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<tr>
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<td>1.00 1.00 1.00 1.00 1.00</td>
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<td>MIL Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00</td>
<td>1.00 1.00 1.00 1.00 1.00</td>
</tr>
<tr>
<td>Final Volume:</td>
<td>8 58 38 77 818 218</td>
<td>92 1433 1 55 817 29</td>
</tr>
</tbody>
</table>

**Saturation Flow Module:**

| Sat/Lane: | 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 |
|           | 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 |
| Adj/ment: | 0.78 0.78 0.69 0.69 0.58 0.58 0.58 0.58 0.58 0.58 0.58 0.58 |
| Lanes:    | 0.11 0.89 1.00 1.00 2.00 1.00 2.00 1.00 3.00 3.00 1.00 3.00 |
| Final Sat.:| 170 1311 1319 1111 2980 1446 1539 4377 2 1539 2930 104 |

**Saturation Flow Module:**

| Sat/Lane: | 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 |
|           | 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 |
| Adj/ment: | 0.83 0.84 0.89 0.89 0.77 0.77 0.77 0.77 0.58 0.58 0.58 0.58 |
| Lanes:    | 0.05 0.95 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| Final Sat.:| 77 1517 1126 942 1957 1963 1539 4514 74 1539 3007 62 |

**Capacity Analysis Module:**

| Vol/Sat: | 0.04 0.04 0.03 0.07 0.27 0.15 0.06 0.33 0.33 0.04 0.28 0.28 |
|          | ****       | ****       |
| Green/Cycle: | 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0.35 |
| Volume/Cap: | 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0.35 |
| Volume/Cap: | 0.06 0.28 0.37 0.43 0.49 0.49 0.49 0.49 0.49 0.49 0.49 0.49 |
| Uniform Del: | 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 |
| Increment Del: | 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 |
| Delay Adj: | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| Delay/Ven: | 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 |
| User Del/Adj: | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| Del/Adj/Ven: | 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 |
| LOS by Move: | C C B C C C C C C C C C |
| HCM AvgQ: | 1 1 1 1 2 15 16 23 23 23 2 14 |

Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

#### Existing Plus Project AM

**Intersection #26: 7th St/Brannan**

- **Signal=Permit**
- **Rights=Include**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th>Signal=Permit</th>
<th>Rights=Include</th>
<th>Vol Cnt Date</th>
<th>Rights=Include Lanes</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

- **Cycle Time (sec):** 60
- **Loss Time (sec):** 8
- **Critical V/C: 0.707**
- **Avg Crit Del (sec/veh):** 53.5
- **Avg Delay (sec/veh):** 26.4

**Street Name:**

- 7th Street
- Brannan Street

#### Approach

<table>
<thead>
<tr>
<th>Movement</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Bound</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>South Bound</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>East Bound</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>West Bound</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

- **Cycle Time (sec):** 60
- **Loss Time (sec):** 8
- **Critical V/C: 0.921**
- **Avg Crit Del (sec/veh):** 67.5
- **Avg Delay (sec/veh):** 53.1

**Street Name:**

- 7th Street
- Brannan Street

#### Approach

<table>
<thead>
<tr>
<th>Movement</th>
<th>T</th>
<th>R</th>
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<th>T</th>
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</tr>
</thead>
<tbody>
<tr>
<td>North Bound</td>
<td>4</td>
<td>4</td>
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<td>4</td>
<td>4</td>
</tr>
<tr>
<td>South Bound</td>
<td>4</td>
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<td>4</td>
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- **Critical V/C: 0.921**
- **Avg Crit Del (sec/veh):** 67.5
- **Avg Delay (sec/veh):** 53.1

**Street Name:**

- 7th Street
- Brannan Street

#### Approach

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<td>4</td>
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<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

**Capacity Analysis Module:**

- **Vol/Sat:** 0.26
- **Critt Moves:** 0.26
- **Green/Cycle:** 0.35
- **Uniform Del:** 17.0
- **InqDel:** 0.0
- **Delay Adj:** 1.00
- **Delay/Veh:** 0.71
- **User DelAdj:** 1.00
- **Critical V/C:** 0.921
- **Avg Crit Del (sec/veh):** 67.5
- **Avg Delay (sec/veh):** 53.1

**Saturation Flow Module:**

- **Sat/Lane:** 1900
- **Lanes:** 0.07
- **Init Sat.:** 102

**Capacity Analysis Module:**

- **Vol/Sat:** 0.47
- **Critt Moves:** 0.47
- **Green/Cycle:** 0.40
- **Uniform Del:** 18.0
- **InqDel:** 0.0
- **Delay Adj:** 1.00
- **Delay/Veh:** 0.71
- **User DelAdj:** 1.00
- **Critical V/C:** 0.921
- **Avg Crit Del (sec/veh):** 67.5
- **Avg Delay (sec/veh):** 53.1

**Saturation Flow Module:**

- **Sat/Lane:** 1900
- **Lanes:** 0.06
- **Init Sat.:** 97

### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

#### Existing Plus Project PM

**Intersection #26: 7th St/Brannan**

- **Signal=Permit**
- **Rights=Include**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th>Signal=Permit</th>
<th>Rights=Include</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
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<td>0</td>
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</table>

- **Cycle Time (sec):** 60
- **Loss Time (sec):** 8
- **Critical V/C: 0.921**
- **Avg Crit Del (sec/veh):** 67.5
- **Avg Delay (sec/veh):** 53.1

**Street Name:**

- 7th Street
- Brannan Street

#### Approach

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<tr>
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- **Loss Time (sec):** 8
- **Critical V/C: 0.921**
- **Avg Crit Del (sec/veh):** 67.5
- **Avg Delay (sec/veh):** 53.1

**Street Name:**

- 7th Street
- Brannan Street

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**Street Name:**

- 7th Street
- Brannan Street

#### Approach

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</table>

**Capacity Analysis Module:**

- **Vol/Sat:** 0.47
- **Critt Moves:** 0.47
- **Green/Cycle:** 0.40
- **Uniform Del:** 18.0
- **InqDel:** 0.0
- **Delay Adj:** 1.00
- **Delay/Veh:** 0.71
- **User DelAdj:** 1.00
- **Critical V/C:** 0.921
- **Avg Crit Del (sec/veh):** 67.5
- **Avg Delay (sec/veh):** 53.1

**Saturation Flow Module:**

- **Sat/Lane:** 1900
- **Lanes:** 0.06
- **Init Sat.:** 97

**Capacity Analysis Module:**

- **Vol/Sat:** 0.47
- **Critt Moves:** 0.47
- **Green/Cycle:** 0.40
- **Uniform Del:** 18.0
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- **Avg Crit Del (sec/veh):** 67.5
- **Avg Delay (sec/veh):** 53.1
**Level Of Service Computation Report**

**2000 HCM Operations (Future Volume Alternative)**

**Existing Plus Project AM**

Intersection #27: Channel/3rd

- **Signal=Protect/Rights=Include**
- **Base+Add Vol:** 30 387 67
- **Lanes:** 0 1 1 0 1

- **Signal=Permit**

- **Base+Add Lanes:** Rights=Include

<table>
<thead>
<tr>
<th>Vol Cnt Date</th>
<th>Cycle Time (sec)</th>
<th>Loss Time (sec)</th>
<th>Critical V/C</th>
<th>Avg Critical Delay (sec/veh)</th>
<th>Avg Delay (sec/veh)</th>
<th>LOS</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/8/2013</td>
<td>100</td>
<td>15</td>
<td>0.681</td>
<td>51.1</td>
<td>43.8</td>
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</table>

**Street Name:** 3rd Street

**Approach:**
- **North Bound**
- **South Bound**
- **East Bound**
- **West Bound**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
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</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>15</td>
<td>36</td>
<td>16</td>
</tr>
<tr>
<td>Y+B</td>
<td>5.0</td>
<td>5.5</td>
<td>5.5</td>
</tr>
</tbody>
</table>

**Saturation Flow Module:**

| Base Vol | 34 1072 | 19 | 67 286 | 15 | 13 | 10 | 55 | 18 | 15 | 12 |
| Growth Adj | 1.00 1.00 | 1.00 1.00 | 1.00 1.00 | 1.00 1.00 | 1.00 1.00 | 1.00 1.00 | 1.00 1.00 | 1.00 1.00 |

**Capacity Analysis Module:**

- **Vol/Sat:** 0.02 0.36 0.36 0.05 0.14 0.14 0.02 0.02 0.15 0.03 0.03 0.03
- **Critt Moves:** **** ****

**Level Of Service Computation Report**

**2000 HCM Operations (Future Volume Alternative)**

**Existing Plus Project PM**

Intersection #27: Channel/3rd

- **Signal=Protect/Rights=Include**
- **Base+Add Vol:** 15 166 12
- **Lanes:** 0 1 1 0 1

- **Signal=Permit**

- **Base+Add Lanes:** Rights=Include

<table>
<thead>
<tr>
<th>Vol Cnt Date</th>
<th>Cycle Time (sec)</th>
<th>Loss Time (sec)</th>
<th>Critical V/C</th>
<th>Avg Critical Delay (sec/veh)</th>
<th>Avg Delay (sec/veh)</th>
<th>LOS</th>
<th>D</th>
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</thead>
<tbody>
<tr>
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<td>15</td>
<td>0.084</td>
<td>54.9</td>
<td>48.4</td>
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**Street Name:** 3rd Street

**Approach:**
- **North Bound**
- **South Bound**
- **East Bound**
- **West Bound**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
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</tr>
</thead>
<tbody>
<tr>
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<td>15</td>
<td>37</td>
<td>37</td>
</tr>
<tr>
<td>Y+B</td>
<td>5.0</td>
<td>5.5</td>
<td>5.5</td>
</tr>
</tbody>
</table>

**Saturation Flow Module:**

| Base Vol | 20 794 | 18 | 12 154 | 13 | 9 | 15 | 56 | 19 | 10 | 67 |
| Growth Adj | 1.00 1.00 | 1.00 1.00 | 1.00 1.00 | 1.00 1.00 | 1.00 1.00 | 1.00 1.00 | 1.00 1.00 |

**Capacity Analysis Module:**

- **Vol/Sat:** 0.01 0.37 0.37 0.01 0.06 0.06 0.05 0.05 0.05 0.06 0.08 0.08 0.08
- **Critt Moves:** **** ****

**Capacity Analysis Module:**

- **Vol/Sat:** 0.09 1.00 0.09 0.99 0.99 0.20 0.28 0.28 0.38 0.38 0.07 0.07 0.17 0.47 0.11 0.11 0.11
- **Uniform Dist:** 37.0 31.8 31.8 36.1 22.5 22.5 23.6 23.6 23.6 23.6 23.6 23.6 23.6 23.6 23.6 23.6 23.6

**Note:** Queue reported is the number of cars per lane.
Intersection #28: Channel/4th

**Existing Plus Project AM**

**Base+Add Vol:** 182, 264, 190

**Lanes:** 0, 1, 0, 0, 1

**Signal:** Protect

**Critical V/C:** 0.317

**Aug Crit Del (sec/veh):** 36.7

**Aug Delay (sec/veh):** 26.2

**Cycle Time (sec):** 64

**Loss Time (sec):** 10

**Critical V/C:** 0.285

**Aug Crit Del (sec/veh):** 22.7

**Aug Delay (sec/veh):** 17.1

**Cycle Time (sec):** 64

**Loss Time (sec):** 10

**Critical V/C:** 0.285

**Aug Crit Del (sec/veh):** 22.7

**Aug Delay (sec/veh):** 17.1

**Cycle Time (sec):** 64

**Loss Time (sec):** 10

**Critical V/C:** 0.285

**Aug Crit Del (sec/veh):** 22.7

**Aug Delay (sec/veh):** 17.1

**Cycle Time (sec):** 64

**Loss Time (sec):** 10

**Critical V/C:** 0.285

**Aug Crit Del (sec/veh):** 22.7

**Aug Delay (sec/veh):** 17.1

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**Aug Crit Del (sec/veh):** 22.7

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**Aug Crit Del (sec/veh):** 22.7

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**Loss Time (sec):** 10

**Critical V/C:** 0.285

**Aug Crit Del (sec/veh):** 22.7

**Aug Delay (sec/veh):** 17.1
Intersection #29: Mission Rock/3rd

2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #29: Mission Rock/3rd
Signal=Protect/Rights=Include

Base+Add Vol: 23 490 58***
Lanes: 0 1 1 0 1

Loss Time (sec): 15

Critical V/C: 0.514 1! 6
Avg Crit Del (sec/veh): 45.5

LOS: D

Base+Add Lanes: Rights=Include Vol Cnt Date: 5/8/2013 Rights=Include Lanes: Base+Add
Cycle Time (sec): 100

Loss Time (sec): 15

Critical V/C: 0.524 1! 6
Avg Crit Del (sec/veh): 44.9

LOS: D

Volume Module: >> Count Date: 8 May 2013 << 7:00-8:45am

Base Vol: 5 1063 24 58 265 12 10 16 15 6 6 33
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PFH Volume: 5 1160 25 61 516 24 22 17 16 6 6 35
Reduce Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduce User: 5 1160 25 61 516 24 22 17 16 6 6 35
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLP Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Volume: 5 1160 25 61 516 24 22 17 16 6 6 35

Street Name: 3rd Street
Approach: North Bound          South Bound       East Bound       West Bound
Movements:       L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
Min. Green: 15 37 37 37 37 33 33 33 33 33 33 33
YRt: 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0

Capacity Analysis Module:
Vol/Sat: 0.00 0.35 0.35 0.04 0.18 0.18 0.05 0.05 0.05 0.03 0.03 0.03
Crt Moves: **** **** **** ****

Greem/Cycle: 0.15 0.37 0.37 0.37 0.37 0.33 0.33 0.33 0.33 0.33 0.33 0.33
Volume/Cap: 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02

Uniform Del: 36.2 30.6 30.6 30.6 24.1 24.1 23.5 23.5 23.5 23.2 23.2 23.2
IncreaseDel: 0.3 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15
InitQueueDel: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Delay/Veh: 36.4 46.7 46.7 46.7 42.5 42.5 24.2 24.2 24.2 23.7 23.7 23.7
User Del(Adj): 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 36.4 46.7 46.7 46.7 42.5 42.5 24.2 24.2 24.2 23.7 23.7 23.7
LOS by Move: D D D D C C C C C C C C

HCM AvgQ: 0.24 0.22 1 1 1 1 1

Note: Queue reported is the number of cars per lane.

Volume Module: >> Count Date: 8 May 2013 << 7:00-8:45am

Base Vol: 9 804 8 13 214 2 5 4 7 9 6 23
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PFH Volume: 9 1120 8 14 248 4 68 4 7 9 6 24
Reduce Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduce User: 9 1120 8 14 248 4 68 4 7 9 6 24
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLP Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Volume: 9 1120 8 14 248 4 68 4 7 9 6 24

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Lanes: 1.00 1.95 0.05 1.00 1.91 0.09 0.41 0.30 0.29 0.13 0.13 0.74

Final Sat.: 1539 3298 72 1539 2920 177 490 374 350 185 185 185

Capacity Analysis Module:
Vol/Sat: 0.00 0.35 0.35 0.04 0.18 0.18 0.05 0.05 0.05 0.03 0.03 0.03
Crt Moves: **** **** **** ****

Greem/Cycle: 0.15 0.37 0.37 0.37 0.37 0.33 0.33 0.33 0.33 0.33 0.33 0.33
Volume/Cap: 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02

Uniform Del: 36.3 30.5 30.5 30.5 24.1 24.1 23.5 23.5 23.5 23.2 23.2 23.2
IncreaseDel: 0.3 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15
InitQueueDel: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Delay/Veh: 36.7 46.3 46.3 46.3 42.5 42.5 24.2 24.2 24.2 23.7 23.7 23.7
User Del(Adj): 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 36.7 46.3 46.3 46.3 42.5 42.5 24.2 24.2 24.2 23.7 23.7 23.7
LOS by Move: D D D D C C C C C C C C

HCM AvgQ: 0.24 0.22 1 1 1 1

Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #30: Mission Bay North/3rd**

**Signal=Protect/Rights=Include**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th>Signal=Permit</th>
<th>Right/Lane</th>
</tr>
</thead>
<tbody>
<tr>
<td>21 493</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Existing Plus Project PM**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th>Signal=Permit</th>
<th>Right/Lane</th>
</tr>
</thead>
<tbody>
<tr>
<td>433</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Volume Module:**

<table>
<thead>
<tr>
<th>Street Name:</th>
<th>3rd Street</th>
<th>Mission Bay North</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approach:</td>
<td>North Bound</td>
<td>South Bound</td>
</tr>
<tr>
<td>Movement:</td>
<td>L TR R L TR R L TR R</td>
<td></td>
</tr>
<tr>
<td>Min. Green:</td>
<td>14 57 57 15 38 38</td>
<td>0 0 0 13 33 33</td>
</tr>
<tr>
<td>Yr/Sp:</td>
<td>6.0 5.0 5.0 5.0 5.0 5.0</td>
<td>4.0 4.0 4.0 5.0 5.0 5.0</td>
</tr>
<tr>
<td>Cycle Time (sec)</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Loss Time (sec)</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Critical V/C</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td>Avg Delay (sec/veh)</td>
<td>17.0</td>
<td></td>
</tr>
<tr>
<td>LOS</td>
<td>B</td>
<td></td>
</tr>
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**Capacity Analysis Module:**

<table>
<thead>
<tr>
<th>Vol/Sat.</th>
<th>0.03 0.38 0.00 0.00 0.13 0.13 0.00 0.00 0.00 0.00 0.00 0.00 0.01 0.01 0.02</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crit Moves</td>
<td>****</td>
</tr>
<tr>
<td>Green/Cycle</td>
<td>0.15 0.57 0.00 0.00 0.42 0.42 0.00 0.00 0.00 0.00 0.00 0.33 0.33 0.33</td>
</tr>
<tr>
<td>Uniform Del:</td>
<td>36.9 14.9 0.0 0.0 19.5 19.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0</td>
</tr>
<tr>
<td>IncrementDel:</td>
<td>0.1 0.2 0.0 0.0 0.4 0.4 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0</td>
</tr>
<tr>
<td>Int Que Del:</td>
<td>0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0</td>
</tr>
<tr>
<td>Delay Adj:</td>
<td>1.00 1.00 0.00 0.00 1.00 1.00 0.00 0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
</tr>
<tr>
<td>Delay/Ven:</td>
<td>38.8 16.8 0.0 0.0 19.9 19.9 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0</td>
</tr>
<tr>
<td>User Del(Adj):</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
</tr>
<tr>
<td>LOS by Move:</td>
<td>D B A B A B A A A A C C C</td>
</tr>
<tr>
<td>LOS by Move:</td>
<td>D B A B A B A A A A C C C</td>
</tr>
<tr>
<td>Note: Queue reported is the number of cars per lane.</td>
<td></td>
</tr>
</tbody>
</table>

### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #30: Mission Bay North/3rd**

**Signal=Protect/Rights=Include**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th>Signal=Permit</th>
<th>Right/Lane</th>
</tr>
</thead>
<tbody>
<tr>
<td>433</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Existing Plus Project AM**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th>Signal=Permit</th>
<th>Right/Lane</th>
</tr>
</thead>
<tbody>
<tr>
<td>21 493</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Volume Module:**

<table>
<thead>
<tr>
<th>Street Name:</th>
<th>3rd Street</th>
<th>Mission Bay North</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approach:</td>
<td>North Bound</td>
<td>South Bound</td>
</tr>
<tr>
<td>Movement:</td>
<td>L TR R L TR R L TR R</td>
<td></td>
</tr>
<tr>
<td>Min. Green:</td>
<td>14 57 57 15 38 38</td>
<td>0 0 0 13 33 33</td>
</tr>
<tr>
<td>Yr/Sp:</td>
<td>6.0 5.0 5.0 5.0 5.0 5.0</td>
<td>4.0 4.0 4.0 5.0 5.0 5.0</td>
</tr>
<tr>
<td>Cycle Time (sec)</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Loss Time (sec)</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Critical V/C</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td>Avg Delay (sec/veh)</td>
<td>17.0</td>
<td></td>
</tr>
<tr>
<td>LOS</td>
<td>B</td>
<td></td>
</tr>
</tbody>
</table>

**Capacity Analysis Module:**

<table>
<thead>
<tr>
<th>Vol/Sat.</th>
<th>0.03 0.38 0.00 0.00 0.13 0.13 0.00 0.00 0.00 0.00 0.00 0.00 0.01 0.01 0.02</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
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</tr>
<tr>
<td>Uniform Del:</td>
<td>36.9 14.9 0.0 0.0 19.5 19.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0</td>
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</tr>
<tr>
<td>Int Que Del:</td>
<td>0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0</td>
</tr>
<tr>
<td>Delay Adj:</td>
<td>1.00 1.00 0.00 0.00 1.00 1.00 0.00 0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
</tr>
<tr>
<td>Delay/Ven:</td>
<td>38.8 16.8 0.0 0.0 19.9 19.9 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0</td>
</tr>
<tr>
<td>User Del(Adj):</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
</tr>
<tr>
<td>LOS by Move:</td>
<td>D B A B A B A A A A C C C</td>
</tr>
<tr>
<td>Note: Queue reported is the number of cars per lane.</td>
<td></td>
</tr>
</tbody>
</table>
### Intersection #31: Mission Bay South/3rd

#### Existing Plus Project AM

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
</tr>
</thead>
<tbody>
<tr>
<td>0*** 484***</td>
<td>20</td>
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</tbody>
</table>

#### Base+Add Lanes: Rights=Include Vol Cnt Date: 5/8/2013 Rights=Include Lanes: Base+Add

<table>
<thead>
<tr>
<th>Lane</th>
<th>LOS</th>
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</thead>
<tbody>
<tr>
<td>0</td>
<td>D</td>
</tr>
<tr>
<td>0</td>
<td>D</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
</tr>
<tr>
<td>0</td>
<td>D</td>
</tr>
</tbody>
</table>

#### Street Name: 3rd Street

<table>
<thead>
<tr>
<th>Approach</th>
<th>Movement</th>
<th>L T R L T R L T R</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Bound</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>South Bound</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>East Bound</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>West Bound</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

#### Volume Module: Base Vol: 0 1045 20 234 0 2 30 18 0 0

| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Assigned Vol: | 0 63 | 0 210 | 0 13 | 0 6 |
| Forcibly: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Min. Green: | 34 | 34 | 34 | 15 | 34 | 34 | 15 | 34 | 15 |
| Y+R: | 33 | 34 | 34 | 15 | 33 | 34 | 15 | 33 | 15 |
| Loss Time (sec): | 10 |
| Critical V/C: | 0.217 |
| Avg Crit Del (sec/veh): | 12.5 |
| Critical Del (sec/veh): | 10 |

#### LOS: A

### Intersection #31: Mission Bay South/3rd

#### Existing Plus Project PM

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
</tr>
</thead>
<tbody>
<tr>
<td>0*** 1108</td>
<td>15</td>
</tr>
</tbody>
</table>

#### Base+Add Lanes: Rights=Include Vol Cnt Date: n/a Rights=Include Lanes: Base+Add

<table>
<thead>
<tr>
<th>Lane</th>
<th>LOS</th>
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</thead>
<tbody>
<tr>
<td>0</td>
<td>C</td>
</tr>
<tr>
<td>0</td>
<td>C</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
</tr>
<tr>
<td>1</td>
<td>C</td>
</tr>
</tbody>
</table>

#### Street Name: 3rd Street

<table>
<thead>
<tr>
<th>Approach</th>
<th>Movement</th>
<th>L T R L T R L T R</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Bound</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>South Bound</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>East Bound</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>West Bound</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

#### Volume Module: Base Vol: 0 1045 20 234 0 2 30 18 0 0

| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Assigned Vol: | 0 63 | 0 210 | 0 13 | 0 6 |
| Forcibly: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Min. Green: | 34 | 34 | 34 | 15 | 34 | 34 | 15 | 34 | 15 |
| Y+R: | 33 | 34 | 34 | 15 | 33 | 34 | 15 | 33 | 15 |
| Loss Time (sec): | 10 |
| Critical V/C: | 0.205 |
| Avg Crit Del (sec/veh): | 13.9 |
| Critical Del (sec/veh): | 10 |

#### LOS: C

### Capacity Analysis Module:

#### Volume/Sat:

| Volume/Cycle: | 0.00 | 0.40 | 0.40 | 0.77 | 0.77 | 0.77 | 0.77 | 0.77 | 0.77 |
| Uniform Del: | 0.249 | 24.9 | 34.5 | 11.1 | 0.231 | 23.1 | 22.9 | 0.00 | 0.00 |
| IncrementDel: | 0.0 | 15.1 | 0.1 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| InitQueuDel: | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Delay Adj: | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delay/Veh: | 27.0 | 27.0 | 27.0 | 0.00 | 25.3 | 25.3 | 25.3 | 0.00 | 0.00 |
| User Del/Adj: | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

#### LOS by Move:

<table>
<thead>
<tr>
<th>Move</th>
<th>A C C C B A C C C A A</th>
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</thead>
</table>

### Capacity Analysis Module:

#### Volume/Sat:

| Volume/Cycle: | 0.00 | 0.40 | 0.40 | 0.77 | 0.77 | 0.77 | 0.77 | 0.77 | 0.77 |
| Uniform Del: | 0.249 | 24.9 | 34.5 | 11.1 | 0.231 | 23.1 | 22.9 | 0.00 | 0.00 |
| IncrementDel: | 0.0 | 15.1 | 0.1 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| InitQueuDel: | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Delay Adj: | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delay/Veh: | 27.0 | 27.0 | 27.0 | 0.00 | 25.3 | 25.3 | 25.3 | 0.00 | 0.00 |
| User Del/Adj: | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

#### LOS by Move:

| Move | A C C C B A C C C A A |

Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### FHWA Roundabout (Future Volume Alternative)

**Intersection #32: Mission Bay/Owens**

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Existing Plus Project AM</strong></td>
<td>0 178 0</td>
<td>0 0 1 0</td>
<td>Base Vol: 17 1 0 0 0 0 17 0</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td>0</td>
<td>63 0 6 0 4 0 178 0 0 45 325 18</td>
<td>0</td>
<td>247 0 0 63 475 25 8</td>
<td>78 0 78 0 78 0 78 0 78 0 78 0 78</td>
<td>4.1 6.9 3.3</td>
<td>A</td>
</tr>
<tr>
<td><strong>Base+Add Lanes: Rights=Include</strong></td>
<td>0 0 78 0</td>
<td>0 0 4 0</td>
<td>Base Vol: 17 1 0 0 0 0 17 0</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td>0</td>
<td>63 0 6 0 4 0 178 0 0 45 325 18</td>
<td>0</td>
<td>247 0 0 63 475 25 8</td>
<td>78 0 78 0 78 0 78 0 78 0 78 0 78</td>
<td>4.1 6.9 3.3</td>
<td>A</td>
</tr>
<tr>
<td><strong>Signal=Yield</strong></td>
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</tr>
</tbody>
</table>

#### Existing Plus Project PM

**Street Name:** Owens Street                      Mission Bay

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Vol:</td>
<td>32 0 1 0 0 0 0 0 103 0 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Growth Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Base:</td>
<td>32 0 1 0 0 0 0 0 103 0 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Added Vol:</td>
<td>358 34 22 0 26 0 0 7 46 3 35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Critical V/C:</td>
<td>0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Critical Del (sec/veh):</td>
<td>4.7 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delay (sec/veh):</td>
<td>4.7 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOS:</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
</tbody>
</table>
**Intersection #33: Mission Bay/7th**

### Existing Plus Project AM

**Base+Add Vol:** 1 494*** 352

**Lanes:** 0 0 1 0 1

**Signal=Protect/Rights=Include**

**Critical V/C:** 0.688

**Avg Crit Del (sec/veh):** 34.2

**Cycle Time (sec):** 100

**Loss Time (sec):** 14

**Delay Adj:** 0.00 1.00 1.00 1.00 1.00 1.00 0.00 0.00 0.00 1.00 0.00 1.00

**Delay/Veh:** 0.0 27.9 41.3 41.3 41.3 41.3 0.0 0.0 0.0 32.5 0.0 82.7

**User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**LOS by Move:** A C C E B A A A A F

**HCM2kAvgQ:** 0 15 3 0 0 0 0 0 0 3 0 12

**Min. Green:** 0 36 36 14 63 0 0 0 0 25 0 25

### Existing Plus Project PM

**Base+Add Vol:** 0 232*** 99

**Lanes:** 0 0 1 0 1

**Signal=Protect/Rights=Include**

**Critical V/C:** 0.264

**Avg Crit Del (sec/veh):** 17.0

**Cycle Time (sec):** 100

**Loss Time (sec):** 14

**Delay Adj:** 0.00 1.00 1.00 1.00 1.00 1.00 0.00 0.00 0.00 1.00 0.00 1.00

**Delay/Veh:** 0.0 27.0 17.3 41.3 9.6 0.0 0.0 0.0 0.0 32.5 0.0 82.7

**User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**LOS by Move:** A C C B A A A A F

**HCM2kAvgQ:** 0 15 1 0 0 0 0 0 0 3 0 12

**Footnote:** Queue reported is the number of cars per lane.
### Intersection #34: 16th/3rd

**Signal=Protect/Rights=Include**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>0</td>
</tr>
<tr>
<td>246**</td>
<td>1</td>
</tr>
<tr>
<td>86</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>YRt:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>6.0 5.0 5.0 5.0 5.0 5.0 5.5 5.5 5.5 5.5 5.5 5.5</td>
<td></td>
</tr>
</tbody>
</table>

**Cycle Time (sec):** 100

**Loss Time (sec):** 15

**Critical V/C:** 0.541

**Avg Crit Del (sec/veh):** 63.0

**Avg Delay (sec/veh):** 48.7

**L O S:** D

**Street Name:**
- 3rd Street
- 16th Street

**Approach:**
- North Bound
- South Bound
- East Bound
- West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Volume Module: >> Count Date: 8 May 2013 << 7:00-8:45am**

**Base Vol:**
- 297 986
- 10 18 206
- 73 124 62 125
- 2 80 40

**Growth Adj:**
- 1.00 1.00 1.00 1.00 1.00 1.00

**Delay Adj:**
- 1.00 1.00 1.00 1.00 1.00 1.00

**Delay/Veh:**
- 112.3 45.9 45.9 49.9 25.9 25.9 25.9 25.9 25.9 25.9 25.9 25.9

**LOS by Move:**
- F
- D
- C
- D
- C
- C
- C

**HCM2kAvgQ:**
- 9

**Note:** Queue reported is the number of cars per lane.

---

### Intersection #34: 16th/3rd

**Signal=Permit**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
</tr>
</thead>
<tbody>
<tr>
<td>188</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>YRt:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>6.0 5.0 5.0 5.0 5.0 5.0 5.5 5.5 5.5 5.5 5.5 5.5</td>
<td></td>
</tr>
</tbody>
</table>

**Cycle Time (sec):**

**Loss Time (sec):**

**Critical V/C:** 0.786

**Avg Crit Del (sec/veh):**

**Avg Delay (sec/veh):**

**L O S:** D

**Street Name:**
- 3rd Street
- 16th Street

**Approach:**
- North Bound
- South Bound
- East Bound
- West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Volume Module: >> Count Date: 8 May 2013 << 7:00-8:45am**

**Base Vol:**
- 299 644
- 7 22 496
- 218 62 104
- 1 3 23

**Growth Adj:**
- 1.00 1.00 1.00 1.00 1.00 1.00

**Delay Adj:**
- 1.00 1.00 1.00 1.00 1.00 1.00

**Delay/Veh:**
- 54.2 27.2 27.2 40.8 32.3 32.3 40.8 32.3 32.3 40.8 32.3 40.8

**LOS by Move:**
- D
- C
- C
- D
- C
- C

**HCM2kAvgQ:**
- 9

**Note:** Queue reported is the number of cars per lane.
### Level of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

**Intersection #35: 16th/4th**

- **Signal**: Permit/Rights=Include
- **Base+Add Vol**: 95 61*** 22
- **Lanes**: 0 1 0 0 1

#### Existing Plus Project AM

- **Cycle Time (sec)**: 90
- **Loss Time (sec)**: 15
- **Critical V/C**: 0.657
- **Avg Crit Del (sec/veh)**: 50.3
- **Avg Delay (sec/veh)**: 42.0

#### Existing Plus Project PM

- **Cycle Time (sec)**: 90
- **Loss Time (sec)**: 15
- **Critical V/C**: 0.412
- **Avg Crit Del (sec/veh)**: 27.6
- **Avg Delay (sec/veh)**: 30.1

---

**Street Name:**

- **4th Street**
- **16th Street**

<table>
<thead>
<tr>
<th>Approach</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movement</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
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<tr>
<td>Min. Green</td>
<td>30 30 30</td>
<td>17 30 15</td>
<td>28 28</td>
<td></td>
</tr>
<tr>
<td>Base Vol</td>
<td>4 22 22 22</td>
<td>22 21 33</td>
<td>22 22 22</td>
<td></td>
</tr>
<tr>
<td>Growth Adj</td>
<td>1.00 1.00 1.00 1.00</td>
<td>1.00 1.00 1.00 1.00</td>
<td>1.00 1.00 1.00 1.00</td>
<td>1.00 1.00 1.00 1.00</td>
</tr>
<tr>
<td>Added Vol</td>
<td>5 9 9 9</td>
<td>9 184 194 40</td>
<td>8 198 69</td>
<td>8 198 69</td>
</tr>
<tr>
<td>Base Vol</td>
<td>8 142 142</td>
<td>137 137 137</td>
<td>137 137 137</td>
<td>137 137 137</td>
</tr>
</tbody>
</table>

**Volume Module:**

- **Base Vol**: 4 22 22 22
- **Growth Adj**: 1.00 1.00 1.00 1.00
- **Init Vol**: 106 283 283 283
- **Add Vol**: 5 9 9 9
- **User Adj**: 1.00 1.00 1.00 1.00

---

**Capacity Analysis Module**

- **Vol/Sat**: 0.01 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02
- **Crit Move**: 0.01 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02

---

**Saturation Flow Module**

<table>
<thead>
<tr>
<th>Sat/Lane</th>
<th>1900 1900 1900 1900 1900 1900 1900 1900 1900 1900</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lanes</td>
<td>1.00 0.35 0.65 0.30 0.30 0.30 0.30 0.30 0.30 0.30</td>
</tr>
<tr>
<td>Final Sat</td>
<td>797 509 926 1149 566 882 1539 2509 326 1539 2313 653</td>
</tr>
</tbody>
</table>

---

**HCM2kAvgQ**

- **4th Street**: 0 1 1 0 0 0 0 0 0 0
- **16th Street**: 0 1 1 0 0 0 0 0 0 0

---

**Note:** Queue reported is the number of cars in lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Existing Plus Project AM**

**Intersection #36: 16th/Owens**

- **Signal=Permit/Rights=Include**
- **Base+Add Vol: 74  224   62**
- **Lanes:** 1 0 1  1 0

- **Cycle Time (sec): 60**
- **Loss Time (sec): 10**
- **Critical V/C: 0.672**
- **Avg Crit Del (sec/veh): 22.0**
- **Avg Delay (sec/veh): 23.2**

**Volume Module:**

- **Base Vol:** 0 0 70 219 348 0 5 299 100
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **PhF Volume:** 17 366 134 65 236 78 354 664 184 133 343 172
- **Reduce Vol:** 0 0 0 0 0 0 0 0
- **PhF: 136 175 63 1 127 0**
- **Cycle Time (sec): 60**
- **Loss Time (sec): 10**
- **Critical V/C: 0.676**
- **Avg Crit Del (sec/veh): 33.9**
- **Avg Delay (sec/veh): 31.9**

**Volume Module:**

- **Base Vol:** 0 0 102 167 301 77
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00
- **PhF Volume:** 84 179 121 168 338 200 143 336 19 68 773 93
- **Reduce Vol:** 0 0 0 0 0 0
- **PhF: 136 175 63 1 127 0**

#### Street Name: Owens St

- **Approach:** North Bound  South Bound  East Bound  West Bound
- **Min. Green:** 15 15 15 15 20 25 25 10 15 15
- **Y+R:** 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0

- **Saturation Flow Module:**

- **Flow:** 1900 1900 1900 1900 1900 1900 1900 1900 1900

- **Sat/Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900

- **Capacity Analysis Module:**

- **Vol/Sat:** 0.02 0.17 0.17 0.13 0.13 0.06 0.23 0.30 0.30 0.09 0.18 0.18

- **Capacity Analysis Module:**

- **Vol/Sat:** 0.16 0.11 0.11 0.24 0.24 0.16 0.09 0.12 0.12 0.04 0.29 0.29

- **Sat/Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900
### Level Of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

**Intersection #37: 16th/7th**

**Signal=Split/Rights=Include**

**Base+Add Vol:** 43 97 285

**Lanes:** 0 1 0 0 1

- **Cycle Time (sec):** 110
- **Loss Time (sec):** 14
- **Critical V/C:** 0.891
- **Avg Crit Del (sec/veh):** 60.6
- **Avg Delay (sec/veh):** 53.0

**Base+Add Lanes:** Rights=Include

- **Vol Cnt:** 5/9/2013
- **Loss Time (sec):** 1
- **Aug Crit Del (sec):** 60.6
- **Aug Delay (sec):** 23

**Street Name:** 7th Street

<table>
<thead>
<tr>
<th>Approach</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
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<tbody>
<tr>
<td>Min. Green</td>
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<td>30</td>
<td>31</td>
<td>31</td>
<td>31</td>
<td>34</td>
<td>34</td>
<td>34</td>
<td>34</td>
<td>34</td>
<td>65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y+R:</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>9.0</td>
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<td>9.0</td>
<td>9.0</td>
<td>4.0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Saturation Flow Module:**

- **Base Vol:** 41 358 77 99 0 0
- **Growth Adj:** 5.5 12.5 12.5 12.5 0.6 0.6
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00
- **Delay/Veh:** 41.1 76.9 0.0 75.1 52.9 52.9 49.8 49.8 49.8 49.8 26.2 26.2
- **LOS:** D

**Capacity Analysis Module:**

- **Vol/Sat:** 0.03 0.23 0.00 0.19 0.11 0.11 0.39 0.39 0.39 0.11 0.11 0.14
- **Crit Moves:** ****
- **Green/Cycle:** 0.21 0.21 0.21 0.21 0.21 0.21 0.21 0.21 0.21 0.21 0.21 0.21
- **Volume/Cap:** 0.22 0.23 0.23 0.23 0.23 0.23 0.23 0.23 0.23 0.23 0.23 0.23
- **Uniform Del:** 40.5 50.9 0.0 52.3 47.5 47.5 37.3 37.3 37.3 25.6 25.6 25.6
- **IncrementDel:** 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
- **InitQueueDel:** 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
- **Delay Adj:** 1.00 1.00 0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Delay/Cap:** 47.6 76.9 0.0 75.1 52.9 52.9 49.8 49.8 49.8 26.2 26.2 28.0
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **AdjDel/Yahr:** 41.1 76.9 0.0 75.1 52.9 52.9 49.8 49.8 49.8 26.2 26.2 28.0

**LOS by Move:** D E A E D D D D C C C

**HCMAvgQ:** 1 19 0 0 0 5 6 6 23 23 23 23

**Notes:** Queue reported is the number of cars per lane.

---

### Level Of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

**Intersection #37: 16th/7th**

**Signal=Permit**

**Base+Add Vol:** 57 0 0

**Lanes:** 0 1 0 1 0

- **Cycle Time (sec):** 1
- **Loss Time (sec):** 14
- **Critical V/C:** 0.521
- **Avg Crit Del (sec):** 60.6
- **Avg Delay (sec):** 46.0

**Base+Add Lanes:** Rights=Include

- **Vol Cnt:** 5/9/2013
- **Loss Time (sec):** 1
- **Aug Crit Del (sec):** 60.6
- **Aug Delay (sec):** 23

**Street Name:** 7th Street

<table>
<thead>
<tr>
<th>Approach</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>31</td>
<td>31</td>
<td>31</td>
<td>34</td>
<td>34</td>
<td>34</td>
<td>34</td>
<td>34</td>
<td>65</td>
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<td></td>
</tr>
<tr>
<td>Y+R:</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
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<td>9.0</td>
<td>4.0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Saturation Flow Module:**

- **Base Vol:** 71 328 69 138 35
- **Growth Adj:** 5.0 5.0 5.0 5.0 5.0
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00
- **Delay/Veh:** 46.9 95.1 0.0 46.9 95.1 95.1 46.9 46.9 46.9 46.9 46.9 46.9
- **LOS:** D

**Capacity Analysis Module:**

- **Vol/Sat:** 0.05 0.21 0.00 0.06 0.18 0.18 0.22 0.22 0.22 0.22 0.22 0.22
- **Crit Moves:** ****
- **Green/Cycle:** 0.21 0.21 0.21 0.21 0.21 0.21 0.21 0.21 0.21 0.21 0.21 0.21
- **Volume/Cap:** 0.22 0.23 0.23 0.23 0.23 0.23 0.23 0.23 0.23 0.23 0.23 0.23
- **Uniform Del:** 45.3 54.5 0.0 45.0 51.5 51.5 25.7 25.7 25.7 25.8 25.8 31.2
- **IncrementDel:** 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
- **InitQueueDel:** 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
- **Delay Adj:** 1.00 1.00 0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Delay/Cap:** 46.9 95.1 0.0 46.8 71.3 71.3 27.2 27.2 27.2 27.2 27.2 40.1
- **User DelAdj:** 1.00 1.00 0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **AdjDel/Yahr:** 46.9 95.1 0.0 46.8 71.3 71.3 27.2 27.2 27.2 27.2 27.2 40.1

**LOS by Move:** D F A D E C C C C C C

**HCMAvgQ:** 3 19 0 0 0 3 12 11 8 8 8 9

**Notes:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #38: 16th St/Rhode Island**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 10 59 37  
**Lanes:** 0 0 1! 0 0  
**Cycle Time (sec):** 60  
**Loss Time (sec):** 10  
**Critical V/C:** 0.700  
**Avg Crit Del (sec/veh):** 44.1  
**Avg Delay (sec/veh):** 32.9  
**LOS:** C  

**Street Name:** Rhode Island Street  
**Approach:** North Bound  
**South Bound  
**East Bound  
**West Bound**  

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>22</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>Initial Base</td>
<td>110</td>
<td>110</td>
<td>110</td>
</tr>
<tr>
<td>Added Vol</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>PasserbyVol</td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>Initial Put</td>
<td>27</td>
<td>110</td>
<td>37</td>
</tr>
<tr>
<td>User Adj</td>
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<td></td>
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<tr>
<td>PHF Adj</td>
<td>0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHF Volume</td>
<td>30 121 40 41 65 11 23 790 63 14 377 30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduct Vol</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Reduct Vol</td>
<td>30 121 40 41 65 11 23 790 63 14 377 30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCE Adj</td>
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<tr>
<td>User DelAdj</td>
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<td></td>
</tr>
<tr>
<td>FinalVolume</td>
<td>30 121 40 41 65 11 23 790 63 14 377 30</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Queue reported is the number of cars per lane.

---

**Intersection #38: 16th St/Rhode Island**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 19 79 30  
**Lanes:** 0 0 1! 0 0  
**Cycle Time (sec):** 60  
**Loss Time (sec):** 10  
**Critical V/C:** 0.548  
**Avg Crit Del (sec/veh):** 14.5  
**Avg Delay (sec/veh):** 13.4  
**LOS:** B  

**Street Name:** Rhode Island Street  
**Approach:** North Bound  
**South Bound  
**East Bound  
**West Bound**  

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
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<tbody>
<tr>
<td>Min. Green</td>
<td>22</td>
<td>22</td>
<td>22</td>
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<tr>
<td>Initial Base</td>
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<td>110</td>
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<td>Added Vol</td>
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<tr>
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<tr>
<td>Initial Put</td>
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<tr>
<td>User Adj</td>
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<td></td>
</tr>
<tr>
<td>PHF Adj</td>
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<td></td>
</tr>
<tr>
<td>PHF Volume</td>
<td>53 165 24 33 87 21 14 510 48 52 770 51</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduct Vol</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Reduct Vol</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>PCE Adj</td>
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<td></td>
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<tr>
<td>User DelAdj</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>FinalVolume</td>
<td>53 165 24 33 87 21 14 510 48 52 770 51</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Queue reported is the number of cars per lane.
**Intersection #39: 16th/Vermont**

### Existing Plus Project AM

- **Signal**: Permit
- **Rights**: Include
- **Base+Add Vol**: 22 0 46
- **Lanes**: 0 0 1
- **Cycle Time (sec)**: 60
- **Loss Time (sec)**: 10
- **Critical V/C**: 0.826
- **Avg Crit Del (sec/veh)**: 56.5
- **Avg Delay (sec/veh)**: 42.1
- **LOS**: D

**Volume Module:**

- **Base Vol**: 219 195 42 26 0 22 31
- **User Adj**: 31
- **YP+R**: 5.0 4.0
- **Init Put**: 219 195 66 46 0 22 31
- **Base+Add Vol**: 219 195 42 26 0 22 31
- **Cycle Time (sec)**: 60
- **Loss Time (sec)**: 10
- **Critical V/C**: 0.603
- **Avg Crit Del (sec/veh)**: 18.8
- **Avg Delay (sec/veh)**: 16.4
- **LOS**: B

**Volume Module:**

- **Base Vol**: 216 131 33
- **User Adj**: 48
- **YP+R**: 5.0 4.0
- **Init Put**: 216 131 33
- **Base+Add Vol**: 216 131 33
- **Cycle Time (sec)**: 60
- **Loss Time (sec)**: 10
- **Critical V/C**: 0.603
- **Avg Crit Del (sec/veh)**: 18.8
- **Avg Delay (sec/veh)**: 16.4
- **LOS**: B

### Volume Module:

- **Base Vol**: 216 131 33
- **User Adj**: 48
- **YP+R**: 5.0 4.0
- **Init Put**: 216 131 33
- **Base+Add Vol**: 216 131 33
- **Cycle Time (sec)**: 60
- **Loss Time (sec)**: 10
- **Critical V/C**: 0.603
- **Avg Crit Del (sec/veh)**: 18.8
- **Avg Delay (sec/veh)**: 16.4
- **LOS**: B

### Volume Module:

- **Base Vol**: 216 131 33
- **User Adj**: 48
- **YP+R**: 5.0 4.0
- **Init Put**: 216 131 33
- **Base+Add Vol**: 216 131 33
- **Cycle Time (sec)**: 60
- **Loss Time (sec)**: 10
- **Critical V/C**: 0.603
- **Avg Crit Del (sec/veh)**: 18.8
- **Avg Delay (sec/veh)**: 16.4
- **LOS**: B

### Street Name:

- **Vermont St**
- **16th St**

### Approach:

- **North Bound**
- **South Bound**
- **East Bound**
- **West Bound**

### Movement:

- **L - T - R**

**FinalVolume:**

- **235 210 71 49 0 24 33 760 0 447 31**

### Volume Module:

- **Base Vol**: 216 131 33
- **User Adj**: 48
- **YP+R**: 5.0 4.0
- **Init Put**: 216 131 33
- **Base+Add Vol**: 216 131 33
- **Cycle Time (sec)**: 60
- **Loss Time (sec)**: 10
- **Critical V/C**: 0.603
- **Avg Crit Del (sec/veh)**: 18.8
- **Avg Delay (sec/veh)**: 16.4
- **LOS**: B

### Capacity Analysis Module:

- **Vol/Sat**: 0.32 0.12 0.12
- **Del**: 0.03 0.03 0.03
- **User Del**: 0.03 0.03 0.03
- **LOS by Move**: B B B
- **HCMAvgQ**: 2 2 2

**Note:** Queue reported is the number of cars per lane.
### Existing Plus Project AM

**Intersection #40: 16th/Potrero**

- **Signal:** Permit
- **Rights:** Include
- **Base+Add Vol:** 75  432  148
- **Lanes:** 0 1 1  0 1
- **Cycle Time (sec):** 90
- **Loss Time (sec):** 0
- **Critical V/C:** 0.749
- **Avg Crit Del (sec/veh):** 53.8
- **Avg Delay (sec/veh):** 43.2

**Final Volume:** 114  713  48
- **Min. Green:** 54
- **User DelAdj:** 1.00
- **LOS:** D

**Note:** Queue reported is the number of cars per lane.

### Existing Plus Project PM

**Intersection #40: 16th/Potrero**

- **Signal:** Permit
- **Rights:** Include
- **Base+Add Vol:** 160  864  110
- **Lanes:** 0 1 1  0 1
- **Cycle Time (sec):** 90
- **Loss Time (sec):** 0
- **Critical V/C:** 0.962
- **Avg Crit Del (sec/veh):** 66.6
- **Avg Delay (sec/veh):** 53.1

**Final Volume:** 115  519  42
- **Min. Green:** 50
- **User DelAdj:** 1.00
- **LOS:** D

**Note:** Queue reported is the number of cars per lane.
<table>
<thead>
<tr>
<th>Intersection #41: Mariposa/3rd</th>
<th>Intersection #41: Mariposa/3rd</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Street Name:</strong></td>
<td><strong>Street Name:</strong></td>
</tr>
<tr>
<td>North Bound</td>
<td>North Bound</td>
</tr>
<tr>
<td>South Bound</td>
<td>South Bound</td>
</tr>
<tr>
<td>East Bound</td>
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<tr>
<td>West Bound</td>
<td>West Bound</td>
</tr>
<tr>
<td><strong>Volume Module:</strong></td>
<td><strong>Volume Module:</strong></td>
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<tr>
<td><strong>Min. Green:</strong></td>
<td><strong>Min. Green:</strong></td>
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<tr>
<td><strong>Growth Adj:</strong></td>
<td><strong>Growth Adj:</strong></td>
</tr>
<tr>
<td><strong>InitQueuDel:</strong></td>
<td><strong>InitQueuDel:</strong></td>
</tr>
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<td><strong>Delay Adj:</strong></td>
<td><strong>Delay Adj:</strong></td>
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<td><strong>Delay/Veh:</strong></td>
<td><strong>Delay/Veh:</strong></td>
</tr>
<tr>
<td><strong>User DelAdj:</strong></td>
<td><strong>User DelAdj:</strong></td>
</tr>
<tr>
<td><strong>LOS by Move:</strong></td>
<td><strong>LOS by Move:</strong></td>
</tr>
<tr>
<td><strong>HCM2kAvgQ:</strong></td>
<td><strong>HCM2kAvgQ:</strong></td>
</tr>
<tr>
<td><strong>Note:</strong> Queue reported is the number of cars per lane.</td>
<td><strong>Note:</strong> Queue reported is the number of cars per lane.</td>
</tr>
</tbody>
</table>
Intersection #42: Mariposa/4th

Level of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #42: Mariposa/4th
Signal=Permit/Rights=Include
Base+Add Vol: 3  0     6
Lanes: 0 1 0  0 1

Cycle Time (sec): 60
Loss Time (sec): 15
Critical V/C: 0.435
A
vg Crit Del (sec/veh): 20.2
vg Delay (sec/veh): 19.6

LOS: B

Street Name: 4th Street
Approach: North Bound South Bound East Bound West Bound
Movement: L  T  R  L  T  R  L  T  R  L  T  R  L  T  R
Min. Green: 15 15 15 15 15 15 15 30 30 15 30 30
Cycle Time (sec): 60
Loss Time (sec): 15
Critical V/C: 0.289
A
vg Crit Del (sec/veh): 17.6
vg Delay (sec/veh): 16.8

LOS: B

Street Name: Mariposa Street
Approach: North Bound South Bound East Bound West Bound
Movement: L  T  R  L  T  R  L  T  R  L  T  R  L  T  R
Min. Green: 15 15 15 15 15 15 15 30 30 15 30 30
Cycle Time (sec): 60
Loss Time (sec): 15
Critical V/C: 0.359
A
vg Crit Del (sec/veh): 17.6
vg Delay (sec/veh): 18.8

LOS: B

Volume Module: >> Count Date: 7 May 2013 << 7:00-8:45am
Base Vol: 13  0     3
Growth Adj: 1.00 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
User Adj: 1.00 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Delay Adj: 1.00 0.00  1.00  1.00  0.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
User Adj: 1.00 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00

Capacity Analysis Module:
Vol/Sat: 0.01 0.00  0.00  0.00  0.00  0.00  0.00  0.02  0.35  0.35  0.00  0.08  0.08
Sat/Cycle: 0.17 0.17  0.17  0.17  0.22  0.50  0.50  0.17  0.44  0.44
Volume/Cap: 0.08 0.08  0.08  0.08  0.08  0.08  0.08  0.08  0.08  0.08  0.08  0.08

User DelAdj: 1.00 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
User DelAdj: 1.00 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00

Sat/Cycle: 0.17 0.17  0.17  0.17  0.17  0.17  0.17  0.17  0.17  0.17  0.17  0.17
Volume/Cap: 0.26 0.26  0.26  0.26  0.49  0.49  0.49  0.49  0.49  0.49  0.49  0.49

Capacity Analysis Module:
Vol/Sat: 0.04 0.00  0.04  0.00  0.00  0.01  0.00  0.02  0.22  0.22  0.00  0.25  0.25
Sat/Cycle: 0.17 0.17  0.17  0.17  0.17  0.17  0.17  0.17  0.17  0.17  0.17  0.17
Volume/Cap: 0.26 0.26  0.26  0.26  0.49  0.49  0.49  0.49  0.49  0.49  0.49  0.49

User DelAdj: 1.00 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
User DelAdj: 1.00 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00

Capacity Analysis Module:
Vol/Sat: 0.04 0.00  0.04  0.00  0.00  0.01  0.00  0.02  0.22  0.22  0.00  0.25  0.25
Sat/Cycle: 0.17 0.17  0.17  0.17  0.17  0.17  0.17  0.17  0.17  0.17  0.17  0.17
Volume/Cap: 0.26 0.26  0.26  0.26  0.49  0.49  0.49  0.49  0.49  0.49  0.49  0.49

User DelAdj: 1.00 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
User DelAdj: 1.00 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
### Level Of Service Computation Report
#### 2000 HCM Operations (Future Volume Alternative)

**Existing Plus Project AM**

**Intersection #43: Mariposa/I-280NB**

**Signal=Split/Rights=Include**

**Base+Add Vol:** 82*** 0 0 0 0

**Lanes:** 2 0 0 0 0

**Cycle Time (sec):** 90

**Base+Add Lanes:** Rights=Include

**Vol Cnt Date:** 5/9/2013 Rights=Include

**Cycle Time (sec):** 90

**Loss Time (sec):** 7

**Cycle Time (sec):** 90

**Lanes:** 0 0 0 0

**Avg Delay (sec):** 33.8

**L O S:** C

**Street Name:** I-280NB Mariposa Street

<table>
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<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
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<tbody>
<tr>
<td>Min. Green</td>
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<td>55</td>
<td>55</td>
<td>13</td>
<td>13</td>
<td>13</td>
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<tr>
<td>Base Vol</td>
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<td>745</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>Adj Vol</td>
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<td>586</td>
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<td>82</td>
<td>67</td>
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<tr>
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<td>4.0</td>
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</table>

**Critical V/C:** 0.836

**Avg Crit Del (sec/veh):** 58.6

**Avg Delay (sec/veh):** 33.8

**Volume Module:** >> Count Date: 9 May 2013 << 7:00-8:45am

**Base Vol:** 889 0 745 0 0 105

**Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00

**Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00

**Delay/Veh:** 36.7 36.7 36.7 36.7 36.7 36.7

**User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00

**User DelAdj:** 4.0 4.0 4.0 4.0 4.0 4.0

**LOS by Move:** B B B B

**HCM2kAvgQ:** 19 13 3 0 0 3

**Note:** Queue reported is the number of cars per lane.

---

**Existing Plus Project PM**

**Intersection #43: Mariposa/I-280NB**

**Signal=Split/Rights=Include**

**Base+Add Vol:** 503*** 0 0 0 0

**Lanes:** 2 0 0 0 0

**Cycle Time (sec):** 90

**Loss Time (sec):** 12

**Cycle Time (sec):** 90

**Lanes:** 0 0 0 0

**Avg Delay (sec):** 33.4

**L O S:** C

**Street Name:** I-280NB Mariposa Street

<table>
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<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
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<td>Min. Green</td>
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<td>29</td>
<td>29</td>
<td>26</td>
<td>26</td>
<td>26</td>
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<td>Base Vol</td>
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<tr>
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<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
</tr>
</tbody>
</table>

**Critical V/C:** 0.745

**Avg Crit Del (sec/veh):** 35.1

**Avg Delay (sec/veh):** 33.4

**Volume Module:** >> Count Date: 9 May 2013 << 7:00-8:45am

**Base Vol:** 482 0 180 0 0 0

**Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00

**Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00

**Delay/Veh:** 36.9 22.4 25.7 0.0 0.0 37.4

**User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00

**User DelAdj:** 4.0 4.0 4.0 4.0 4.0 4.0

**LOS by Move:** D D D D

**HCM2kAvgQ:** 14 2 5 0 0 9

**Note:** Queue reported is the number of cars per lane.
Intersection #45: Divisadero/Pine

2000 HCM Operations (Future Volume Alternative)

Existing Plus Project AM

Intersection #45: Divisadero/Pine

Signal=Permit/Rights=Include

Base+Add Vol: 43 474 0

Lanes: 0 1 1 0 0

Base+Add Lanes: Rights=Include Vol Cnt Date: 5/15/2013 Rights=Include Lanes: Base+Add

Cycle Time (sec): 60

Loss Time (sec): 8

Critical V/C: 0.561

Avg Crit Del (sec/veh): 14.7

Avg Delay (sec/veh): 14.3

Street Name: Divisadero Street

Approach: North Bound South Bound East Bound West Bound

Movement: L T R L T R L T R

Min. Green: 0 26 0 26 0 26 0 26

Yr: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

Volume Module: Volume Module: > Count Date: 15 May 2013 << 7:45-8:45am

Base Vol: 25 486 0 0 436 43 0 0 0 87 890 86

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Initial Base: 25 436 43 0 0 0 87 890 86

Added Vol: 0 10 0 0 0 0 33 0 0

PasserByVol: 0 0 0 0 0 0 0 0 0

Init Pub: 25 436 43 0 0 0 120 890 86

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Critical V/C: 0.781

Avg Crit Del (sec/veh): 36.5

Avg Delay (sec/veh): 32.0

Street Name: Pine Street

Approach: North Bound South Bound East Bound West Bound

Movement: L T R L T R L T R

Min. Green: 0 26 0 26 0 26 0 26

Yr: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

Volume Module: Volume Module: > Count Date: 15 May 2013 << 7:45-8:45am

Base Vol: 51 465 0 0 465 71 0 0 0 97 1490 103

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Initial Base: 51 465 71 0 0 0 97 1490 103

Added Vol: 0 21 0 0 0 0 0 0

PasserByVol: 0 0 0 0 0 0 0 0

Init Pub: 51 465 71 0 0 0 100 1490 103

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Critical V/C: 0.781

Avg Crit Del (sec/veh): 36.5

Avg Delay (sec/veh): 32.0

Saturation Flow Module:

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

Adjustment: 0.65 0.65 0.65 0.65 0.65 0.65 0.65 0.65 0.65 0.65 0.65

Lanes: 0.19 1.81 0.00 0.00 1.74 0.26 0.00 0.00 0.18 2.64 0.18

Final Sat.: 236 2246 0 0 2430 368 0 0 0 246 3683 253

Saturation Flow Module:

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

Adjustment: 0.65 0.65 0.65 0.65 0.65 0.65 0.65 0.65 0.65 0.65 0.65

Lanes: 0.19 1.81 0.00 0.00 1.74 0.26 0.00 0.00 0.18 2.64 0.18

Final Sat.: 236 2246 0 0 2430 368 0 0 0 246 3683 253

Capacity Analysis Module:

Vol/Sat: 0.24 0.24 0.00 0.00 0.21 0.21 0.00 0.00 0.00 0.00 0.00 0.44 0.44 0.44

Critt Moves: ****

Green/Cycle: 0.43 0.43 0.00 0.00 0.43 0.43 0.00 0.00 0.00 0.43 0.43 0.43

Volume/Cap: 0.48 0.48 0.00 0.00 0.48 0.44 0.00 0.00 0.00 0.65 0.65 0.65

Uniform Del: 12.1 12.1 0.0 0.0 11.9 11.9 0.0 0.0 0.0 13.4 13.4 13.4

IncrementDel: 2.0 2.0 0.0 0.0 1.4 1.4 0.0 0.0 0.0 1.7 1.7 1.7

InitQueueDel: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

Delay Adj: 1.00 1.00 0.00 0.00 1.00 1.00 0.00 0.00 0.00 1.00 1.00 1.00

Delay/Veh: 13.5 13.5 0.0 0.0 15.2 15.2 0.0 0.0 0.0 15.2 15.2 15.2

User DelAdj: 1.00 1.00 0.00 0.00 1.00 1.00 0.00 0.00 0.00 11.0 11.0 11.0

AdjDel/Vehr: 13.5 13.5 0.0 0.0 13.5 13.5 0.0 0.0 0.0 13.5 13.5 13.5

LOS by Move: B B A A B B A A B B B

HCMAvgQ: 4 4 4 0 0 0 0 0 0 7 7 7

Note: Queue reported is the number of cars per lane.
Intersection #46: Broderick/Bush

**2000 HCM Operations (Future Volume Alternative)**

**Existing Plus Project AM**

**Intersection #46: Broderick/Bush**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 0  60***  111

**Lanes:** 0 0 0  1 0

**Cycle Time (sec):** 60

**Loss Time (sec):** 8

**Critical V/C:** 0.717

**Avg Crit Del (sec/veh):** 16.9

**Avg Delay (sec/veh):** 16.9

**Street Name:** Broderick Street, Bush Street

**Approach:** North Bound, South Bound, East Bound, West Bound

**Movement:** L  T  R    L  T  R    L  T  R    L  T  R

**Min. Green:** 0  0  20  20  20  20

**Y+R:** 0  0  32  32  32  32

**Min. Green:** 0  0  20  20  20  20

**Y+R:** 0  0  32  32  32  32

**Cycle Time (sec):** 60

**Loss Time (sec):** 8

**Critical V/C:** 0.423

**Avg Crit Del (sec/veh):** 10.9

**Avg Delay (sec/veh):** 10.9

**Street Name:** Broderick Street, Bush Street

**Approach:** North Bound, South Bound, East Bound, West Bound

**Movement:** L  T  R    L  T  R    L  T  R    L  T  R

**Min. Green:** 0  0  20  20  20  20

**Y+R:** 0  0  32  32  32  32

---

**Capacity Analysis Module:**

**Vol/Sat:** 0.00 0.05 0.05 0.16 0.16 0.46 0.46 0.46 0.00 0.00 0.00

**Crt Moves:** ****

**Green/Cycle:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

**Volume/Cap:** 0.00 0.14 0.14 0.14 0.20 0.20 0.20 0.20 0.20 0.20 0.20

**Uniform Del:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

**IncremDel:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

**InitQDel:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

**Delay Adj:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

**Delay/Veh:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

**User DelAdj:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

**LOS Low Move:** A B B B B A A A A

**HCSQAvgQ:** 0  0  1  1  0  0  15  15  15  15  15

**Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #47: Divisadero/Bush**

**Signal=Perm+Prot/Rights=Include**

<table>
<thead>
<tr>
<th>Lane</th>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th>Volume Cnt</th>
<th>Date</th>
<th>Rights=Include</th>
<th>Lanes</th>
<th>Base+Add Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Base</td>
<td>179</td>
<td>1</td>
<td>1088***</td>
<td>1</td>
<td>1088</td>
<td>1</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Cycle Time (sec):** 60

**Loss Time (sec):** 8

**Critical V/C:** 1.319

**vg Crit Del (sec/veh):** 18.1

**vg Delay (sec/veh):** 19.7

**LOS:** B

**Cycle:**

- North Bound: 0.0
- South Bound: 0.0
- East Bound: 0.0
- West Bound: 0.0

**Min. Green:**

- North Bound: 0.0
- South Bound: 0.0
- East Bound: 0.0
- West Bound: 0.0

**Signal=Permit/Rights=Include**

**Street Name:** Divisadero Street, Bush Street

**Approach:**

- North Bound
- South Bound
- East Bound
- West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

**Volume Module:**

Base Vol: 0 438 89 76 515 0 79 1088 70 0 0 0 0 0 0

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Final Volume: 0 499 148 84 565 0 86 1183 76 0 0 0 0 0 0 0

**Delay Adj:**

- North Bound: 0.00
- South Bound: 0.00
- East Bound: 0.00
- West Bound: 0.00

**Delay/Veh:**

- North Bound: 0.0
- South Bound: 0.0
- East Bound: 0.0
- West Bound: 0.0

**User DelAdj:**

- North Bound: 1.00
- South Bound: 1.00
- East Bound: 1.00
- West Bound: 1.00

**LOS by Move:**

- A  A  C  B  B  B  A  A  A  A  A  A

**HCM2kAvgQ:**

- North Bound: 0
- South Bound: 0
- East Bound: 0
- West Bound: 0

Note: Queue reported is the number of cars per lane.

---

### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #47: Divisadero/Bush**

**Signal=Perm+Prot/Rights=Include**

<table>
<thead>
<tr>
<th>Lane</th>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th>Volume Cnt</th>
<th>Date</th>
<th>Rights=Include</th>
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<tbody>
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<td>1088***</td>
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<td>0</td>
<td>0</td>
<td>0</td>
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</tbody>
</table>

**Cycle Time (sec):** 60

**Loss Time (sec):** 8

**Critical V/C:** 1.461

**vg Crit Del (sec/veh):** 50.3

**vg Delay (sec/veh):** 47.5

**LOS:** D

**Cycle:**

- North Bound: 0.0
- South Bound: 0.0
- East Bound: 0.0
- West Bound: 0.0

**Min. Green:**

- North Bound: 0.0
- South Bound: 0.0
- East Bound: 0.0
- West Bound: 0.0

**Signal=Permit/Rights=Include**

**Street Name:** Divisadero Street, Bush Street

**Approach:**

- North Bound
- South Bound
- East Bound
- West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

**Volume Module:**

Base Vol: 1 397 131 101 421 0 99 1704 63 0 0 0 0 0 0 0

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Final Volume: 1 499 148 84 565 0 86 1183 76 0 0 0 0 0 0 0

**Delay Adj:**

- North Bound: 0.00
- South Bound: 0.00
- East Bound: 0.00
- West Bound: 0.00

**Delay/Veh:**

- North Bound: 0.0
- South Bound: 0.0
- East Bound: 0.0
- West Bound: 0.0

**User DelAdj:**

- North Bound: 1.00
- South Bound: 1.00
- East Bound: 1.00
- West Bound: 1.00

**LOS by Move:**

- A  A  A  B  B  B  A  A  A  A  A  A

**HCM2kAvgQ:**

- North Bound: 5
- South Bound: 7
- East Bound: 7
- West Bound: 5

Note: Queue reported is the number of cars per lane.
### Intersection #48: Scott/Bush

#### Existing Plus Project AM

<table>
<thead>
<tr>
<th>Lane</th>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th>Vol Ctrl Date</th>
<th>Cycle Time (sec)</th>
<th>Loss Time (sec)</th>
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<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>01/15/2013</td>
<td>60</td>
<td>8</td>
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#### Base+Add Vol

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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>01/15/2013</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>1.00</td>
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<td>0</td>
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#### Traffic Volume

<table>
<thead>
<tr>
<th>Lanes</th>
<th>Traffic Volume</th>
<th>Base Vol</th>
<th>Growth Adj</th>
<th>InitQueuDel</th>
<th>Vol Volume</th>
<th>Vol Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>151</td>
<td>1.00</td>
<td>0</td>
<td>137</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>240</td>
<td>177</td>
<td>1.00</td>
<td>0</td>
<td>218</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>151</td>
<td>1217</td>
<td>1.00</td>
<td>0</td>
<td>137</td>
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</table>

#### Traffic Landscape

<table>
<thead>
<tr>
<th>Lanes</th>
<th>LOS</th>
<th>Street Name</th>
<th>Approach</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>A</td>
<td>Scott Street</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>B</td>
<td>Bush Street</td>
<td></td>
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#### Key Performance Indicators

<table>
<thead>
<tr>
<th>Metrics</th>
<th>Value</th>
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<tbody>
<tr>
<td>Critical V/C</td>
<td>0.830</td>
</tr>
<tr>
<td>AVG Crit Del (sec/veh)</td>
<td>33.5</td>
</tr>
<tr>
<td>AVG Delay (sec/veh)</td>
<td>32.0</td>
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</tbody>
</table>

### Traffic Flow Module

<table>
<thead>
<tr>
<th>Lanes</th>
<th>Sat/Lane</th>
<th>Volume</th>
<th>Growth Adj</th>
<th>InitQueuDel</th>
<th>Vol Volume</th>
<th>Vol Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1900</td>
<td>151</td>
<td>1.00</td>
<td>0</td>
<td>137</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>1500</td>
<td>240</td>
<td>1.00</td>
<td>0</td>
<td>218</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>1900</td>
<td>151</td>
<td>1.00</td>
<td>0</td>
<td>137</td>
<td>0</td>
</tr>
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</table>

#### Capacity Analysis

<table>
<thead>
<tr>
<th>Lanes</th>
<th>Capacity</th>
<th>Vol/Sat</th>
<th>Crit Moves</th>
<th>User Del/Adj</th>
<th>LOS by Move</th>
<th>HCM2kAvgQ</th>
<th>Queue</th>
<th>Capacity</th>
<th>Vol/Sat</th>
<th>Crit Moves</th>
<th>User Del/Adj</th>
<th>LOS by Move</th>
<th>HCM2kAvgQ</th>
<th>Queue</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.00</td>
<td>0.17</td>
<td>0.17</td>
<td>0.24</td>
<td>0.24</td>
<td>0.48</td>
<td>1</td>
<td>0.18</td>
<td>0.18</td>
<td>0.17</td>
<td>0.17</td>
<td>0.24</td>
<td>0.48</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: Queue reported is the number of cars per lane.
Intersection #49: Bush/Pierce
Signal=Permit/Rights=Include

Base+Add Vol: 0  35***  39
Lanes: 0 0 0  1 0

Loss Time (sec): 8
Cycle Time (sec): 60

Critical V/C: 0.626
avg Crit Del (sec/veh): 32.7
avg Delay (sec/veh): 32.1

LOS: C

Volume Module: >> Count Date: 5/15/2013 Rights=Include Lanes: Base+Add

Street Name:          Pierce Street                      Bush Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R

Min. Green:     0    0    23    23   23     0     0   29    29     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0

Growth Adj:  1.00 1.00  1.00  1.00 1.00  0.0  18.1 18.1  18.1   0.0  0.0   0.0
InitQueuDel:  0.0  0.0   0.0   0.0  0.0   0.0   0.0  0.0   0.0   0.0  0.0   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  0.00 0.00  0.00
Delay/Veh:   12.5 12.5  12.5  12.9 12.9   0.0  33.4 33.4  33.4   0.0  0.0   0.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  0.0  33.4 33.4  33.4   0.0  0.0   0.0

LOS by Move:    B    B     B     B    B     A     C    C     C     A    A     A

HCM2kAvgQ:      1    1     1     1    1     0    14   14    14     0    0     0
Note: Queue reported is the number of cars per lane.

Intersection #49: Bush/Pierce
Signal=Permit/Rights=Include

Base+Add Vol: 0  32    30
Lanes: 0 0 0  1 0

Loss Time (sec): 8
Cycle Time (sec): 60

Critical V/C: 0.495
avg Crit Del (sec/veh): 15.3
avg Delay (sec/veh): 15.2

LOS: B

Volume Module: >> Count Date: n/a Rights=Include Lanes: Base+Add

Street Name:          Pierce Street                      Bush Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R

Min. Green:     0    0    23    23   23     0     0   29    29     0    0     0
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0

Growth Adj:  1.00 1.00  1.00  1.00 1.00  0.0   2.8  2.8   2.8   0.0  0.0   0.0
InitQueuDel:  0.0  0.0   0.0   0.0  0.0   0.0   0.0  0.0   0.0   0.0  0.0   0.0
Delay Adj:   0.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  1.00  0.00 0.00  0.00
Delay/Veh:    0.0 12.8  12.8  12.8 12.8   0.0  15.5 15.5  15.5   0.0  0.0   0.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  0.0  15.5 15.5  15.5   0.0  0.0   0.0

LOS by Move:    A    B     B     B    B     A     B    B     B     A    A     A

HCM2kAvgQ:      0    1     1     1    1     0     9    9     9     0    0     0
Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM 4-Way Stop (Future Volume Alternative)

**Intersection #50: Broderick/Sutter**

**Signal=Stop/Rights=Include**

**Existing Plus Project AM**

<table>
<thead>
<tr>
<th>Lanes</th>
<th>Base+Add Lanes</th>
<th>Vol Cnt Date</th>
<th>Cycle Time (sec)</th>
<th>Loss Time (sec)</th>
<th>Adj Del (pct.)</th>
<th>Critical V/C</th>
<th>Avg Crit Del (sec/veh)</th>
<th>Avg Delay (sec/veh)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>12</td>
<td>0</td>
<td>144***</td>
<td>0</td>
<td>0</td>
<td>1! 58</td>
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</table>

**Street Name:** Broderick Street

**Approach:**

<table>
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<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td></td>
</tr>
</tbody>
</table>

**Volume Module:**  Base+Add Vol: 9*** 56     31

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.260

**Avg Crit Del (sec/veh):** 8.5

**Avg Delay (sec/veh):** 8.5

**LOS:** A

---

**Intersection #50: Broderick/Sutter**

**Signal=Stop/Rights=Include**

**Existing Plus Project PM**

<table>
<thead>
<tr>
<th>Lanes</th>
<th>Base+Add Lanes</th>
<th>Vol Cnt Date</th>
<th>Cycle Time (sec)</th>
<th>Loss Time (sec)</th>
<th>Adj Del (pct.)</th>
<th>Critical V/C</th>
<th>Avg Crit Del (sec/veh)</th>
<th>Avg Delay (sec/veh)</th>
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</thead>
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<td>68***</td>
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<td>0</td>
<td>11 141***</td>
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**Street Name:** Broderick Street

**Approach:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
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<tbody>
<tr>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td></td>
</tr>
</tbody>
</table>

**Volume Module:**  Base+Add Vol: 23  19***  12

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.278

**Avg Crit Del (sec/veh):** 8.3

**Avg Delay (sec/veh):** 8.3

**LOS:** A

---

**Note:** Queue reported is the number of cars per lane.
Intersection #51: Divisadero/Sutter

**Level Of Service Computation Report**

**2000 HCM Operations (Future Volume Alternative)**

**Existing Plus Project AM**

**Intersection #51: Divisadero/Sutter**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 101 420 15

**Lanes:** 0 1 0 1 0

**Cycle Time (sec):** 60

**Loss Time (sec):** 5

**Critical V/C:** 0.535

**Avg Crit Del (sec/veh):** 14.1

**Avg Delay (sec/veh):** 12.8

**Street Name:** Divisadero Street

**Approach:** North Bound

**Movement:** L - T - R

**Volume Module:** >> Count Date: 15 May 2013 << 7:45-8:45am

**Base Vol:** 75 475 11

**Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Delay/Veh:** 13.7 13.7 13.7 13.7 13.7 13.7 13.7 13.7 13.7 13.7 13.7 13.7

**User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**LOS by Move:** B B B B B B B B B B B B

**HCM2kAvgQ:** 5 5 5 5 5 5 5 5 5 5 5 5

**Note:** Queue reported is the number of cars per lane.

---

**Intersection #51: Divisadero/Sutter**

**Level Of Service Computation Report**

**2000 HCM Operations (Future Volume Alternative)**

**Existing Plus Project PM**

**Intersection #51: Divisadero/Sutter**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 41 514 11

**Lanes:** 0 1 0 1 0

**Cycle Time (sec):** 60

**Loss Time (sec):** 5

**Critical V/C:** 0.502

**Avg Crit Del (sec/veh):** 13.5

**Avg Delay (sec/veh):** 13.2

**Street Name:** Sutter Street

**Approach:** South Bound

**Movement:** L - T - R

**Volume Module:** >> Count Date: 15 May 2013 << 7:45-8:45am

**Base Vol:** 22 467 47

**Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Delay/Veh:** 10.4 10.4 10.4 10.4 10.4 10.4 10.4 10.4 10.4 10.4 10.4 10.4

**User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**LOS by Move:** B B B B B B B B B B B B

**HCM2kAvgQ:** 4 4 4 4 4 4 4 4 4 4 4 4

**Note:** Queue reported is the number of cars per lane.
### Intersection #52: Sutter/Scott

#### Existing Plus Project AM

**Vol Cnt Date:** 5/15/2013  
**Rights=Include Lanes:** Base+Add

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Volume Module:** >> Count Date: 15 May 2013 << 8:00-9:00am  
**Base Vol:** 39 177 20 26 175 33 21 59 48 24 81 28  
**Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
**User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
**PHF Volume:** 46 198 22 28 196 36 23 64 59 27 98 30  
**Reduced Vol:** 0 0 0 0 0 0 0 0 0 0 0 0  
**MLF Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
**AllWayAvgQ:** 0.5 0.5 0.5 0.8 0.8 0.8 0.3 0.3 0.3 0.3 0.3 0.3  

**Street Name:** Scott Street  
**Approach:** North Bound  
**Movement:** L - T - R  
**Vol Cnt Date:** 5/15/2013  
**Volume Module:** >> Count Date: 15 May 2013 << 8:00-9:00am  
**Base Vol:** 39 177 20 26 175 33 21 59 48 24 81 28  
**Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
**User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
**PHF Volume:** 46 198 22 28 196 36 23 64 59 27 98 30  
**Reduced Vol:** 0 0 0 0 0 0 0 0 0 0 0 0  
**MLF Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
**AllWayAvgQ:** 0.5 0.5 0.5 0.8 0.8 0.8 0.3 0.3 0.3 0.3 0.3 0.3  

#### Existing Plus Project PM

**Vol Cnt Date:** 5/15/2013  
**Rights=Include Lanes:** Base+Add

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Volume Module:** >> Count Date: 15 May 2013 << 8:00-9:00am  
**Base Vol:** 39 177 20 26 175 33 21 59 48 24 81 28  
**Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
**User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
**PHF Volume:** 46 198 22 28 196 36 23 64 59 27 98 30  
**Reduced Vol:** 0 0 0 0 0 0 0 0 0 0 0 0  
**MLF Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
**AllWayAvgQ:** 0.5 0.5 0.5 0.8 0.8 0.8 0.3 0.3 0.3 0.3 0.3 0.3  

**Street Name:** Scott Street  
**Approach:** North Bound  
**Movement:** L - T - R  
**Vol Cnt Date:** 5/15/2013  
**Volume Module:** >> Count Date: 15 May 2013 << 8:00-9:00am  
**Base Vol:** 39 177 20 26 175 33 21 59 48 24 81 28  
**Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
**User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
**PHF Volume:** 46 198 22 28 196 36 23 64 59 27 98 30  
**Reduced Vol:** 0 0 0 0 0 0 0 0 0 0 0 0  
**MLF Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
**AllWayAvgQ:** 0.5 0.5 0.5 0.8 0.8 0.8 0.3 0.3 0.3 0.3 0.3 0.3  

## Note
- Queue reported is the number of cars per lane.
### Intersection #53: Pierce/Sutter

**Level Of Service Computation Report**

#### 2000 HCM 4-Way Stop (Future Volume Alternative)

#### Existing Plus Project AM

**Intersection #53: Pierce/Sutter**

**Signal=Stop/Rights=Include**

**Base+Add Vol:** 24 32 11

**Lanes:** 0 0 1! 0 0

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.181

**Avg Delay (sec/veh):** 8.0

**LOS:** A

---

**Street Name:** Pierce Street, Sutter Street

**Approach:**

<table>
<thead>
<tr>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movement:</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
</tr>
<tr>
<td>Min. Green:</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Volume Module: &gt;&gt; Count Date: 15 May 2013 &lt;&lt; 8:00-9:00am</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Base Vol:** 15 20 34 11 32 24 11 72 16 5 89 27

**Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Initial Bse:** 15 20 34 11 32 24 11 72 16 5 89 27

**User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**PHF Adj:** 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88

**PHF Volume:** 7 24 39 13 36 27 13 82 18 6 113 31

**Reduc Vol:** 0 0 0 0 0 0 0 0 0 0 0 0

**Reduced Vol:** 17 23 39 13 36 27 13 82 18 6 113 31

**PCE Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**MLF Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Final Volume:** 17 23 39 13 36 27 13 82 18 6 113 31

---

**Capacity Analysis Module:**

**Vol/Sat:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>L - T - R</td>
<td>0.22 0.29 0.49 0.16 0.48 0.36 0.11 0.73 0.16 0.04 0.75 0.21</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L - T - R</td>
<td>0.22 0.29 0.49 0.16 0.48 0.36 0.11 0.73 0.16 0.04 0.75 0.21</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Final Sat.:** 173 221 391 129 373 280 89 586 130 31 622 170

---

**Saturation Flow Module:**

**Adjustment:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Lanes:** 0.22 0.29 0.49 0.16 0.48 0.36 0.11 0.73 0.16 0.04 0.75 0.21

---

**Note:** Queue reported is the number of cars per lane.

---

### Intersection #53: Pierce/Sutter

**Level Of Service Computation Report**

#### 2000 HCM 4-Way Stop (Future Volume Alternative)

#### Existing Plus Project PM

**Intersection #53: Pierce/Sutter**

**Signal=Stop/Rights=Include**

**Base+Add Vol:** 34 27 13

**Lanes:** 0 0 1! 0 0

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.304

**Avg Delay (sec/veh):** 8.6

**LOS:** A

---

**Street Name:** Pierce Street, Sutter Street

**Approach:**

<table>
<thead>
<tr>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movement:</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
</tr>
<tr>
<td>Min. Green:</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Volume Module: &gt;&gt; Count Date: n/a &lt;&lt;</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Base Vol:** 7 24 6 13 27 34 14 94 17 13 163 32

**Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Initial Bse:** 7 24 6 13 27 34 14 94 17 13 163 32

**User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**PHF Adj:** 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84

**PHF Volume:** 8 29 7 15 32 40 17 112 20 15 195 38

**Reduc Vol:** 0 0 0 0 0 0 0 0 0 0 0 0

**Reduced Vol:** 8 29 7 15 32 40 17 112 20 15 195 38

**PCE Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**MLF Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Final Volume:** 8 29 7 15 32 40 17 112 20 15 195 38

---

**Capacity Analysis Module:**

**Vol/Sat:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>L - T - R</td>
<td>0.19 0.65 0.16 0.18 0.36 0.46 0.11 0.75 0.14 0.06 0.79 0.15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L - T - R</td>
<td>0.19 0.65 0.16 0.18 0.36 0.46 0.11 0.75 0.14 0.06 0.79 0.15</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Final Sat.:** 131 490 112 129 267 337 89 594 107 91 642 125

---

**Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #54: Broderick/Post**

**Signal=Permit/Rights=Include**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>27</th>
<th>0</th>
<th>39</th>
<th>0</th>
<th>0</th>
<th>30</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lanes</td>
<td>0</td>
<td>0</td>
<td>1!</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vol Cnt Date</td>
<td>1/15/2013</td>
<td>Cycle Time (sec)</td>
<td>60</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOS</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Existing Plus Project AM

**Street Name:** Broderick Street  
**Post Street:** Street Name: Broderick Street  
**Approach:** North Bound  
**Movement:** L T R

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>0</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>YrBs:</td>
<td>4.0</td>
<td>3.5</td>
<td>3.5</td>
</tr>
<tr>
<td>Cycle Time (sec):</td>
<td>60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Critical V/C:</td>
<td>0.491</td>
<td></td>
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</tr>
<tr>
<td>Avg Crit Del (sec/veh):</td>
<td>15.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avg Delay (sec/veh):</td>
<td>14.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOS:</td>
<td>B</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Street Name: Broderick Street  
**Post Street:** Street Name: Broderick Street  
**Approach:** North Bound  
**Movement:** L T R

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>0</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>YrBs:</td>
<td>4.0</td>
<td>3.5</td>
<td>3.5</td>
</tr>
<tr>
<td>Cycle Time (sec):</td>
<td>60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Critical V/C:</td>
<td>0.333</td>
<td></td>
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</tr>
<tr>
<td>Avg Crit Del (sec/veh):</td>
<td>12.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avg Delay (sec/veh):</td>
<td>12.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOS:</td>
<td>B</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Note:** Queue reported is the number of cars per lane.

---

**Note:** Queue reported is the number of cars per lane.
# Level Of Service Computation Report

## 2000 HCM Operations (Future Volume Alternative)

### Existing Plus Project AM

<table>
<thead>
<tr>
<th>Intersection #55: Divisadero/Post</th>
<th>Signal=Permit</th>
<th>Rights=Include</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base+Add Vol: 43 431 33</td>
<td>Loss Time (sec): 8</td>
<td></td>
</tr>
<tr>
<td>Lanes: 0 1 0 1 0</td>
<td>Critical C/V: 0.716</td>
<td></td>
</tr>
<tr>
<td>Avg Delay (sec): 23.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOS: B</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Yr:5 |  |
| 4.5 4.5 4.5 4.5 4.5 |  |
| Traffic: 87 0 |  |
| |  |

### Existing Plus Project PM

<table>
<thead>
<tr>
<th>Intersection #55: Divisadero/Post</th>
<th>Signal=Permit</th>
<th>Rights=Include</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base+Add Vol: 21 594 31</td>
<td>Loss Time (sec): 8</td>
<td></td>
</tr>
<tr>
<td>Lanes: 0 1 0 1 0</td>
<td>Critical C/V: 0.638</td>
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</tr>
<tr>
<td>Avg Delay (sec): 18.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOS: B</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Yr:5 |  |
| 4.5 4.5 4.5 4.5 4.5 |  |
| Traffic: 87 0 |  |
| |  |
### Intersection #56: Scott/Post

#### Existing Plus Project AM

<table>
<thead>
<tr>
<th>Lane</th>
<th>Base+Add Vol:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>29  206  26</td>
</tr>
</tbody>
</table>
|        | 0  0  1!
|        | 0  0 |
| Cycle Time (sec): 60 |
| Loss Time (sec): 7 |
| Critical V/C: 0.670 |
| Avg Del (sec): 19.5 |
| Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| Delay/Veh: 23.5 23.5 23.5 17.1 17.1 17.1 16.1 16.1 16.1 |
| LOS: B |

#### Existing Plus Project PM

<table>
<thead>
<tr>
<th>Lane</th>
<th>Base+Add Vol:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15  259  26</td>
</tr>
<tr>
<td></td>
<td>0  0  0  0</td>
</tr>
<tr>
<td>Cycle Time (sec): 60</td>
<td></td>
</tr>
<tr>
<td>Loss Time (sec): 7</td>
<td></td>
</tr>
<tr>
<td>Critical V/C: 0.500</td>
<td></td>
</tr>
<tr>
<td>Avg Del (sec): 15.3</td>
<td></td>
</tr>
<tr>
<td>Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
</tr>
<tr>
<td>Delay/Veh: 16.5 16.5 16.5 18.1 18.1 18.1 12.4 12.4 12.4</td>
<td></td>
</tr>
<tr>
<td>LOS: B</td>
<td></td>
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</table>

### Street Name: Scott Street

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>T</td>
<td>R</td>
<td>L</td>
<td>T</td>
</tr>
<tr>
<td>Min. Green: 24  24  24  24  24  24  29  29  29  29  29  29</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOS: C</td>
<td></td>
<td></td>
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<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>T</td>
<td>R</td>
<td>L</td>
<td>T</td>
</tr>
<tr>
<td>Min. Green: 24  24  24  24  24  24  29  29  29  29  29  29</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOS: B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Capacity Analysis Module

| Vol/Sat   | 0.29 0.29 0.29 0.21 0.21 0.31 0.31 0.31 0.08 0.08 0.08 |
| Crit Moves: **** |
| Green/Cycle: 0.40 0.40 0.40 0.40 0.40 0.40 0.48 0.48 0.48 0.48 0.48 0.48 |
| Volume/Cap: 0.71 0.71 0.71 0.51 0.51 0.51 0.63 0.63 0.63 0.16 0.16 0.16 |
| Uniform Dl: 15.1 15.1 15.1 13.6 13.6 13.6 11.5 11.5 11.5 8.7 8.7 8.7 |
| Increment Del: 8.3 8.3 8.3 3.5 3.5 3.5 4.6 4.6 4.6 0.6 0.6 0.6 |
| InitQueueDel: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 |
| Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| Delay/Veh: 23.5 23.5 23.5 17.1 17.1 17.1 16.1 16.1 16.1 9.2 9.2 9.2 |
| User Del(Avg): 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| AdjDel/Veh: 23.5 23.5 23.5 17.1 17.1 17.1 16.1 16.1 16.1 9.2 9.2 9.2 |
| LOS by Move: C C C B B B B A A A |
| HCMAvgQv: 7 7 7 7 7 7 6 6 5 5 5 1 1 |

Note: Queue reported is the number of cars per lane.
**Intersection #57: Pierce/Post**

**Level Of Service Computation Report**

**2000 HCM Unsignalized (Future Volume Alternative)**

**Existing Plus Project AM**

**Intersection #57: Pierce/Post**

**Signal=Stop/Rights=Include**

**Base+Add Vol: 22  0     30**

**Lanes: 0 0 1! 0 0**

**Cycle Time (sec): 100**

**Loss Time (sec): 0**

**Critical V/C: 0.066**

**Avg Crit Del (sec/veh): 1.4**

**Avg Delay (sec/veh): 1.4**

**Cycle Time (sec): 100**

**Loss Time (sec): 0**

**Critical V/C: 0.048**

**Avg Crit Del (sec/veh): 1.5**

**Avg Delay (sec/veh): 1.5**

**Street Name: Pierce Street**

**Approach: North Bound South Bound East Bound West Bound**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
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</thead>
<tbody>
<tr>
<td>Volume Module:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Initial Base:</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>30</td>
<td>0</td>
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<td>22</td>
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<td>387</td>
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<tr>
<td>Critical V/C:</td>
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</tbody>
</table>

**Note:** Queue reported is the number of cars per lane.

---

**Intersection #57: Pierce/Post**

**Level Of Service Computation Report**

**2000 HCM Unsignalized (Future Volume Alternative)**

**Existing Plus Project PM**

**Intersection #57: Pierce/Post**

**Signal=Stop/Rights=Include**

**Base+Add Vol: 31  0     23**

**Lanes: 0 0 1! 0 0**

**Cycle Time (sec): 100**

**Loss Time (sec): 0**

**Critical V/C: 0.048**

**Avg Crit Del (sec/veh): 1.5**

**Avg Delay (sec/veh): 1.5**

**Cycle Time (sec): 100**

**Loss Time (sec): 0**

**Critical V/C: 0.048**

**Avg Crit Del (sec/veh): 1.5**

**Avg Delay (sec/veh): 1.5**

**Street Name: Pierce Street**

**Approach: North Bound South Bound East Bound West Bound**

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<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
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</tr>
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<td>0</td>
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<td>31</td>
<td>23</td>
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</table>

**Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

**2000 HCM Unsignalized (Future Volume Alternative)**

**Existing Plus Project AM**

**Intersection #58: Broderick / Geary**

**Signal=Stop/Rights=Include**

<table>
<thead>
<tr>
<th>Lanes</th>
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</thead>
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<table>
<thead>
<tr>
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<th>Cycle Time (sec)</th>
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<tr>
<td>01/01/2013</td>
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| 2047 | 0 | 0 | 0 | 0 | 0 |
| 509  | 0 | 0 | 0 | 0 | 0 |
| 2    | 0 | 0 | 0 | 0 | 0 |

<table>
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<tr>
<th>Avg Delay (sec)</th>
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</table>

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<thead>
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<th>C</th>
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</table>

**Street Name:** Broderick Street / Geary Blvd

**Approach:** North Bound / South Bound / East Bound / West Bound

<table>
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<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
</table>

**Volume Module:**

<table>
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<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>51</th>
<th>0</th>
<th>2045</th>
<th>54</th>
</tr>
</thead>
</table>

**Initial Bse:**

| 0 | 0 | 0 | 0 | 0 | 51 | 0 | 2045 | 54 |

**Added Vol:**

| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 |

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.096

**Approach LOS:**

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**Note:** Queue reported is the number of cars per lane.

---

### Level Of Service Computation Report

**2000 HCM Unsignalized (Future Volume Alternative)**

**Existing Plus Project PM**

**Intersection #58: Broderick / Geary**

**Signal=Stop/Rights=Include**

<table>
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<tr>
<th>Lanes</th>
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</table>

<table>
<thead>
<tr>
<th>Vol Cnt Date</th>
<th>Cycle Time (sec)</th>
<th>Base+Add Vol:</th>
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<tbody>
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<td>n/a</td>
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<td>0</td>
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</table>

| 2047 | 0 | 0 | 0 | 0 | 0 |
| 509  | 0 | 0 | 0 | 0 | 0 |
| 2    | 0 | 0 | 0 | 0 | 0 |

<table>
<thead>
<tr>
<th>Avg Delay (sec)</th>
<th>0.82</th>
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<table>
<thead>
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<th>LOS</th>
<th>C</th>
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**Street Name:** Broderick Street / Geary Blvd

**Approach:** North Bound / South Bound / East Bound / West Bound

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<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
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<th>0</th>
<th>0</th>
<th>0</th>
<th>50</th>
<th>0</th>
<th>1416</th>
<th>78</th>
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</table>

**Initial Bse:**

| 0 | 0 | 0 | 0 | 0 | 50 | 0 | 1416 | 78 |

**Added Vol:**

| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Cycle Time (sec):** 100

**Loss Time (sec):** 1

**Critical V/C:** 0.174

**Approach LOS:**

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<tr>
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**Note:** Queue reported is the number of cars per lane.
**Level Of Service Computation Report**

**2000 HCM Operations (Future Volume Alternative)**

**Intersection #59: Divisadero/Geary**

**Signal=Permit/Rights=Include**

**Base+Add Vol:**

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<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
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<tbody>
<tr>
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<td>0</td>
<td>1</td>
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<td>100</td>
<td>457 114</td>
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<td>Cycle Time</td>
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<td></td>
</tr>
<tr>
<td>Loss Time</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Vol</td>
<td>106 668</td>
<td>100</td>
<td>457 114</td>
<td>2048 68</td>
</tr>
<tr>
<td>Added Vol</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>User Adj</td>
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<td>1.00 1.00</td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
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<td>100</td>
<td>457 114</td>
<td>2048 68</td>
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</tr>
<tr>
<td>Loss Time</td>
<td>0</td>
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<td>Initial Vol</td>
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<td>1194 80</td>
</tr>
<tr>
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</tr>
<tr>
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<td>1.00 1.00</td>
<td>1.00 1.00</td>
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<tr>
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<tr>
<td>Initial Put</td>
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<td>2 666 103</td>
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<tr>
<td>Initial Vol</td>
<td>83 479</td>
<td>72</td>
<td>1 639</td>
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<tr>
<td>VOL Volume</td>
<td>83 646</td>
<td>72</td>
<td>2 666 103</td>
<td>1231 82</td>
</tr>
</tbody>
</table>

**Street Name:**

**Divisadero Street**

**Geary Blvd**

**Approach:**

- North Bound
- South Bound
- East Bound
- West Bound

**Volume Module:**

- Base Vol: 106 668
- Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Capacity Analysis Module:**

- Vol/Sat: 0.36 0.36 0.10 0.00 0.21 0.21 0.00 0.51 0.51 0.28 0.28 0.28
- Crit Moves: ****

**Saturation Flow Module:**

- Flow Rate: 1900 1900
- Lanes: 0.28 1.72
- Initial Del: 297 1870

**HCM2kAvgQ:**

- Divisadero Street: 4 10
- Geary Blvd: 4 10

Note: Queue reported is the number of cars per lane.
Traffic #50: Scott/Geary

**Existing Plus Project AM**

Intersection #60: Scott/Geary

**Signal=Permit/Rights=Include**

**Base+Add Vol:**

- **53**
- **164**
- **44**

**Lanes:**

- **0**
- **0**
- **1**

**Cycle Time (sec):** **90**

**Loss Time (sec):** **84**

**Cycle Time:** **90**

**Critical C/V:** **0.791**

**vg Crit Del (sec/veh):** **23.3**

**vg Delay (sec/veh):** **21.1**

**Street Name:** Scott Street

**Approach:**

- **North Bound**
- **South Bound**
- **East Bound**
- **West Bound**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
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<td>35</td>
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<td>35</td>
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</tr>
</tbody>
</table>

**Note:** Queue reported is the number of cars per lane.

**Traffic #50: Scott/Geary**

**Existing Plus Project PM**

Intersection #60: Scott/Geary

**Signal=Permit/Rights=Include**

**Base+Add Vol:**

- **46**
- **222**
- **47**

**Lanes:**

- **0**
- **0**
- **1**

**Cycle Time (sec):** **90**

**Loss Time (sec):** **84**

**Cycle Time:** **90**

**Critical C/V:** **0.751**

**vg Crit Del (sec/veh):** **21.9**

**vg Delay (sec/veh):** **20.0**

**Street Name:** Scott Street

**Approach:**

- **North Bound**
- **South Bound**
- **East Bound**
- **West Bound**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
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**Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #61: S Van Ness/13th Street**

**Signal=Permit/Rights=Include**

**Base+Add Vol: 46 1067***  147**

**Lanes: 0 1 1  1 0**

- **Cycle Time (sec): 90**
- **Loss Time (sec): 10**
- **Critical V/C: 1.099**
- **vg Crit Del (sec/veh): 116.2**
- **vg Delay (sec/veh): 72.6**

#### Street Name: S Van Ness

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Note: Queue reported is the number of cars per lane.
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #62: 13th St / Folsom
Sign=Permit/Rights=Include

Base+Add Vol: 39  129     25
Lanes: 0 1 0  0 1

Cycle Time (sec): 75
Loss Time (sec): 0

Critical V/C: 0.660
Avg Crit Del (sec/veh): 26.3
Avg Delay (sec/veh): 26.3

LOS: C

Vol Cnt Date: 5/15/2013
Rights=Include Vol: 39
Rights=Include Lanes: 0 1 0  0 1

Critical V/C: 0.582
Avg Crit Del (sec/veh): 24.9
Avg Delay (sec/veh): 29.3

LOS: C

Vol Cnt Date: n/a
Rights=Include Vol: 104
Rights=Include Lanes: 0 1 0  0 1

Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

**Existing Plus Project AM**

**Intersection #63: 13th St / Harrison**

**Signal=Permit/Rights=Include**

Base+Add Vol: 146 392*** 61

Lanes: 0 1 0 1 0

Cycle Time (sec): 60

Loss Time (sec): 10

Critical V/C: 0.699

Avg Crit Del (sec/veh): 17.9

Avg Delay (sec/veh): 16.5

LOS: B

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<tr>
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**Volume Module:**

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<tr>
<td>Added Vol:</td>
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**Saturation Flow Module:**

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

Adjustment: 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52 0.52

Lanes: 0.49 0.49 0.49 0.49 0.49 0.49 0.49 0.49 0.49 0.49 0.49 0.49 0.49 0.49 0.49 0.49 0.49 0.49

Final Sat.: 485 736 718 247 1588 591 0 3983 222 147 3065 352

**Capacity Analysis Module:**

| Vol/Sat: | 0.18 0.18 0.18 0.26 0.26 0.26 0.00 0.32 0.32 0.18 0.18 0.18 |
|----------|-----------------|-------------|

**Circuit Moves:**

| |  |  |  |  |  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|

### Level Of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

**Existing Plus Project PM**

**Intersection #63: 13th St / Harrison**

**Signal=Permit/Rights=Include**

Base+Add Vol: 248 591*** 27

Lanes: 0 1 0 1 0

Cycle Time (sec): 60

Loss Time (sec): 10

Critical V/C: 0.779

Avg Crit Del (sec/veh): 20.7

Avg Delay (sec/veh): 19.3

LOS: B

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<tr>
<th>Street Name:</th>
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<td>PHF Volume:</td>
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<tr>
<td>FinalVolume:</td>
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**Saturation Flow Module:**

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

Adjustment: 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40

Lanes: 0.62 0.81 0.57 0.06 1.36 0.58 0.00 2.52 0.48 0.38 2.25 0.57

Final Sat.: 467 608 421 79 1740 730 0 3470 662 404 2705 69

**Capacity Analysis Module:**

| Vol/Sat: | 0.31 0.31 0.31 0.35 0.35 0.35 0.00 0.18 0.18 0.18 0.30 0.30 0.30 |
|----------|-----------------|-------------|

**Circuit Moves:**

| |  |  |  |  |  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|

Note: Queue reported is the number of cars per lane.
**Level Of Service Computation Report**

**2000 HCM Operations (Future Volume Alternative)**

**Existing Plus Project AM**

**Intersection #64: 10th St / Bryant**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 0 0 0

**Lanes:** 0 0 0 0 0

**Cycle Time (sec):** 90

**Loss Time (sec):** 11

**Critical V/C:** 0.567

**vg Crit Del (sec/veh):** 14.1

**vg Delay (sec/veh):** 14.1

**Cycle Time (sec):** 90

**Loss Time (sec):** 11

**Critical V/C:** 0.600

**vg Crit Del (sec/veh):** 16.8

**vg Delay (sec/veh):** 16.8

**Street Name:** Bryant Street

**Approach:** North Bound

**Volume:** 0 19 19

**Min. Green:** 0 19

**Green/Cycle:** 0.68

**Uniform Del:** 0.48

**Initial Del:** 0.54

**IntqDel:** 0.43

**Delay Adj:** 0.60

**Delay/Veh:** 0.48

**User DelAdj:** 0.14

**LOS by Move:** A

**HCM2kAvgQ:** 0

**Note:** Queue reported is the number of cars per lane.

---

**Street Name:** Bryant Street

**Approach:** North Bound

**Volume:** 0 19 19

**Min. Green:** 0 19

**Green/Cycle:** 0.72

**Uniform Del:** 0.52

**Initial Del:** 0.65

**IntqDel:** 0.50

**Delay Adj:** 0.67

**Delay/Veh:** 0.51

**User DelAdj:** 0.19

**LOS by Move:** A

**HCM2kAvgQ:** 0

**Note:** Queue reported is the number of cars per lane.
**Level Of Service Computation Report**

**2000 HCM Operations (Future Volume Alternative)**

### Intersection #65: 14th St / S Van Ness

**Signal=Permit/Rights=Include**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th>Signal=Permit/Rights=Include</th>
</tr>
</thead>
<tbody>
<tr>
<td>68 0 1 0 1 1 0</td>
<td>B</td>
<td>0 0 0 0 0 0</td>
</tr>
</tbody>
</table>

- **Base+Add Vol**: 1 340
- **Lanes**: 0 1 0 1 0
- **Cycle Time (sec)**: 60
- **Loss Time (sec)**: 0
- **Critical V/C**: 0.638
- **Avg Crit Del (sec/veh)**: 16.9
- **Avg Delay (sec/veh)**: 15.4

**Street Name:** S Van Ness

**Approach:** North Bound / South Bound / East Bound / West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L  T  R</th>
<th>L  T  R</th>
<th>L  T  R</th>
<th>L  T  R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>0 21 21</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>0 0 0</td>
</tr>
<tr>
<td>YrBt:</td>
<td>4.0 4.5</td>
<td>4.5 4.5</td>
<td>4.0 4.5</td>
<td>4.5 4.5</td>
</tr>
</tbody>
</table>

**Saturation Flow Module**

| Base Vol | 654 82 41 340 | 68 542 79 | 0 0 0 |
| Growth Adj | 1.00 | 1.00 | 1.00 |
| Initial Base | 654 82 41 340 | 1 68 542 79 | 0 0 0 |
| Added Vol | 0 0 3 | 14 0 0 |
| PassByVol | 0 0 0 0 | 0 0 0 |
| Initial Put | 1 654 85 55 340 | 1 68 542 79 | 0 0 0 |
| User Adj | 1.00 | 1.00 | 1.00 |
| PHF Volume | 1 681 89 57 354 | 1 71 565 82 | 0 0 0 |
| Reduce Volt | 0 0 0 0 | 0 0 0 |
| Base Vol | 1 681 89 57 354 | 1 71 565 82 | 0 0 0 |
| PCE Adj | 1.00 | 1.00 | 1.00 |
| Delay Adj | 0.00 | 9.5 | 9.5 |

**Saturation Flow Module**

| Base Vol | 612 64 132 819 | 68 401 122 | 0 0 0 |
| Growth Adj | 1.00 | 1.00 | 1.00 |
| Initial Base | 612 64 132 819 | 1 68 401 122 | 0 0 0 |
| Added Vol | 0 0 6 | 1 0 0 |
| PassByVol | 0 0 0 0 | 0 0 0 |
| Initial Put | 0 581 61 125 778 | 1 65 381 116 | 0 0 0 |
| User Adj | 1.00 | 1.00 | 1.00 |
| PHF Volume | 612 64 132 819 | 1 68 401 122 | 0 0 0 |
| Reduce Volt | 0 0 0 0 | 0 0 0 |
| Base Vol | 612 64 132 819 | 1 68 401 122 | 0 0 0 |
| PCE Adj | 1.00 | 1.00 | 1.00 |
| Delay Adj | 0.00 | 9.5 | 9.5 |

**Note:** Queue reported is the number of cars per lane.
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #66: 14th St / Folsom
Signal=Permit/Rights=Include

Base+Add Vol: 0 178 15
Lanes: 0 0 1 1 0

Cycle Time (sec): 60
Loss Time (sec): 7

Critical V/C: 0.673
Avg Crit Del (sec/veh): 18.5
Avg Delay (sec/veh): 16.0

Level Of Service: B

Street Name: Folsom Street 14th Street
Approach: North Bound South Bound East Bound West Bound
Movement: L L T - R L - T L L T - R

Min. Green: 0 22 22 22 0 21 21 21 7 0 0
Y+R: 4.0 3.5 3.5 3.5 3.5 4.0 3.5 3.5 3.5 4.0 3.5

Volume Module: Volume Count Date: 5/15/2013 Rights=Include Lanes: Base+Add

PHE Volume: 0 654 44 16 191 0 386 258 71 48 40
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0
DirVol: 654 44 16 191 386 258 71 48 40

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHE Adj: 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33

Delay Adj: 0.00 1.00 1.00 1.00 1.00 0.00 1.00 1.00 1.00 1.00 1.00

Delay/Veh: 0.0 11.3 11.3 10.0 10.0 0.0 22.5 20.6 20.6 16.6 0.0

User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

LOS by Move: A A B

HCM2kAvgQ: 0 7 1 0 4 1

Note: Queue reported is the number of cars per lane.

-------------|---------------||---------------||---------------||---------------|
Min. Green: 0 22 22 22 0 21 21 21 7 0 0
Y+R: 4.0 3.5 3.5 3.5 3.5 4.0 3.5 3.5 3.5 4.0 3.5

Volume Module: Volume Count Date: 5/15/2013 Rights=Include Lanes: Base+Add

PHE Volume: 0 654 44 16 191 0 386 258 71 48 40
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0
DirVol: 654 44 16 191 386 258 71 48 40

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHE Adj: 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33

Delay Adj: 0.00 1.00 1.00 1.00 1.00 0.00 1.00 1.00 1.00 1.00 1.00

Delay/Veh: 0.0 11.3 11.3 10.0 10.0 0.0 22.5 20.6 20.6 16.6 0.0

User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

LOS by Move: A A B

HCM2kAvgQ: 0 7 1 0 4 1

Note: Queue reported is the number of cars per lane.
Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing Plus Project AM

Intersection #67: 14th St / Harrison
Signal=Stop/Rights=Include

Base+Add Vol: 48 423 12***
Lanes: 0 1 0 1 0
Cycle Time (sec): 100
Loss Time (sec): 0

Critical V/C: 0.460
Avg Crit Del (sec/veh): 12.0
Los: B

Street Name: Harrison Street
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Saturation Flow Module:
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 0.09 0.89 0.02 0.05 1.75 0.2 0.31 0.08 0.61 0.09 0.43 0.48
Final Sat.: 55 54 13 15 31 1093 126 200 52 386 46 233 254

Capacity Analysis Module:
Vol/Sat.: 0.41 0.41 0.41 0.40 0.40 0.39 0.46 0.46 0.46 0.04 0.04 0.04
Crit Moves: **** **** **** ****
Delay/veh: 12.0 12.0 12.0 12.0 12.1 11.9 11.6 12.4 12.4 9.2 9.2 9.2
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdJvl/Veh: 12.0 12.0 12.0 12.1 11.9 11.6 12.4 12.4 12.4 9.2 9.2 9.2
ApprDelay: 1.00 1.00 1.00 1.00 0.5

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing Plus Project PM

Intersection #67: 14th St / Harrison
Signal=Stop/Rights=Include

Base+Add Vol: 101 653 57***
Lanes: 0 1 0 1 0
Cycle Time (sec): 100
Loss Time (sec): 0

Critical V/C: 0.764
Avg Crit Del (sec/veh): 21.5
Los: C

Street Name: Harrison Street
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Saturation Flow Module:
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 0.08 0.85 0.07 0.14 1.61 0.25 0.25 0.16 0.59 0.27 0.16 0.57
Final Sat.: 45 47 79 49 78 908 143 131 81 304 127 75 267

Capacity Analysis Module:
Vol/Sat.: 0.62 0.62 0.62 0.62 0.62 0.62 0.62 0.62 0.62 0.62 0.62 0.62 0.62
Crit Moves: **** **** **** ****
Delay/veh: 20.3 20.3 20.3 20.3 26.2 25.1 24.0 15.3 15.3 15.3 12.6 12.6 12.6
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdJvl/Veh: 20.3 20.3 20.3 20.3 26.2 25.1 24.0 15.3 15.3 15.3 12.6 12.6 12.6

Note: Queue reported is the number of cars per lane.
### Level of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #68: 15th St / S Van Ness**

**Signal=Permit/Rights=Include**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th>Vol/Ct Date</th>
<th>Cycle Time (sec)</th>
<th>Loss Time (sec)</th>
<th>Critical V/C</th>
<th>Avg Crit Del (sec/veh)</th>
<th>Avg Delay (sec/veh)</th>
<th>LOS</th>
<th>HCM2kAvgQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base+Add Lanes:</td>
<td>Rights=Include</td>
<td>Vol/Ct Date: 05/15/2013</td>
<td>Cycle Time = 60</td>
<td>Loss Time = 0</td>
<td>Critical V/C = 0.631</td>
<td>Avg Crit Del = 17.5</td>
<td>Avg Delay = 15.5</td>
<td>B</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Street Name:** S Van Ness  
**Approach:** North Bound  
**15th Street**

**Movement:** L - T - R  
**Lanes:** 0 1 0  1 0

<table>
<thead>
<tr>
<th>Base Vol</th>
<th>Min. Green</th>
<th>Y+R</th>
<th>Growth Adj</th>
<th>Delay Adj</th>
<th>User Delay</th>
<th>LOS</th>
<th>HCM2kAvgQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>82 708</td>
<td>0 29 29 29 29 0 22 22 22 0 22</td>
<td>4.5 4.5 4.5 4.5 4.0 4.5 4.5 4.5 4.5 4.0 4.5</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td>0 0 0 0 0 0 0 0 0 0 0</td>
<td>8 8 8 8 8 8 8 8 8 8 8 8</td>
</tr>
</tbody>
</table>

**Saturation Flow Module:**

**Base Vol:** 82 708  
**Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
**User Delay:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Capacity Analysis Module:**

**Vol/Sat:** 0.37 0.37 0.37 0.17 0.17 0.17 0.00 0.00 0.00 0.17 0.17 0.17

**Green/Cycle:** 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48

**Volume/Cap:** 0.77 0.77 0.77 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0.35

**Uniform Delay:** 12.7 12.7 12.7 9.6 9.6 9.6 0.0 0.0 0.0 14.4 14.4 14.4

**Increment Delay:** 4.8 4.8 4.8 0.8 0.8 0.8 0.0 0.0 0.0 3.0 3.0 3.0

**InitQueueDel:** 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

**Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Delay/Veh:** 17.5 17.5 17.5 14.4 14.4 14.4 0.0 0.0 0.0 17.4 17.4 17.4

**User Del/Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**AdjDel/Vehr:** 17.5 17.5 17.5 14.4 14.4 14.4 0.0 0.0 0.0 17.4 17.4 17.4

**LOS by Move:** B B B B B A A A B B B

**HCM2kAvgQ:** 6 6 6 0 0 0 8 8 8

**Note:** Queue reported is the number of cars per lane.

---

**Intersection #68: 15th St / S Van Ness**

**Signal=Permit/Rights=Include**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th>Vol/Ct Date</th>
<th>Cycle Time (sec)</th>
<th>Loss Time (sec)</th>
<th>Critical V/C</th>
<th>Avg Crit Del (sec/veh)</th>
<th>Avg Delay (sec/veh)</th>
<th>LOS</th>
<th>HCM2kAvgQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base+Add Lanes:</td>
<td>Rights=Include</td>
<td>Vol/Ct Date: n/a</td>
<td>Cycle Time = 60</td>
<td>Loss Time = 0</td>
<td>Critical V/C = 0.758</td>
<td>Avg Crit Del = 20.7</td>
<td>Avg Delay = 16.9</td>
<td>B</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Street Name:** S Van Ness  
**Approach:** North Bound  
**15th Street**

**Movement:** L - T - R  
**Lanes:** 0 1 0  1 0

<table>
<thead>
<tr>
<th>Base Vol</th>
<th>Min. Green</th>
<th>Y+R</th>
<th>Growth Adj</th>
<th>Delay Adj</th>
<th>User Delay</th>
<th>LOS</th>
<th>HCM2kAvgQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>77 584</td>
<td>0 29 29 29 29 0 22 22 22 0 22</td>
<td>4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td>0 0 0 0 0 0 0 0 0 0 0</td>
<td>7 7 7 7 7 7 7 7 7 7 7 7</td>
</tr>
</tbody>
</table>

**Saturation Flow Module:**

**Base Vol:** 77 584  
**Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
**User Delay:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Capacity Analysis Module:**

**Vol/Sat:** 0.33 0.33 0.33 0.34 0.34 0.34 0.34 0.34 0.34 0.34 0.34 0.34

**Green/Cycle:** 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48

**Volume/Cap:** 0.77 0.77 0.77 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0.35

**Uniform Delay:** 11.9 11.9 11.9 12.1 12.1 12.1 0.0 0.0 0.0 17.4 17.4 17.4

**Increment Delay:** 3.5 3.5 3.5 3.5 3.5 3.5 3.5 3.5 3.5 3.5 3.5 3.5

**InitQueueDel:** 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

**Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Delay/Veh:** 15.4 15.4 15.4 15.4 15.4 15.4 0.0 0.0 0.0 32.6 32.6 32.6

**User Del/Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**AdjDel/Vehr:** 15.4 15.4 15.4 15.4 15.4 15.4 0.0 0.0 0.0 32.6 32.6 32.6

**LOS by Move:** B B B B B A A A C C C

**HCM2kAvgQ:** 6 6 6 0 0 0 8 8 8

**Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #69: 15th St / Folsom**

- **Signal=Permit/Rights=Include**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>67</th>
<th>211</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lanes</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

**Existing Plus Project AM**

- **Cycle Time (sec): 60**
- **Loss Time (sec): 7**
- **Critical V/C: 0.444**
- **Avg Crit Del (sec/veh): 11.9**
- **Avg Delay (sec/veh): 11.8**

**Base+Add Lanes**

<table>
<thead>
<tr>
<th>Rights=Include Vol Cnt Date: 5/15/2013</th>
<th>Rights=Include Lanes: Base+Add</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>21</td>
<td>0</td>
</tr>
</tbody>
</table>

**Cycle Time (sec): 60**

**Street Name:** Folsom Street

- **Approach:** North Bound, South Bound, East Bound, West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Bound</td>
<td>L</td>
<td>T</td>
<td>R</td>
</tr>
<tr>
<td>South Bound</td>
<td>L</td>
<td>T</td>
<td>R</td>
</tr>
<tr>
<td>East Bound</td>
<td>L</td>
<td>T</td>
<td>R</td>
</tr>
<tr>
<td>West Bound</td>
<td>L</td>
<td>T</td>
<td>R</td>
</tr>
</tbody>
</table>

**Min. Green:** 31 31 31 31 31 31 22 22 22 22 22 22

**Volume Module:**

- **Base Vol:** 35 607 28 8 211 67 21 22 15 21 102 21
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Init. Base:** 607 28 8 211 67 21 22 15 21 102 21 102
- **Added Vol:** 0 3 0 0 0 0 0 0 0 0 0 0
- **User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Critical V/C (sec):** 0.444
- **Avg Crit Delay (sec/veh):** 11.9
- **Avg Delay (sec/veh):** 11.8

**LOS:** B

---

### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #69: 15th St / Folsom**

- **Signal=Permit/Rights=Include**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>104</th>
<th>493***</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lanes</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

**Existing Plus Project PM**

- **Cycle Time (sec): 60**
- **Loss Time (sec): 7**
- **Critical V/C: 0.855**
- **Avg Crit Del (sec/veh): 40.3**
- **Avg Delay (sec/veh): 29.2**

**Base+Add Lanes**

<table>
<thead>
<tr>
<th>Rights=Include Vol Cnt Date: n/a</th>
<th>Rights=Include Lanes: Base+Add</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Cycle Time (sec): 60**

**Street Name:** Folsom Street

- **Approach:** North Bound, South Bound, East Bound, West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Bound</td>
<td>L</td>
<td>T</td>
<td>R</td>
</tr>
<tr>
<td>South Bound</td>
<td>L</td>
<td>T</td>
<td>R</td>
</tr>
<tr>
<td>East Bound</td>
<td>L</td>
<td>T</td>
<td>R</td>
</tr>
<tr>
<td>West Bound</td>
<td>L</td>
<td>T</td>
<td>R</td>
</tr>
</tbody>
</table>

**Min. Green:** 29 29 29 29 29 29 24 24 24 24 24 24

**Volume Module:**

- **Base Vol:** 55 528 17 7 493 104 10 6 17 34 225 41
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Init. Base:** 528 17 7 493 104 10 6 17 34 225 41 225
- **Added Vol:** 0 0 0 0 0 0 0 0 0 0 0 0
- **User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Critical V/C (sec):** 0.855
- **Avg Crit Delay (sec/veh):** 40.3
- **Avg Delay (sec/veh):** 29.2

**LOS:** C

---

**Capacity Analysis Module**

<table>
<thead>
<tr>
<th>Vol/Sat</th>
<th>Base</th>
<th>Add</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.28</td>
<td>0.28</td>
<td>0.28</td>
</tr>
</tbody>
</table>

- **Min. Queu Del (sec):** 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
- **User Del Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **User Del Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**LOS by Move:** B B B B B B B B B B B B

**HCMAvgQ:** 1 4 4 1 2 2 2

**Note:** Queue reported is the number of cars per lane.
**Intersection #70: 15th St / Harrison**

**2000 HCM 4-Way Stop (Future Volume Alternative)**

**Existing Plus Project AM**

**Base+Add Vol:** 75 362 13

**Lanes:** 0 1 0 1 0

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.558

**Avg Crit Del (sec/veh):** 11.3

**Avg Delay (sec/veh):** 11.3

**LOS:** B

**Street Name:** Harrison Street  15th Street

**Approach:** North Bound  South Bound  East Bound  West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Growth Adj</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Base Vol</td>
<td>88 255 12 13 361 75 15 5 29 7 7 9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Added Vol</td>
<td>0 62 0 0 0 1 0 0 0 0 0 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Put</td>
<td>88 317 12 13 361 75 16 5 29 7 7 9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>User Adj</td>
<td>1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHF Adj</td>
<td>0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHF Volume</td>
<td>90 323 12 13 369 77 16 5 30 7 7 9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduct Vol</td>
<td>0 0 0 0 0 0 0 0 0 0 0 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduced Vol</td>
<td>90 323 12 13 369 77 16 5 30 7 7 9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCE Adj</td>
<td>1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MLF Adj</td>
<td>1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Final Volume</td>
<td>90 323 12 13 369 77 16 5 30 7 7 9</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Saturation Flow Module:**

| Adjustment | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| Lanes | 0.21 0.76 0.03 0.06 1.61 0.33 0.32 0.10 0.58 0.30 0.30 0.40 |
| Final Sat. | 161 500 42 41 1159 247 190 59 344 174 217 223 |

**Capacity Analysis Module:**

| Vol/Sat | 0.56 0.56 0.56 0.33 0.32 0.31 0.09 0.09 0.09 0.04 0.04 0.04 |
| Crit Moves | **** **** **** **** |
| Delay/Veh | 13.3 13.3 13.3 10.1 9.9 9.6 8.9 8.9 8.9 8.8 8.8 8.8 |
| Delay Adj | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| Adj Del/Veh | 13.3 13.3 13.3 10.1 9.9 9.6 8.9 8.9 8.9 8.9 8.9 8.9 |
| LOS by Move | B B B B A A A A A A A |
| Approach Del | 13.3 9.9 8.9 8.9 8.8 |
| Delay Adj | 1.00 1.00 1.00 1.00 1.00 |
| Appr Adj Del | 13.3 9.9 8.9 8.9 8.8 |
| LOS by Apr | B A A |
| All Maj Apr | 1.2 1.2 0.5 0.4 0.4 0.1 0.1 0.1 0.0 0.0 0.0 0.0 |

**Volume Module:**

| Base Vol | 88 255 12 13 361 75 15 5 29 7 7 9 |
| Added Vol | 0 62 0 0 0 1 0 0 0 0 0 0 |
| Initial Put | 88 317 12 13 361 75 16 5 29 7 7 9 |
| User Adj | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| PHF Adj | 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 |
| PHF Volume | 90 323 12 13 369 77 16 5 30 7 7 9 |
| Reduct Vol | 0 0 0 0 0 0 0 0 0 0 0 0 |
| Reduced Vol | 90 323 12 13 369 77 16 5 30 7 7 9 |
| PCE Adj | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| MLF Adj | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| Final Volume | 90 323 12 13 369 77 16 5 30 7 7 9 |

**Saturation Flow Module:**

| Adjustment | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| Lanes | 0.23 0.75 0.02 0.03 1.61 0.36 0.56 0.02 0.42 0.14 0.47 0.39 |
| Final Sat. | 166 526 42 42 1159 247 190 59 344 174 217 223 |

**Capacity Analysis Module:**

| Vol/Sat | 0.56 0.56 0.56 0.33 0.32 0.31 0.09 0.09 0.09 0.04 0.04 0.04 |
| Crit Moves | **** **** **** **** |
| Delay/Veh | 13.3 13.3 13.3 10.1 9.9 9.6 8.9 8.9 8.9 8.8 8.8 8.8 |
| Delay Adj | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| Adj Del/Veh | 13.3 13.3 13.3 10.1 9.9 9.6 8.9 8.9 8.9 8.9 8.9 8.9 |
| LOS by Move | B B B B A A A A A A A |
| Approach Del | 13.3 9.9 8.9 8.9 8.8 |
| Delay Adj | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| Appr Adj Del | 13.3 9.9 8.9 8.9 8.8 |
| LOS by Apr | B A A |
| All Maj Apr | 1.2 1.2 0.5 0.4 0.4 0.1 0.1 0.1 0.0 0.0 0.0 0.0 |

**Note:** Queue reported is the number of cars per lane.
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #71: 16th St/Mission
Signal=Permit/Rights=Include

Base+Add Vol: 36  234    2
Lanes: 0 1 0  1 0

Cycle Time (sec): 60
Loss Time (sec): 9
Critical V/C: 0.696
avg Crit Del (sec/veh): 37.5
avg Delay (sec/veh): 27.9

Street Name: Mission Street
Approach: North Bound  South Bound  East Bound  West Bound
Movement: L  T  R    L  T  R    L  T  R    L  T  R

Min. Green: 28  28  28  28  0  24  0  24  0
YR: 4.5  4.0  4.5  4.0  4.5  4.0  4.5  4.0  4.5

Volume Module: >> Count Date: 15 May 2013 << 8:00-9:00am
Base Vol: 0  441  78  78
Growth Adj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00  1.00
Initial Base: 0  441  78  78
Added Vol: 0  0  0  0  0  0  0  0  0
Added Lanes: Rights=Include

User Adj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00  1.00

LOS: C

HCM2kAvgQ: 7
Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #71: 16th St/Mission
Signal=Permit/Rights=Include

Base+Add Vol: 48  381    1
Lanes: 0 1 0  1 0

Cycle Time (sec): 60
Loss Time (sec): 9
Critical V/C: 0.574
avg Crit Del (sec/veh): 17.2
avg Delay (sec/veh): 15.8

Street Name: Mission Street
Approach: North Bound  South Bound  East Bound  West Bound
Movement: L  T  R    L  T  R    L  T  R    L  T  R

Min. Green: 25  25  25  25  0  25  0  25  0
YR: 4.5  4.0  4.5  4.0  4.5  4.0  4.5  4.0  4.5

Volume Module: >> Count Date: 15 May 2013 << 8:00-9:00am
Base Vol: 1  354  91
Growth Adj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00  1.00
Initial Base: 1  354  91
Added Vol: 0  0  0  0  0  0  0  0  0
Added Lanes: Rights=Include

User Adj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00  1.00

LOS: B

HCM2kAvgQ: 8
Note: Queue reported is the number of cars per lane.
### Intersection #72: 16th St / S Van Ness

**Signal=Permit/Rights=Include**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th>Signal/Perm Rights/Include</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>40 250 105</strong>*</td>
<td><strong>0 1 0 1 0</strong></td>
<td><strong>40 4.0 4.0 4.0 4.0 4.0</strong></td>
</tr>
</tbody>
</table>

**Volume Module:**

- Base Vol: 57 737 114 105 250 40
- Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00
- Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00
- Delay/Veh: 14.3 14.3 14.3 10.4 10.4 10.4
- User Del Adj: 1.00 1.00 1.00 1.00 1.00 1.00
- LOS: D

**Saturation Flow Module:**

- Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
- Adjustment: 0.67 0.67 0.67 0.48 0.48 0.48 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70
- Lanes: 0.12 1.62 0.26 0.54 1.26 0.20 0.05 0.87 0.08 0.11 1.53 0.36
- Final Sat.: 174 2074 240 258 1948 120 149 1062 218 40 2228 401

**Capacity Analysis Module:**

- Vol/Sat: 0.37 0.37 0.37 0.22 0.22 0.22 0.41 0.41 0.41 0.16 0.16 0.16
- Crit Mov: ****

### Intersection #72: 16th St / S Van Ness

**Signal=Permit/Rights=Include**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th>Signal/Perm Rights/Include</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>42 679 90</strong>*</td>
<td><strong>0 1 0 1 0</strong></td>
<td><strong>42 4.0 4.0 4.0 4.0 4.0</strong></td>
</tr>
</tbody>
</table>

**Volume Module:**

- Base Vol: 45 521 62 90 677 42
- Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00
- Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00
- Delay/Veh: 12.8 12.8 12.8 17.0 17.0 17.0
- User Del Adj: 1.00 1.00 1.00 1.00 1.00 1.00
- LOS: C

**Saturation Flow Module:**

- Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
- Adjustment: 0.64 0.64 0.64 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70
- Lanes: 0.14 1.66 0.20 0.22 1.68 0.10 0.04 0.79 0.17 0.03 1.66 0.31
- Final Sat.: 174 2074 240 258 1948 120 149 1062 218 40 2228 401

**Capacity Analysis Module:**

- Vol/Sat: 0.27 0.27 0.27 0.36 0.36 0.36 0.32 0.32 0.32 0.31 0.31 0.31
- Crit Mov: ****

---

**Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

**Existing Plus Project AM**

**Intersection #73: 16th St / Folsom**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 25  193  35  
**Lanes:** 0  1  0  0  1  

**Cycle Time (sec): 60**

**Loss Time (sec): 10**

**Critical V/C:** 0.894

**Avg Crit Del (sec/veh): 54.0**

**Avg Delay (sec/veh): 39.5**

---

**Intersection #73: 16th St / Folsom**

**Signal=Permit**

**Base+Add Vol:** 64  449  41  
**Lanes:** 0  1  0  0  1  

**Cycle Time (sec): 60**

**Loss Time (sec): 10**

**Critical V/C:** 0.893

**Avg Crit Del (sec/veh): 31.6**

**Avg Delay (sec/veh): 28.8**

---

### Street Name: Folsom Street 16th Street

**Approach:**  
**North Bound**  
**South Bound**  
**East Bound**  
**West Bound**  

| Movement | L | T | R | L | T | R | L | T | R | L | T | R | L | T | R | L | T | R | L | T | R |
| Delay | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 |
| User DelAdj | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| LOS | D |

**HCM2kAvgQ:** 1 13 13 0 10 4 4 8 8 8

**Note:** Queue reported is the number of cars per lane.
### Intersection #74: 16th St / Harrison

**Signal=Permit/Rights=Include**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th>V/C</th>
<th>Delay (sec)</th>
</tr>
</thead>
<tbody>
<tr>
<td>29 288 87</td>
<td>0 1 0</td>
<td>21.0</td>
<td>32</td>
</tr>
</tbody>
</table>

- **Cycle Time (sec):** 60
- **Loss Time (sec):** 10
- **Critical V/C:** 0.685
- **Avg Delay (sec/veh):** 25.8

**Street Name:** Harrison Street

<table>
<thead>
<tr>
<th>Approach</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movement</td>
<td>L  -  T  -  R</td>
<td>L  -  T  -  R</td>
<td>L  -  T  -  R</td>
<td>L  -  T  -  R</td>
</tr>
</tbody>
</table>

- **Cycle Time (sec):** 60
- **Loss Time (sec):** 10
- **Critical V/C:** 0.690
- **Avg Delay (sec/veh):** 25.8

### Intersection #74: 16th St / Harrison

**Signal=Permit/Rights=Include**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th>V/C</th>
<th>Delay (sec)</th>
</tr>
</thead>
<tbody>
<tr>
<td>42 101</td>
<td>0 1 0</td>
<td>32</td>
<td>32</td>
</tr>
</tbody>
</table>

- **Cycle Time (sec):** 60
- **Loss Time (sec):** 10
- **Critical V/C:** 0.840
- **Avg Delay (sec/veh):** 38.8

**Street Name:** Harrison Street

<table>
<thead>
<tr>
<th>Approach</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movement</td>
<td>L  -  T  -  R</td>
<td>L  -  T  -  R</td>
<td>L  -  T  -  R</td>
<td>L  -  T  -  R</td>
</tr>
</tbody>
</table>

- **Cycle Time (sec):** 60
- **Loss Time (sec):** 10
- **Critical V/C:** 0.840
- **Avg Delay (sec/veh):** 38.8

**Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

#### Existing Plus Project AM

**Intersection #75: 16th St / Bryant**

- **Signal=Permit/Rights=Include**
- **Base+Add Vol:** 39  99  48
- **Lanes:** 0 0 1

#### Signal=Permit

- **Loss Time (sec):** 10
- **Cycle Time (sec):** 50
- **Critical V/C:** 0.826
- **Avg Crit Del (sec/veh):** 25.5
- **Avg Delay (sec/veh):** 20.2

#### Street Name: Bryant Street

<table>
<thead>
<tr>
<th>Approach</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movement</td>
<td>L T R L T R L T R</td>
<td>L T R L T R L T R</td>
<td>L T R L T R L T R</td>
<td>L T R L T R L T R</td>
</tr>
<tr>
<td>Min. Green</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>YRt</td>
<td>5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Volume Module: **Volume Module:** >> Count Date: 15 May 2013 << 8:00-9:00am
- **Base Vol:** 29 325 67 48 99 39 68 506 41 27 458 133
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Delay/Veh:** 36.7 36.7 36.7 36.7 36.7 36.7 36.7 36.7 36.7 36.7 36.7 36.7 36.7 36.7 36.7 36.7 36.7 36.7 36.7 36.7 36.7 36.7 36.7 36.7 36.7 36.7 36.7
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **LOS by Move:** D D C C C B B B B B

#### Street Name: 16th Street

<table>
<thead>
<tr>
<th>Approach</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movement</td>
<td>L T R L T R L T R</td>
<td>L T R L T R L T R</td>
<td>L T R L T R L T R</td>
<td>L T R L T R L T R</td>
</tr>
<tr>
<td>Min. Green</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>YRt</td>
<td>5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Volume Module: **Volume Module:** >> Count Date: 15 May 2013 << 8:00-9:00am
- **Base Vol:** 29 325 67 48 99 39 68 506 41 27 458 133
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Delay/Veh:** 87.8 87.8 87.8 87.8 87.8 87.8 87.8 87.8 87.8 87.8 87.8 87.8 87.8 87.8 87.8 87.8 87.8 87.8 87.8 87.8 87.8 87.8 87.8 87.8 87.8 87.8 87.8
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **LOS by Move:** D D C C C B B B B B

---

**Note:** Queue reported is the number of cars per lane.
Intersection 440: Mariposa/I-280SB

**Level Of Service Computation Report**

**2000 HCM Operations (Future Volume Alternative)**

**Existing Plus Project AM**

**Intersection #440: Mariposa/I-280SB**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 0 0 0 0 0

**Lanes:** 0 0 0 0 0

**Cycle Time (sec):** 90

**Loss Time (sec):** 7

**Critical V/C:** 0.513

**Avg Crit Del (sec/veh):** 0.8

**Avg Delay (sec/veh):** 7.5

**Cycle Time (sec):**

**Loss Time (sec):**

**Critical V/C:**

**Avg Crit Del (sec/veh):**

**Avg Delay (sec/veh):**

**Volume Module:**

**Base Vol:** 0 0 0 0 0

**Growth Adj:** 1.00 1.00 1.00 1.00 1.00

**Initial Base:** 0 0 0 0 0

**Additional Vol:** 0 0 0 0 0

**PasserByVol:** 0 0 0 0 0

**Initial Put:** 0 0 0 0 0

**User Adj:** 1.00 1.00 1.00 1.00 1.00

**MPH Adj:** 0.96 0.96 0.96 0.96 0.96

**PHF Volume:** 0 0 0 0 0

**Reduct Vol:** 0 0 0 0 0

**Reduct Vol:** 0 0 0 0 0

**Regress Adj:** 0.00 0.00 0.00 0.00 0.00

**Delay Adj:** 0.00 0.00 0.00 0.00 0.00

**Delay/Veh:** 0.00 0.00 0.00 0.00 0.00

**InitQueueDel:** 0.00 0.00 0.00 0.00 0.00

**Delay Adj:** 0.00 0.00 0.00 0.00 0.00

**Delay/Veh:** 0.00 0.00 0.00 0.00 0.00

**User DelAdj:** 0.00 0.00 0.00 0.00 0.00

**LOS by Move:**

**HCM2kAvgQ:**

**Queue reported is the number of cars per lane.**

**Street Name:** I-280 Southbound Ramp  
Mariposa Street

**Approach:** North Bound South Bound East Bound West Bound

**Movement:** L T R L T R L T R L T R L T R L T R

**Min. Green:** 0 0 0 0 0 0 31 31 31 31 31 31 31 31 31 31 31 31 31

**Y+R:** 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

**Signal=Protect**

**Signal=Protect**

**Street Name:** I-280 Southbound Ramp  
Mariposa Street

**Approach:** North Bound South Bound East Bound West Bound

**Movement:** L T R L T R L T R L T R L T R L T R

**Min. Green:** 0 0 0 0 0 0 31 31 31 31 31 31 31 31 31 31 31 31 31

**Y+R:** 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

**Note:** Queue reported is the number of cars per lane.
Existing Plus LRDP (Mission Bay Variant)
Level Of Service Computation Report  
2000 HCM Operations (Future Volume Alternative)  
Existing Plus Project PM S2B  

Intersection #24: King/3rd  
Signal=Split/Rights=Overlap  

Street Name:  
Approach:  
North Bound  
South Bound  
East Bound  
West Bound  
Movement:  
L  -  T  -  R  
L  -  T  -  R  
L  -  T  -  R  
L  -  T  -  R  

Volume Module:  
Min. Green:  
InitVol:  
User Adj:  
PhF Volume:  
Reduct Vol:  
FinalVolume:  

Saturation Flow Module:  

Capacity Analysis Module:  

Note: Queue reported is the number of cars per lane.
**Level Of Service Computation Report**

**2000 HCM Operations (Future Volume Alternative)**

**Intersection #25: King/4th**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 203  771***  72

**Lanes:** 1 1 1  0 1

**Loss Time (sec):** 19

**Cycle Time (sec):** 110

**Critical V/C:** 0.775

**vg Crit Del (sec/veh):** 46.5

**vg Delay (sec/veh):** 43.7

**LOS:** D

**Street Name:**

- 4th Street
- King Street

<table>
<thead>
<tr>
<th>Approach</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movement</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
</tr>
</tbody>
</table>

- Min. Green:
  - 39 39 39 39 39 39 15 37 37 15 37 37

- Growth Adj:
  - 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

- Initial Vol:
  - 7 28 72 335 203

- Initial Put:
  - 7 54 35 77 771 203

- Base Vol:
  - 8 60 61 34 61 304 151 1521 25 24 917 19

- User Adj:
  - 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

- PCE Adj:
  - 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

- FinalVol:
  - 5 38 37 77 829 218

**Volume Module:**

**Base Vol:**

- 7 47 28 72 335 203

- Growth Adj:
  - 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

- Initial Vol:
  - 7 28 72 335 203

- Initial Put:
  - 7 54 35 77 771 203

- Base Vol:
  - 8 60 61 34 61 304 151 1521 25 24 917 19

- User Adj:
  - 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

- PCE Adj:
  - 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

- FinalVol:
  - 5 38 37 77 829 218

**Saturation Flow Module:**

| Sat/Lane | 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 |
|----------|-----------------|-----------------|-----------------|-----------------|
| Vol/Max  | 0.12 0.89 1.00 1.00 2.00 1.00 1.29 0.01 1.00 1.93 0.07 |

**Final Sat.:**

- 170 1310 1119 1111 2963 1470 1569 4377 2 1569 2930 104

**Capacity Analysis Module:**

| Vol/Sat. | 0.04 0.04 0.03 0.07 0.28 0.15 0.06 0.33 0.33 0.04 0.28 0.28 |

<table>
<thead>
<tr>
<th>Move:</th>
<th>L - T - R</th>
</tr>
</thead>
</table>

**Critic Moves:**

- 0.35 0.35 0.49 0.35 0.35 0.35 0.14 0.34 0.34 0.14 0.03 0.34

- Uniform Del:
  - 24.0 24.0 24.0 24.0 31.7 26.9 43.6 36.0 36.0 42.5 33.6 33.6

- InqThreshDel:
  - 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

- Delay Adj:
  - 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

- AdjDel/Lnhr:
  - 24.5 24.5 14.8 25.7 34.6 27.4 50.2 53.9 45.5 41.4 41.4

- LOS by Move:
  - CC C B C C C C C C C C C

- Note: Queue reported is the number of cars per lane.
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM S2B

Intersection #26: 7th St/Brannan
Signal=Permit/Rights=Include

Base+Add Vol: 0 0 0
Lanes: 0 0 0

Cycle Time (sec): 60
Loss Time (sec): 8
Critical V/C: 0.714
Avg Crit Del (sec/veh): 57.0
Avg Delay (sec/veh): 27.5

LOS: C

Base+Add Lanes: Rights=Include Vol Cnt Date: 5/29/2013 Rights=Include Lanes: Base+Add

Cycle Time (sec): 60
Loss Time (sec): 8
Critical V/C: 0.923
Avg Crit Del (sec/veh): 68.1
Avg Delay (sec/veh): 53.5

LOS: D

Street Name: 7th Street, Brannan Street
Approach: North Bound, South Bound, East Bound, West Bound

Min. Green: 0 0 21 0 21 0 31 31 31 0 0
Y/R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

Volume Module: >> Count Date: 29 May 2013 << 7:00-8:45am
Base Vol: 24 661 708 0 0 0 111 382 268 71 188 173
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Init. Put: 24 702 77 0 0 0 111 382 684 133 188 173
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PXF Adj: 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92
PXF Volume: 26 760 83 0 0 0 120 413 740 144 203 187
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0

Final Volume: 26 760 83 0 0 0 120 413 740 144 203 187

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adj: 0.81 0.81 0.81 0.81 0.81 0.81 0.81 0.81 0.81 0.81 0.81 0.81

Lanes: 0.07 1.93 1.00 0.00 0.00 0.00 1.00 1.00 1.00 0.83 1.17 1.00

Final Sat.: 101 2965 1200 0 0 718 1392 1348 742 1059 987

Capacity Analysis Module:
Vol/Sat: 0.26 0.26 0.07 0.00 0.00 0.00 0.17 0.30 0.55 0.19 0.19 0.21

C Volume/Cycle: 0.35 0.35 0.35 0.00 0.00 0.00 0.52 0.52 0.52 0.52 0.52 0.52
Unifom Del: 17.0 17.0 13.6 0.0 0.0 8.4 10.0 14.5 8.7 8.7 8.9
Increment: 4.4 4.4 1.1 0.0 0.0 2.3 1.2 45.5 0.8 0.8 0.9
InitQueue: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Delay Adj: 1.00 1.00 1.00 0.00 0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Delay/Veh: 21.5 21.5 14.7 0.0 0.0 10.7 11.2 60.0 9.5 9.5 9.8
User Del/Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjVol/veh: 21.5 21.5 14.7 0.0 0.0 10.7 11.2 60.0 9.5 9.5 9.8

LOS by Move: C C B A A B B E E A A

HCM AvgQ: 8 8 1 0 0 0 6 26 2 3 3 4

Note: Queue reported is the number of cars per lane.
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)

Intersection #27: Channel/3rd

Existing Plus Project AM S2B

Base+Add Vol: 30  389  67***
Lanes: 0 1 1  0 1

Cycle Time (sec): 100
Loss Time (sec): 15
Critical V/C: 0.662
Avg Crit Del (sec/veh): 51.5
Avg Delay (sec/veh): 44.2

Base+Add Lanes: Rights=Include Vol Cnt Date: 5/8/2013 Rights=Include Lanes: Base+Add
19 1 0

Cycle Time (sec): 100
Loss Time (sec): 15

Critical V/C: 0.662
Avg Crit Del (sec/veh): 51.5
Avg Delay (sec/veh): 44.2

Street Name: 3rd Street

Approach: North Bound      South Bound       East Bound       West Bound
Movement: L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R

Min. Green: 15  36  36  17  38  38  32  32  32  12  32  32
Y/Rt: 6.0 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.0 5.0 5.0

Green/Cycle: 0.36 0.36 0.36 0.36 0.36 0.36 0.36 0.36 0.36 0.36 0.36 0.36

Capacity Analysis Module:
Vol/Sat: 0.02 0.02 0.02 0.05 0.14 0.14 0.02 0.02 0.16 0.03 0.03 0.03
Crt Moves: ****

Loss by Move: D E E D C C C C C C C

Note: Queue reported is the number of cars per lane.

Intersection #27: Channel/3rd

Existing Plus Project PM S2B

Base+Add Vol: 15  167  12***
Lanes: 0 1 1  0 1

Cycle Time (sec): 100
Loss Time (sec): 15
Critical V/C: 0.538
Avg Crit Del (sec/veh): 55.9
Avg Delay (sec/veh): 49.1

Base+Add Lanes: Rights=Include Vol Cnt Date: n/a Rights=Include Lanes: Base+Add
46 0

Cycle Time (sec): 100
Loss Time (sec): 15

Critical V/C: 0.538
Avg Crit Del (sec/veh): 55.9
Avg Delay (sec/veh): 49.1

Street Name: Channel Street

Approach: North Bound      South Bound       East Bound       West Bound
Movement: L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R

Min. Green: 15  37  37  16  38  38  32  32  32  12  32  32
Y/Rt: 6.0 5.5 5.5 5.5 5.5 5.5 5.0 5.0 5.0 5.0 5.0 5.0

Green/Cycle: 0.36 0.36 0.36 0.36 0.36 0.36 0.36 0.36 0.36 0.36 0.36 0.36

Capacity Analysis Module:
Vol/Sat: 0.02 0.02 0.02 0.05 0.14 0.14 0.02 0.02 0.16 0.03 0.03 0.03
Crt Moves: ****

Loss by Move: D E E D C C C C C C C

Note: Queue reported is the number of cars per lane.
### Intersections #28: Channel/4th

**Street Name:** North Bound

**Volume Module:** 3005-1

**Approach:**
- North Bound
- South Bound
- East Bound
- West Bound

**Volume:**
- North Bound: 12 22
- South Bound: 12 11
- East Bound: 12 13
- West Bound: 12 10

**Saturation Flow Module:**
- North/Lane: 1900 1900 1900 1900 1900 1900 1900 1900
- South/Lane: 1900 1900 1900 1900 1900 1900 1900 1900

**System Capacity Module:**
- North: 12 12
- South: 12 12
- East: 12 12
- West: 12 12

**Critical V/C:** 1.24

**Cycle Time (sec):** 30

**Loss Time (sec):** 10

**Critical V/C Delay (sec/veh):** 22.7

**Critical V/C Delay (sec/veh):** 22.7

**LOS by Move:**
- North: C
- South: B
- East: B
- West: C

**HCM2kAvgQ:** 0 3 3 1 2 2 1 1 1

**Note:** Queue reported is the number of cars per lane.

---

### Intersections #28: Channel/4th

**Street Name:** North Bound

**Volume Module:** 3005-1

**Approach:**
- North Bound
- South Bound
- East Bound
- West Bound

**Volume:**
- North Bound: 12 22
- South Bound: 12 11
- East Bound: 12 13
- West Bound: 12 10

**Saturation Flow Module:**
- North/Lane: 1900 1900 1900 1900 1900 1900 1900 1900
- South/Lane: 1900 1900 1900 1900 1900 1900 1900 1900

**System Capacity Module:**
- North: 12 12
- South: 12 12
- East: 12 12
- West: 12 12

**Critical V/C:** 1.24

**Cycle Time (sec):** 30

**Loss Time (sec):** 10

**Critical V/C Delay (sec/veh):** 22.7

**Critical V/C Delay (sec/veh):** 22.7

**LOS by Move:**
- North: C
- South: B
- East: B
- West: C

**HCM2kAvgQ:** 0 3 3 1 2 2 1 1 1

**Note:** Queue reported is the number of cars per lane.
Intersection #29: Mission Rock/3rd

Street Name: 3rd Street Mission Rock

Approach: North Bound South Bound East Bound West Bound

Movement: L T R L T R L T R

Min. Green: 15 37 37 15 37 37 33 33 33 33 33 33

Cycle Time (sec): 100 100 100 100 100 100 33 33 33 33 33 33

Loss Time (sec): 15 15 15 15 15 15 0 0 0 0 0 0

Critical V/C: 0.514 0.526

Avg Crit Del (sec/veh): 45.8 45.7

Avg Del (sec/veh): 39.4 41.1

L O S: D D D D C C C C C C C C

HCM2kAvgQ: 0 24 22 2 1 1 1 1

Note: Queue reported is the number of cars per lane.

Volume Module: Base Vol: 5 1063 24 58 265 12 10 16 15 6 6 33 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Add Vol: 0 41 0 0 235 11 11 0 0 0 0 0

PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0

Init Put: 5 1104 24 58 500 23 21 16 15 6 6 33

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 5 1162 25 61 526 24 22 17 16 6 6 35

Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Delay/Veh: 36.4 47.0 47.0 40.4 25.7 25.7 24.2 24.2 24.2 23.7 23.7 23.7

User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

LOS by Move: D D D D C C C C C C C C

HCM2kAvgQ: 0 24 22 2 1 1 1 1

Note: Queue reported is the number of cars per lane.

Volume Module: Base Vol: 9 804 8 13 214 9 6 23 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Add Vol: 0 266 0 0 24 2 60 0 0 0 0 0

PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0

Init Put: 9 1070 8 13 238 4 65 4 9 7 9 6 23

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 9 1126 8 14 251 4 68 4 9 7 9 6 24

Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Delay/Veh: 36.7 47.1 47.1 40.0 22.1 22.1 26.7 26.7 26.7 23.6 23.6 23.6

User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

LOS by Move: D D D D C C C C C C C C

HCM2kAvgQ: 0 23 22 2 1 1 1

Note: Queue reported is the number of cars per lane.
## Level Of Service Computation Report

### 2000 HCM Operations (Future Volume Alternative)

#### Existing Plus Project AM S2B

**Intersection #30: Mission Bay North/3rd**

**Signal=Protect/Rights=Include**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th><strong>Critical V/C</strong></th>
<th><strong>Loss Time (sec)</strong></th>
<th><strong>Cycle Time (sec)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>21 504</td>
<td>0</td>
<td>0.438</td>
<td>0 8</td>
<td>10</td>
</tr>
<tr>
<td>17.0</td>
<td>1</td>
<td>18.5</td>
<td>0 11</td>
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<table>
<thead>
<tr>
<th>LOS</th>
<th>0 1 2 0 0</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td></td>
</tr>
</tbody>
</table>

**Street Name:** 3rd Street, Mission Bay North

**Approach:**

- North Bound
- South Bound
- East Bound
- West Bound

**V/C:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>0 1 2 0 0</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>T R L T R</td>
</tr>
</tbody>
</table>

**Volume Module:** 5 1045

**Base Vol:** 5045

**Initial Vol:** 0 283 11

**Total Vol:** 0 11 18

**Added Vol:** 38 41

**PasserVol:** 0

**Initial Put:** 43 1086

**User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Merge Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Base+Add Lanes:** Rights=Include Vol Cnt Date: n/a Rights=Include Lanes: Base+Add

**Volume Module:** 46 1166

**Base Vol:** 46166

**Initial Vol:** 0 541 23

**Total Vol:** 0 12 9 19

**Reduced Vol:** 46 1166

**Critical V/C:** 0.439

**Avg Crit Del (sec/veh):** 17.3

**Avg Delay (sec/veh):** 18.5

**LOS:** B

**Saturation Flow Module:**

- Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

**Adjustment:** 0.81 0.41

**Y+R:** 5.0 5.0 5.0 5.0 5.0 5.0 4.0 4.0 4.0 5.0 5.0 5.0

**User DelAdj:** 20.0 22.9 23.1 23.5

**LOS by Move:**

- D    B
- L    T    R

**HCM2kAvgQ:** 1 13 0 0 0 0

---

# Level Of Service Computation Report

### 2000 HCM Operations (Future Volume Alternative)

#### Existing Plus Project PM S2B

**Intersection #30: Mission Bay North/3rd**

**Signal=Protect/Rights=Include**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th><strong>Critical V/C</strong></th>
<th><strong>Loss Time (sec)</strong></th>
<th><strong>Cycle Time (sec)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>4 336</td>
<td>0</td>
<td>0.438</td>
<td>0 0</td>
<td>0</td>
</tr>
<tr>
<td>16.5</td>
<td>1</td>
<td>17.3</td>
<td>0 25</td>
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<table>
<thead>
<tr>
<th>LOS</th>
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</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td></td>
</tr>
</tbody>
</table>

**Street Name:** 3rd Street, Mission Bay North

**Approach:**

- North Bound
- South Bound
- East Bound
- West Bound

**V/C:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>0 1 2 0 0</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>T R L T R</td>
</tr>
</tbody>
</table>

**Volume Module:** 14 1113

**Base Vol:** 14 1113

**Initial Vol:** 0 357 4

**Total Vol:** 0 27 11 32

**Reduced Vol:** 14 1113

**Critical V/C:** 0.430

**Avg Crit Del (sec/veh):** 16.5

**Avg Delay (sec/veh):** 17.3

**LOS:** B

**Saturation Flow Module:**

- Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

**Adjustment:** 0.81 0.41

**Y+R:** 5.0 5.0 5.0 5.0 5.0 5.0 4.0 4.0 4.0 5.0 5.0 5.0

**User DelAdj:** 18.8 23.3 23.5 23.9

**LOS by Move:**

- D    B
- L    T    R

**HCM2kAvgQ:** 0 12 0 0 0 0

---
### Intersection #31: Mission Bay South/3rd

**Signal=Protect/Rights=Include**

**Base+Add Vol:** 0 331***  5

<table>
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<th>Lanes</th>
<th>0</th>
<th>0</th>
<th>2</th>
<th>0</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vol</td>
<td>772</td>
<td>5</td>
<td>310</td>
<td>0</td>
<td>18</td>
</tr>
</tbody>
</table>

**LOS:** C

**Volume Module:**

- **Base Vol:** 0  1045 | 20 | 24 0 | 20 |
- **Growth Adj:** 1.00 1.00  1.00 1.00 1.00  0.0  1.1  1.1  0.6  0.0  0.0  0.0
- **InitQueueDel:** 0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
- **Delay Adj:** 0.00  1.00  1.00  1.00 1.00  0.00  1.00  1.00  0.00 0.00  0.00  0.00
- **Delay/Veh:** 0.0  25.3  25.3  34.3 10.7  0.0  25.3  25.3  24.0  0.0  0.0  0.0
- **User DelAdj:** 1.00  1.00  1.00  1.00 1.00  0.00  1.00  1.00  0.00 0.00  0.00  0.00

**Capacity Analysis Module:**

- **Vol/Sat:** 0.00  0.27  0.27  0.01  0.17  0.00  0.03  0.03  0.02  0.00  0.00  0.00
- **Crit Moves:** ****  ****  ****  ****  ****  ****  ****  ****  ****  ****  ****  ****

**Street Name:** 3rd Street

**Approach:**

- **Lanes:** 0 0 2  0 1
- **Volume:** 0  1045 | 20 | 24 0 | 20
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 10
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 10
- **Critical V/C:** 0.205
- **Avg Crit Del (sec/veh):** 13.9
- **Avg Delay (sec/veh):** 22.0
- **LOS:** C

**Saturation Flow Module:**

- **Sat/Lane:** 1900 1900 | 1900 1900 1900 1900 1900 1900 1900 1900 1900
- **AdjVolume:** 0.00  0.77  0.77  0.81  0.81  1.00  1.00  1.00
- **Lanes:** 0  2.96  0.04  1.00  2.00 | 0.00  34.66  1.00  0.00  0.00 | 0.00
- **Sat:** 0  4356 | 59 | 1539 3079 | 0  520 1393 1168 | 0  0  0  0  0

---

### Intersection #31: Mission Bay South/3rd

**Signal=Permit**

**Base+Add Vol:** 0  495***  20

<table>
<thead>
<tr>
<th>Lanes</th>
<th>0</th>
<th>0</th>
<th>2</th>
<th>0</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vol</td>
<td>331</td>
<td>5</td>
<td>1111</td>
<td>15</td>
<td>45</td>
</tr>
</tbody>
</table>

**LOS:** C

**Volume Module:**

- **Base Vol:** 0  1045 | 20 | 24 0 | 20 |
- **Growth Adj:** 1.00 1.00  1.00 1.00 1.00  0.0  1.1  1.1  0.6  0.0  0.0  0.0
- **InitQueueDel:** 0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
- **Delay Adj:** 0.00  1.00  1.00  1.00 1.00  0.00  1.00  1.00  0.00 0.00  0.00  0.00
- **Delay/Veh:** 0.0  25.3  25.3  34.3 10.7  0.0  25.3  25.3  24.0  0.0  0.0  0.0
- **User DelAdj:** 1.00  1.00  1.00  1.00 1.00  0.00  1.00  1.00  0.00 0.00  0.00  0.00

**Capacity Analysis Module:**

- **Vol/Sat:** 0.00  0.27  0.27  0.01  0.17  0.00  0.03  0.03  0.02  0.00  0.00  0.00
- **Crit Moves:** ****  ****  ****  ****  ****  ****  ****  ****  ****  ****  ****  ****

**Street Name:** 3rd Street

**Approach:**

- **Lanes:** 0 0 2  0 1
- **Volume:** 0  1045 | 20 | 24 0 | 20
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 10
- **Critical V/C:** 0.221
- **Avg Crit Del (sec/veh):** 12.6
- **Avg Delay (sec/veh):** 22.5
- **LOS:** C

**Saturation Flow Module:**

- **Sat/Lane:** 1900 1900 | 1900 1900 1900 1900 1900 1900 1900 1900
- **AdjVolume:** 0.00  0.77  0.77  0.81  0.81  1.00  1.00  1.00
- **Lanes:** 0  2.96  0.04  1.00  2.00 | 0.00  34.66  1.00  0.00  0.00 | 0.00
- **Sat:** 0  4356 | 59 | 1539 3079 | 0  520 1393 1168 | 0  0  0  0  0

---
**Intersection #32: Mission Bay/Owens**

**Signal=Yield/Rights=Include**

**Base+Add Vol:** 0 178 0

**Lanes:** 0 0 1 0 0

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.510

**Avg Crit Del (sec/veh):** 5.6

**Critical V/C:** 0.415

**Avg Crit Del (sec/veh):** 4.7

**Street Name:** Owens Street  
Mission Bay

**Approach:** North Bound  
South Bound  
East Bound  
West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Vol:</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Growth Adj:</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Initial Bed:</td>
<td>17</td>
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</tr>
<tr>
<td>Added Vol:</td>
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<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Initial Put:</td>
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<td>4</td>
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<tr>
<td>User Adj:</td>
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<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>PHF Adj:</td>
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<td>0.72</td>
<td>0.72</td>
</tr>
<tr>
<td>PHF Volume:</td>
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<td>6</td>
</tr>
<tr>
<td>Reduced Vol:</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>PCE Adj:</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>FinalVolume:</td>
<td>111</td>
<td>8</td>
<td>6</td>
</tr>
</tbody>
</table>

**PCE Module:**

| AutoPCE: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TruckPCE: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ComboPCE: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AdjVolume: | 111 | 8 | 6 | 0 | 247 | 0 | 0 | 63 | 475 | 25 | 8 | 0 | 0 | 0 | 0 | 0 |

**Delay Module:**

| CirClVolume: | 63 | 144 | 272 | 119 |
| MaxVolume: | 1186 | 1122 | 1053 | 1136 |
| PedVolume: | 0 | 0 | 0 | 0 |
| AdjMaxVol: | 1186 | 1122 | 1053 | 1136 |
| ApproachVol: | 125 | 427 | 538 | 33 |
| ApproachV/C: | 0.11 | 0.22 | 0.51 | 0.03 |
| ApproachDel: | 3.5 | 4.1 | 6.9 | 3.3 |
| ApproachLOS: | A | A | A | A |
| Queue: | 0.4 | 0.8 | 3.0 | 0.1 |

**Intersection #32: Mission Bay/Owens**

**Signal=Yield/Rights=Include**

**Base+Add Vol:** 0 26 0

**Lanes:** 0 0 1 0 0

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.415

**Avg Crit Del (sec/veh):** 4.7

**Street Name:** Owens Street  
Mission Bay

**Approach:** North Bound  
South Bound  
East Bound  
West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Vol:</td>
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<td>1</td>
</tr>
<tr>
<td>Growth Adj:</td>
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<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Initial Bed:</td>
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<td>0</td>
<td>1</td>
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<tr>
<td>Added Vol:</td>
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<td>34</td>
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<tr>
<td>Initial Put:</td>
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<td>34</td>
<td>23</td>
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<tr>
<td>User Adj:</td>
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<td>1.00</td>
</tr>
<tr>
<td>PHF Adj:</td>
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<td>0.90</td>
<td>0.90</td>
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<tr>
<td>PHF Volume:</td>
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</tr>
<tr>
<td>Reduced Vol:</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>PCE Adj:</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>FinalVolume:</td>
<td>433</td>
<td>38</td>
<td>26</td>
</tr>
</tbody>
</table>

**PCE Module:**

| AutoPCE: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TruckPCE: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ComboPCE: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AdjVolume: | 433 | 38 | 26 |

**Delay Module:**

| CirClVolume: | 8 | 476 | 32 | 471 |
| MaxVolume: | 1186 | 943 | 1183 | 946 |
| PedVolume: | 0 | 0 | 0 | 0 |
| AdjMaxVol: | 1186 | 943 | 1183 | 946 |
| ApproachVol: | 437 | 32 | 139 |
| ApproachV/C: | 0.42 | 0.03 | 0.15 | 0.04 |
| ApproachDel: | 5.1 | 3.9 | 3.6 | 5.6 |
| ApproachLOS: | A | A | A | A |
| Queue: | 2.1 | 0.1 | 0.5 | 0.1 |
### Intersection #33: Mission Bay/7th

**2000 HCM Operations (Future Volume Alternative)**

**Existing Plus Project AM S2B**

**Signal=Protect/Rights=Include**

- **Base+Add Vol:** 1 502*** 352
- **Lanes:** 0 0 1 0 1
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 14
- **Critical V/C:** 0.665
- **Avg Crit Del (sec/veh):** 6.7
- **Avg Delay (sec/veh):** 34.2
- **Cycle Time (sec):** 143
- **Loss Time (sec):** 0
- **Cycle Time (sec):** 143
- **Loss Time (sec):** 0

**Street Name:** 7th Street

**Mission Bay**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
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<tbody>
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<td>Min. Green</td>
<td>0</td>
<td>36</td>
<td>36</td>
<td>14</td>
<td>61</td>
<td>0</td>
</tr>
<tr>
<td>Base Vol</td>
<td>2 620</td>
<td>40</td>
<td>64</td>
<td>332</td>
<td>1</td>
<td>0</td>
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</tbody>
</table>

**Volume Module:** > Count Date: 9 May 2013 << 7:00-8:45am

- **Base Vol:** 2 620 | 40 | 64 | 332 | 1 | 0
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00
- **Delay Adj:** 0.00 1.00 1.00 1.00 1.00 1.00
- **Delay/Veh:** 0.0 28.0 23.4 79.7 13.3 13.3
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00

**LOS:** C

**HCM2kAvgQ:** 10 9 2 17 10 0

**Note:** Queue reported is the number of cars per lane.

---

### Intersection #33: Mission Bay/7th

**2000 HCM Operations (Future Volume Alternative)**

**Existing Plus Project PM S2B**

**Signal=Protect/Rights=Include**

- **Base+Add Vol:** 0 234*** 99
- **Lanes:** 0 0 1 0 1
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 14
- **Critical V/C:** 0.266
- **Avg Crit Del (sec/veh):** 17.0
- **Avg Delay (sec/veh):** 37.2
- **Cycle Time (sec):** 375
- **Loss Time (sec):** 0
- **Cycle Time (sec):** 375
- **Loss Time (sec):** 0

**Street Name:** 7th Street

**Mission Bay**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
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</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>0</td>
<td>36</td>
<td>36</td>
<td>14</td>
<td>61</td>
<td>0</td>
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<td>Base Vol</td>
<td>0 786</td>
<td>29</td>
<td>57</td>
<td>215</td>
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</tr>
</tbody>
</table>

**Volume Module:** > Count Date: 9 May 2013 << 7:00-8:45am

- **Base Vol:** 0 786 | 29 | 57 | 215 | 0 | 0
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00
- **Delay Adj:** 0.00 1.00 1.00 1.00 1.00 1.00
- **Delay/Veh:** 0.0 27.1 17.3 41.3 9.6 0.0
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00

**LOS:** D

**HCM2kAvgQ:** 0 15 1 37 10 0

**Note:** Queue reported is the number of cars per lane.
### Intersection #34: 16th/3rd

#### 2000 HCM Operations (Future Volume Alternative)

**Existing Plus Project AM S2B**

<table>
<thead>
<tr>
<th>Lanes</th>
<th>Base+Add Vol</th>
<th>Vol/Cycle Date</th>
<th>Cycle Time (sec)</th>
<th>LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>144</td>
<td>205</td>
<td>8/31/2013</td>
<td>160</td>
<td>D</td>
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<tr>
<td>258</td>
<td></td>
<td></td>
<td>15</td>
<td>D</td>
</tr>
<tr>
<td>149</td>
<td></td>
<td></td>
<td>46</td>
<td>D</td>
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</table>

**Base+Add Lanes:**

<table>
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<tr>
<th>Rights=Include</th>
<th>Vol Cnt Date</th>
<th>Date: 5/8/2013</th>
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<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

**Cycle Time (sec):**

- 100

**Loss Time (sec):**

- 15

**Critical V/C:**

- 0.547

**Avg Delay (sec/veh):**

- 56.0

**Critical Del (sec/veh):**

- 41.0

**Avg Del (sec/veh):**

- 35.1

**LOS:**

- D

---

#### 2000 HCM Operations (Future Volume Alternative)

**Existing Plus Project PM S2B**

<table>
<thead>
<tr>
<th>Lanes</th>
<th>Base+Add Vol</th>
<th>Vol/Cycle Date</th>
<th>Cycle Time (sec)</th>
<th>LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>188</td>
<td>216</td>
<td></td>
<td>100</td>
<td>D</td>
</tr>
<tr>
<td>259</td>
<td></td>
<td></td>
<td>110</td>
<td>D</td>
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</table>

**Base+Add Lanes:**

<table>
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<tr>
<th>Rights=Include</th>
<th>Vol Cnt Date</th>
<th>Date: n/a</th>
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</thead>
<tbody>
<tr>
<td>1</td>
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<td>0</td>
</tr>
</tbody>
</table>

**Cycle Time (sec):**

- 100

**Loss Time (sec):**

- 15

**Critical V/C:**

- 0.785

**Avg Delay (sec/veh):**

- 35.1

**Critical Del (sec/veh):**

- 41.0

**Avg Del (sec/veh):**

- 35.1

**LOS:**

- D

---

### Street Name:

- 3rd Street
- 16th Street

#### Approach:

**North Bound**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
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<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
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<tbody>
<tr>
<td>Min. Green</td>
<td>14</td>
<td>38</td>
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<td>12</td>
<td>36</td>
<td>36</td>
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<td>Base Vol</td>
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<tr>
<td>Delay Adj</td>
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<td>106</td>
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#### South Bound

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<tr>
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<th>L</th>
<th>T</th>
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<td>38</td>
<td>38</td>
<td>12</td>
<td>36</td>
<td>36</td>
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<td>1.00</td>
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<tr>
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<tr>
<td>Delay/Veh</td>
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<td>27.2</td>
<td>41.0</td>
<td>25.3</td>
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</table>

#### East Bound

<table>
<thead>
<tr>
<th>Movement</th>
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<th>T</th>
<th>R</th>
<th>L</th>
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<tr>
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<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
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#### West Bound

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<th>R</th>
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<th>T</th>
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<td>Min. Green</td>
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<td>38</td>
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</tr>
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<td>Base Vol</td>
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<td>106</td>
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<td>112</td>
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<td>154</td>
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<td>106</td>
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<td>112</td>
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<tr>
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<td>41.0</td>
<td>25.3</td>
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**Saturation Flow Module:**

- Base/Lane: 1900 1900 1900 1900 0 1900 0 1900 0 1900 0 1900 1900
- Adj/Adj: 0.79 0.83 0.51 0.74 0.54 0.72 0.71
- Lanes: 2 0 1 1 0
- Vol: 324 64 8 26 533 232
- Del: 27 226
- LOS: D C C C C C

**HCM2kAvgQ:**

- 5 9 9 1 12 12 6 12
- Note: Queue reported is the number of cars per lane.
Intersection #35: 16th/4th

**Level Of Service Computation Report**

2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM S2B

**Intersection #35: 16th/4th**

**Signal=Permit/Rights=Include**

Base+Add Vol: 95  61***  22
Lanes: 0 1 0  0 1

**Signal=Protect**

Base+Add Lanes: Rights=Include Vol Cnt Date: 5/9/2013 Rights=Include Lanes: Base+Add

**Cycle Time (sec): 90**

**Loss Time (sec): 15**

**Critical V/C: 0.660**

**User DelAdj: 24.5 102.3 28.4  28.4  32.8 34.1  34.1**

**LOS by Move: C    C     C     C    C     C     F    C**

**HCM2kAvgQ:**

0    1     1     0    4     4    12    7     7    0    10    10

**Saturation Flow Module:**

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

Length: 4.0 0.8 0.8 0.8 4.0 0.8 0.8 0.8 0.8 0.8 0.8 0.8

Initial: 0.51 0.77 0.78 0.77 0.68 0.75 0.74 0.78 0.77

Adjusted: 

**Critical V/C: 0.614**

**User DelAdj: 33.0 8     0  A**

**LOS by Move: C    C     C     C    C     C     D    C**

**HCM2kAvgQ:**

1    2     2     1    6     5     3    7     7    0    12    12

**Saturation Flow Module:**

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

Length: 4.0 0.8 0.8 0.8 4.0 0.8 0.8 0.8 0.8 0.8 0.8 0.8

Initial: 0.51 0.49 1.00 0.03 0.97 1.00 1.97 0.31 1.00 1.84 0.16

Adjusted: 

**Critical V/C: 0.640**

**User DelAdj: 42.7 147  15**

**LOS by Move: C    C     C     C    C     C     D    C**

**HCM2kAvgQ:**

1    2     2     1    6     5     3    7     7    0    12    12

**Saturation Flow Module:**

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

Length: 4.0 0.8 0.8 0.8 4.0 0.8 0.8 0.8 0.8 0.8 0.8 0.8

Initial: 0.51 0.49 1.00 0.03 0.97 1.00 1.97 0.31 1.00 1.84 0.16

Adjusted: 

**Critical V/C: 0.640**

**User DelAdj: 42.7 147  15**

**LOS by Move: C    C     C     C    C     C     D    C**

**HCM2kAvgQ:**

1    2     2     1    6     5     3    7     7    0    12    12
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

##### Existing Plus Project AM S2B

**Intersection #36: 16th/Owens**

**Signal**=Permit/Rights=Include

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
</tr>
</thead>
<tbody>
<tr>
<td>74</td>
<td>4</td>
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</table>

<table>
<thead>
<tr>
<th>Vol Time (sec)</th>
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</thead>
<tbody>
<tr>
<td>10</td>
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</tr>
</tbody>
</table>

**Critical V/C**: 0.683

**Avg Crit Del (sec/veh)**: 23.4

**Los** = C

**Cycle Time (sec)**: 60

**Loss Time (sec)**: 10

**Base+Add Vol**: 74 224 62

**Lanes**: 1 0 1 1 0

**Street Name**: Owens St 16th St

**Approach**: North Bound South Bound East Bound West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
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<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>10</td>
<td>10</td>
<td>15</td>
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<tr>
<td>Y+R</td>
<td>5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0</td>
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<td></td>
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<td></td>
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</tr>
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Cycle Times:

**Sat/Lane**: 950 900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

**Min. Green**: 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15

**Y+R**: 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0

**Base+Add Vol**: 74 224 62

**Lanes**: 1 0 1 1 0

**Street Name**: Owens St 16th St

**Approach**: North Bound South Bound East Bound West Bound

<table>
<thead>
<tr>
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<th>T</th>
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Cycle Times:

**Sat/Lane**: 950 900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

**Min. Green**: 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15

**Y+R**: 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0

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### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

##### Existing Plus Project PM S2B

**Intersection #36: 16th/Owens**

**Signal**=Permit/Rights=Include

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<thead>
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<tbody>
<tr>
<td>10</td>
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</tbody>
</table>

**Critical V/C**: 0.681

**Avg Crit Del (sec/veh)**: 32.0

**Los** = C

**Cycle Time (sec)**: 60

**Loss Time (sec)**: 10

**Base+Add Vol**: 113 160

**Lanes**: 1 0 1 1 0

**Street Name**: Owens St 16th St

**Approach**: North Bound South Bound East Bound West Bound

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<tr>
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<th>T</th>
<th>R</th>
<th>L</th>
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<td>15</td>
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<tr>
<td>Y+R</td>
<td>5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0</td>
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<td></td>
<td></td>
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</tr>
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Cycle Times:

**Sat/Lane**: 950 900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

**Min. Green**: 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15

**Y+R**: 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0

---

### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

##### Existing Plus Project PM S2B

**Intersection #36: 16th/Owens**

**Signal**=Protect

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</table>

**Critical V/C**: 0.681

**Avg Crit Del (sec/veh)**: 32.0

**Los** = C

**Cycle Time (sec)**: 60

**Loss Time (sec)**: 10

**Base+Add Vol**: 133 160

**Lanes**: 1 0 1 1 0

**Street Name**: Owens St 16th St

**Approach**: North Bound South Bound East Bound West Bound

<table>
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<th>L</th>
<th>T</th>
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<td>15</td>
<td>15</td>
<td>15</td>
<td>10</td>
<td>10</td>
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<tr>
<td>Y+R</td>
<td>5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0</td>
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</table>

Cycle Times:

**Sat/Lane**: 950 900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

**Min. Green**: 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15

**Y+R**: 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0

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### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #37: 16th/7th**

- **Signal=Split/Rights=Include**
- **Base+Add Vol:** 43 97 293
- **Lanes:** 0 1 0 0 1
- **Cycle Time (sec):** 110
- **Loss Time (sec):** 14
- **Critical V/C:** 0.901
- **Critical Del (sec/veh):** 61.8
- **Delay (sec/veh):** 53.0
- **LOS:** D

#### Street Name: 7th Street

**Approach:** North Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
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<th>R</th>
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</thead>
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<tr>
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<td>30</td>
</tr>
<tr>
<td>YR:</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Add Vol:</td>
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<td>0</td>
</tr>
<tr>
<td>PasserByVol:</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Reduced Vol:</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>PCE Adj:</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
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<tr>
<td>PHF Volume:</td>
<td>42 365</td>
<td>299 99</td>
<td>44 101 773</td>
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<tr>
<td>Reduce Vol:</td>
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<td>0</td>
<td>0</td>
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<tr>
<td>InitVol:</td>
<td>42 365</td>
<td>299 99</td>
<td>44 101 773</td>
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<tr>
<td>User Adj:</td>
<td>1.00</td>
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<td>1.00</td>
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<tr>
<td>LOS:</td>
<td>D</td>
<td></td>
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</tr>
</tbody>
</table>

**Note:** Queue reported is the number of cars per lane.

---

### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #37: 16th/7th**

- **Signal=Splits/Rights=Include**
- **Base+Add Vol:** 90 138 88
- **Lanes:** 0 1 0 0 1
- **Cycle Time (sec):** 110
- **Loss Time (sec):** 14
- **Critical V/C:** 0.826
- **Critical Del (sec/veh):** 65.2
- **Delay (sec/veh):** 46.1
- **LOS:** D

#### Street Name: 7th Street

**Approach:** North Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>YR:</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Add Vol:</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>PasserByVol:</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Reduced Vol:</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>PCE Adj:</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>PHF Volume:</td>
<td>72 336</td>
<td>90 141 92</td>
<td>58 357 77</td>
</tr>
<tr>
<td>Reduce Vol:</td>
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<td>0</td>
<td>0</td>
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<tr>
<td>InitVol:</td>
<td>72 336</td>
<td>90 141 92</td>
<td>58 357 77</td>
</tr>
<tr>
<td>User Adj:</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>LOS:</td>
<td>D</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Queue reported is the number of cars per lane.
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM S2B

Intersection #38: 16th St/Rhode Island
Signal=Permit/Rights=Include
Base+Add Vol: 10 59 38
Lanes: 0 0 1! 0 0
Cycle Time (sec): 60
Loss Time (sec): 10
Critical V/C: 0.703

Base+Add Lanes: Rights=Include Vol Cnt Date: 5/29/2013 Rights=Include Lanes: Base+Add

Cycle 21
Avg Del (sec): 13.4
LOS C

Street Name: Rhode Island Street 16th Street
Approach: North Bound South Bound East Bound West Bound

Movement: L T R L T R L T R

Min. Green: 42 42 42 42 42 42 42 42 42 42 42 42
Y+R: 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0

Volume Module: 21 0
Base Vol: 10 59 38
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Init. Adj: 0 0 0 0 0 0 0 0 0 0 0 0
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PasserVol: 0 0 0 0 0 0 0 0 0 0 0 0
Init. Put: 0 0 0 0 0 0 0 0 0 0 0 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 30 121 41 42 65 11
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 30 121 41 42 65 11
Final Volume: 30 121 41 42 65 11

Cycle 22
Avg Del (sec): 13.4
LOS B

Street Name: Rhode Island Street 16th Street
Approach: North Bound South Bound East Bound West Bound

Movement: L T R L T R L T R

Min. Green: 42 42 42 42 42 42 42 42 42 42 42 42
Y+R: 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0

Volume Module: 21 0
Base Vol: 10 59 38
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Init. Adj: 0 0 0 0 0 0 0 0 0 0 0 0
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PasserVol: 0 0 0 0 0 0 0 0 0 0 0 0
Init. Put: 0 0 0 0 0 0 0 0 0 0 0 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 30 121 41 42 65 11
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 30 121 41 42 65 11
Final Volume: 30 121 41 42 65 11

Capacity Analysis Module:
Vol/Sat: 0.11 0.11 0.07 0.13 0.13 0.13 0.13 0.48 0.48 0.48 0.48 0.48
Critt Moves: ****

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90
Lanes: 0.16 0.63 0.21 0.36 0.55 0.09 0.03 0.90 0.07 0.07 0.19 0.14
Final Sat.: 271 1103 371 571 887 150 48 1667 132 2941 239

Capacity Analysis Module:
Vol/Sat: 0.11 0.11 0.07 0.13 0.13 0.13 0.13 0.48 0.48 0.48 0.48 0.48
Critt Moves: ****

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90
Lanes: 0.16 0.63 0.21 0.36 0.55 0.09 0.03 0.90 0.07 0.07 0.19 0.14
Final Sat.: 372 1162 170 391 1030 248 45 1622 154 189 2628 185

Note: Queue reported is the number of cars per lane.
### Intersection #39: 16th/Vermont

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 22 0 47

**Lanes:** 0 0 1!

- **Cycle Time (sec):** 60
- **Loss Time (sec):** 10
- **Critical V/C:** 0.828
- **vg Crit Del (sec/veh):** 57.2
- **vg Delay (sec/veh):** 42.6

**Street Name:** 16th St

### 2000 HCM Operations (Future Volume Alternative)

<table>
<thead>
<tr>
<th>Movement</th>
<th>T</th>
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<th>L1</th>
<th>L2</th>
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</tbody>
</table>

**LOS:** D

**Traffic Flow Module:**

- **Base Vol:** 219 195 0 0 31 0 0 0
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Delay/Veh:** 16.1 16.1 16.1 15.3 5.0 10.4 21.6 0.0
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**HCM2kAvgQ:** 3 3 3 3 1 1 1 1

**Note:** Queue reported is the number of cars in lane.

---

### Intersection #39: 16th/Vermont

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 14 0 19

**Lanes:** 0 0 1!

- **Cycle Time (sec):** 60
- **Loss Time (sec):** 10
- **Critical V/C:** 0.604
- **vg Crit Del (sec/veh):** 18.9
- **vg Delay (sec/veh):** 16.4

**Street Name:** Vermont St

### 2000 HCM Operations (Future Volume Alternative)

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</tbody>
</table>

**LOS:** B

**Traffic Flow Module:**

- **Base Vol:** 216 131 33 0 0 0 0 0
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Delay/Veh:** 15.3 15.3 15.3 13.6 0.0 10.4 21.6 0.0
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**HCM2kAvgQ:** 2 2 2 2 1 1 1 1

**Note:** Queue reported is the number of cars in lane.
## Level Of Service Computation Report
### 2000 HCM Operations (Future Volume Alternative)

**Intersection #40: 16th/Potrero**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 75 432 148

**Lanes:** 0 1 1 0 1

**Cycle Time (sec):** 90

**Loss Time (sec):** 0

**Critical V/C:** 0.750

**vg Crit Del (sec/veh):** 54.7

**vg Delay (sec/veh):** 43.7

**LOS:** D

**Street Name:** Potrero Ave 16th St

### Approach Table

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
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<tbody>
<tr>
<td>North Bound</td>
<td>1</td>
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</tr>
<tr>
<td>South Bound</td>
<td>1</td>
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<tr>
<td>East Bound</td>
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</tr>
<tr>
<td>West Bound</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Cycle Time (sec):** 90

**Volume Module:**

**Base Vol:** 114 713 48

**Growth Adj:** 1.00 1.00 1.00

**Delay Adj:** 1.00 1.00 1.00

**Delay/Veh:** 54.7 43.7

**User DelAdj:** 1.00 1.00

**LOS by Move:** D

**HCM2kAvgQ:** 2 8 9 3 0

**Note:** Queue reported is the number of cars per lane.

---

**Intersection #40: 16th/Potrero**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 160 864 110

**Lanes:** 0 1 1 0 1

**Cycle Time (sec):** 90

**Loss Time (sec):** 0

**Critical V/C:** 0.963

**vg Crit Del (sec/veh):** 66.9

**vg Delay (sec/veh):** 53.3

**LOS:** D

**Street Name:** Potrero Ave 16th St

### Approach Table

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
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<tbody>
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<td>South Bound</td>
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<td>East Bound</td>
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<tr>
<td>West Bound</td>
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<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Cycle Time (sec):** 90

**Volume Module:**

**Base Vol:** 119 535 43

**Growth Adj:** 1.00 1.00 1.00

**Delay Adj:** 1.00 1.00 1.00

**Delay/Veh:** 53.3 43.7

**User DelAdj:** 1.00 1.00

**LOS by Move:** E

**HCM2kAvgQ:** 4 5 6 2 19 18 15 14 15 24 22 24

**Note:** Queue reported is the number of cars per lane.
### Intersection #41: Mariposa/3rd

**Level Of Service Computation Report**

#### 2000 HCM Operations (Future Volume Alternative)

**Existing Plus Project AM S2B**

**Street Name:**
- Mariposa Street
- 3rd Street

#### Approach Details

**North Bound**
- Traffic Modules:
  - Volume: 44 870
  - Loss Time: 20
  - Cycle Time: 100
  - Critical V/C: 0.825
  - Average Critical Delay (sec/veh): 56.1
  - Average Delay (sec/veh): 51.1

**South Bound**
- Traffic Modules:
  - Volume: 329 493
  - Loss Time: 120
  - Cycle Time: 142
  - Critical V/C: 0.634
  - Average Critical Delay (sec/veh): 43.7
  - Average Delay (sec/veh): 40.2

**Los**
- D

**Note:** Queue reported is the number of cars per lane.
**Level Of Service Computation Report**

### 2000 HCM Operations (Future Volume Alternative)

**Intersection #42: Mariposa/4th**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 3

**Lanes:** 0 1 0 0 1

**Cycle Time (sec):** 60

**Loss Time (sec):** 15

**Critical V/C:** 0.443

**vg Crit Del (sec/veh):** 20.6

**vg Delay (sec/veh):** 19.9

**Cycle Time (sec):** 60

**Loss Time (sec):** 15

**Critical V/C:** 0.363

**vg Crit Del (sec/veh):** 17.7

**vg Delay (sec/veh):** 16.9

**Street Name:** 4th Street  Mariposa Street

**Approach:**  North Bound  South Bound  East Bound  West Bound

<table>
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<th>L</th>
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<th>R</th>
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<th>T</th>
<th>R</th>
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<td>15</td>
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<td>15</td>
<td>15</td>
<td>15</td>
</tr>
</tbody>
</table>

| Base Vol: | 13 |
| Growth Adj: | 1.00 |
| Init Vol: | 0 |
| Added Vol: | 0 |
| PasserVol: | 0 |
| User Adj: | 1.00 |
| PPH Volume: | 14 |
| Reduction: | 0 |
| Final Volume: | 14 |

**Saturation Flow Module:**

**Base/End Vol:**

| Lanes: | 0 0 1 0 0 |
| Growth Adj: | 1.00 |
| Init Vol: | 38 |
| Added Vol: | 0 |
| PasserVol: | 0 |
| User Adj: | 1.00 |
| PPH Volume: | 40 |
| Reduction: | 0 |
| Final Volume: | 40 |

**Capacity Analysis Module:**

| Vol/Sat: | 0.04 |
| Crit Moves: | 0.00 |
| Green/Cycle: | 0.17 |
| Uniform Del: | 31.7 |
| IncremtDel1: | 0.0 |
| User DelAdj: | 1.00 |
| AdjDel/Vehr: | 32 |
| LOS by Move: | C A C C C C C B B |

**Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #43: Mariposa/I-280NB**

**Signal Type = Split/ Rights=Include**

**Base+Add Vol: 83*** 0 0**

- **Lanes:** 2 0 0 0 0
  - **Critical V/C:** 0.849
  - **Avg Crit Del (sec/veh):** 64.2
  - **Avg Delay (sec/veh):** 36.0

**LOS:** D

---

**Street Name:** Mariposa Street

**Approach:** North Bound

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<tr>
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<th>R</th>
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<td>4.0</td>
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</tbody>
</table>

**Cycle Time (sec):** 90

**Loss Time (sec):** 0

**Critical V/C:** 0.849

**Avg Crit Del (sec/veh):** 64.2

**Avg Delay (sec/veh):** 36.0

**LOS:** D

---

**Volume Module:** >> Count Date: 5/9/2013 << 7:00-8:45am

**Base Vol:** 889 0 745 0 0 0 0 105 0 0 239 0

**Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Initial Put:** 0 0 0 0 0 83 67 33 0 0 0 0

**User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**PVF Volume:** 922

**Reduce Vol:** 0 0 0 0 0 0 0 0 0 0 0 0

**Reduced Vol:** 922 611 955 0 0 86 70 143 0 0 276 16

**Final Volume:** 922

---

**Saturation Flow Module:**

**Sat/Lane:** 1900

**Lanes:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Adj: 1.06 0.77 0.76 1.00 0.76 0.47 1.00 1.00 0.89 0.85**

**Output:**

**HCM2kAvgQ:** 19 13 43 0 0 0 3 0 3

**Note:** Queue reported is the number of cars per lane.

---

**Intersection #43: Mariposa/I-280NB**

**Signal Type = Split/ Rights=Include**

**Base+Add Vol: 506*** 0 0**

- **Lanes:** 2 0 0 0 0
  - **Critical V/C:** 0.749
  - **Avg Crit Del (sec/veh):** 35.3
  - **Avg Delay (sec/veh):** 33.5

**LOS:** C

---

**Street Name:** Mariposa Street

**Approach:** North Bound

<table>
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<tr>
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</table>

**Cycle Time (sec):** 90

**Loss Time (sec):** 12

**Critical V/C:** 0.749

**Avg Crit Del (sec/veh):** 35.3

**Avg Delay (sec/veh):** 33.5

**LOS:** C

---

**Volume Module:** >> Count Date: 5/9/2013 << 7:00-8:45am

**Base Vol:** 482 0 180 0 0 0 0 86 0 0 639 0

**Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Initial Put:** 0 0 0 0 0 0 0 0 0 0 0 0

**User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**PVF Volume:** 502

**Reduce Vol:** 0 0 0 0 0 0 0 0 0 0 0 0

**Reduced Vol:** 502 226 206 0 0 527 89 3 0 0 904 1

**Final Volume:** 502

---

**Saturation Flow Module:**

**Sat/Lane:** 1900

**Lanes:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Adj: 1.06 0.77 0.76 1.00 0.76 0.47 1.00 1.00 0.89 0.85**

**Output:**

**HCM2kAvgQ:** 14 2 5 0 0 10 0 0 10 9

**Note:** Queue reported is the number of cars per lane.
**Level Of Service Computation Report**

**2000 HCM Operations (Future Volume Alternative)**

**Existing Plus Project AM S2B**

**Intersection #440: Mariposa/I-280SB**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 0  0     0

**Lanes:** 0 0 0  0 0

**Cycle Time (sec): 90**

**Loss Time (sec): 0**

**Critical V/C:** 0.514

**vg Crit Del (sec/veh): 0.8**

**vg Delay (sec/veh): 7.6**

**Cycle Time (sec): 90**

**Loss Time (sec): 0**

**Critical V/C:** 0.430

**vg Crit Del (sec/veh): 0.6**

**vg Delay (sec/veh): 7.6**

**Street Name:** I-280 Southbound Ramp

**Approach:** North Bound  South Bound  East Bound  West Bound

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<th>R</th>
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</tbody>
</table>

**Saturation Flow Module:**

**Sat/Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

**Lanes:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

**Final Sat:** 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

**Capacity Analysis Module:**

| Vol/Sat | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.12 0.08 0.11 0.48 0.00 |
|---------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Crit Moves | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** |

**Capacity Analysis Module:**

| Vol/Sat | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 |
|---------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Crit Moves | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** |

**Traffic 6-125**

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### Intersection #24: King/3rd

#### 2000 HCM Operations (Base Volume Alternative)

### 2015 AM

**Intersection #24: King/3rd**  
**Signal** = Split/Rights = Include  
**Base Vol:** 0 0 0  
**Lanes:** 0 0 0 0 0  
**Critical V/C:** 0.738  
**Loss Time (sec):** 19  
**Cycle Time (sec):** 110  
**Loss Time (sec):** 19  
**Cycle Time (sec):** 110  
**Avg. Delay (sec):** 0  
**Adj. Del/Veh:** 0.0  
**LOS:** D  
**User Del Adj:** 1.00  
**User Del Adj:** 1.00  
**LOS by Move:** E  
**HCM2kAvgQ:** 18  
**Harold:** 0.833  
**Note:** Queue reported is the number of cars per lane.

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<th>Movement</th>
<th>North Bound</th>
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<th>East Bound</th>
<th>West Bound</th>
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<tr>
<td>L</td>
<td>T</td>
<td>L</td>
<td>T</td>
<td>R</td>
</tr>
</tbody>
</table>

#### 2015 PM

**Intersection #24: King/3rd**  
**Signal** = Split/Rights = Include  
**Base Vol:** 0 0 0  
**Lanes:** 0 0 0 0 0  
**Critical V/C:** 0.851  
**Loss Time (sec):** 19  
**Cycle Time (sec):** 110  
**Loss Time (sec):** 19  
**Cycle Time (sec):** 110  
**Avg. Delay (sec):** 0  
**Adj. Del/Veh:** 0.0  
**LOS:** E  
**User Del Adj:** 1.00  
**User Del Adj:** 1.00  
**LOS by Move:** E  
**HCM2kAvgQ:** 18  
**Harold:** 0.833  
**Note:** Queue reported is the number of cars per lane.

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
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<tbody>
<tr>
<td>L</td>
<td>T</td>
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</table>
### Intersection #25: King/4th

#### 4th Street

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<th>R</th>
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#### Street Name: 4th Street

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#### Street Name: King Street

### Capacity Analysis Module:

| Vol/Sat: | 0.04 | 0.04 | 0.02 | 0.07 | 0.14 | 0.14 | 0.06 | 0.36 | 0.36 | 0.03 | 0.28 | 0.28 |
| Crit Moves: | 5 | 79 | 64 | 35 | 271 | 316 | 158 | 1584 | 26 |
| Green/Cycle: | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Volume Module: |
| Base Vol: | 5 | 77 | 62 | 34 | 263 | 307 | 153 | 1536 | 25 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Volume Module: |
| Base Vol: | 5 | 79 | 64 | 35 | 271 | 316 | 158 | 1584 | 26 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Base Volume Alternative)

**Intersection #26: 7th St/Branham**

**2015 AM**

- **Intersection**: 7th St/Brannan
- **Signal**: Permit
- **Rights**: Include
- **Base Vol**: 0 0 0
- **Lanes**: 0 0 0
- **Cycle Time (sec)**: 60
- **Loss Time (sec)**: 8
- **Critical V/C**: 0.392
- **Avg Crit Del (sec/veh)**: 11.4
- **Avg Delay (sec/veh)**: 14.2
- **Cycle**: 336
- **Delay**: 386
- **LOS**: B

**Street Name**: North Bound
- **Approach**: 7th Street
- **Volume Module**: Base Vol: 0 0 0
- **Lanes**: Base Vol: 0 0 0
- **Min. Green**: 0 0 0
- **Volume**: 4 4 4
- **Cycle**: 60
- **Loss**: 8
- **Critical V/C**: 0.392
- **Delay**: 11.4
- **LOS**: B

**Street Name**: South Bound
- **Approach**: Brannan Street
- **Volume Module**: Base Vol: 0 0 0
- **Lanes**: Base Vol: 0 0 0
- **Min. Green**: 0 0 0
- **Volume**: 112 112 112
- **Cycle**: 60
- **Loss**: 8
- **Critical V/C**: 0.392
- **Delay**: 11.4
- **LOS**: B

**Base Vol**: 24 695

**Street Name**: East Bound
- **Volume Module**: Base Vol: 0 0 0
- **Lanes**: Base Vol: 0 0 0
- **Min. Green**: 0 0 0
- **Volume**: 4 4 4
- **Cycle**: 60
- **Loss**: 8
- **Critical V/C**: 0.392
- **Delay**: 11.4
- **LOS**: B

**Street Name**: West Bound
- **Volume Module**: Base Vol: 0 0 0
- **Lanes**: Base Vol: 0 0 0
- **Min. Green**: 0 0 0
- **Volume**: 4 4 4
- **Cycle**: 60
- **Loss**: 8
- **Critical V/C**: 0.392
- **Delay**: 11.4
- **LOS**: B

**Cycle Time (sec)**: 60

---

### Level Of Service Computation Report

#### 2000 HCM Operations (Base Volume Alternative)

**Intersection #26: 7th St/Branham**

**2015 PM**

- **Intersection**: 7th St/Brannan
- **Signal**: Permit
- **Rights**: Include
- **Base Vol**: 0 0 0
- **Lanes**: 0 0 0
- **Cycle Time (sec)**: 60
- **Loss Time (sec)**: 8
- **Critical V/C**: 0.850
- **Avg Crit Del (sec/veh)**: 35.9
- **Avg Delay (sec/veh)**: 31.1
- **Cycle**: 761
- **Delay**: 759
- **LOS**: C

**Street Name**: North Bound
- **Approach**: 7th Street
- **Volume Module**: Base Vol: 44 1185
- **Lanes**: Base Vol: 44 1185
- **Min. Green**: 0 0 0
- **Volume**: 4 4 4
- **Cycle**: 60
- **Loss**: 8
- **Critical V/C**: 0.850
- **Delay**: 35.9
- **LOS**: C

**Street Name**: South Bound
- **Approach**: Brannan Street
- **Volume Module**: Base Vol: 44 1185
- **Lanes**: Base Vol: 44 1185
- **Min. Green**: 0 0 0
- **Volume**: 4 4 4
- **Cycle**: 60
- **Loss**: 8
- **Critical V/C**: 0.850
- **Delay**: 35.9
- **LOS**: C

**Base Vol**: 44 1185

**Street Name**: East Bound
- **Approach**: 7th Street
- **Volume Module**: Base Vol: 44 1185
- **Lanes**: Base Vol: 44 1185
- **Min. Green**: 0 0 0
- **Volume**: 4 4 4
- **Cycle**: 60
- **Loss**: 8
- **Critical V/C**: 0.850
- **Delay**: 35.9
- **LOS**: C

**Street Name**: West Bound
- **Approach**: Brannan Street
- **Volume Module**: Base Vol: 44 1185
- **Lanes**: Base Vol: 44 1185
- **Min. Green**: 0 0 0
- **Volume**: 4 4 4
- **Cycle**: 60
- **Loss**: 8
- **Critical V/C**: 0.850
- **Delay**: 35.9
- **LOS**: C

**Cycle Time (sec)**: 60

---
Intersection #27: Channel/3rd

Level of Service Computation Report
2000 HCM Operations (Base Volume Alternative)

2015 AM

Intersection #27: Channel/3rd
Signal=Protect/Rights=Include
Base Vol: 34  295  11***
Lanes: 0 1 1  0 1

Cycle Time (sec): 100
Loss Time (sec): 15

Critical V/C: 0.461
Avg Crit Del (sec/veh): 45.1
Avg Delay (sec/veh): 39.8

Loss: D

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.81 0.89 0.81 0.81 0.80 0.79 0.67 1.00 0.69 0.82 0.82 0.82
Lanes: 0 0 1  1 1

Min. Green: 10 36 36 17 38 38 32 32 32 32 32 32
Base Vol: 34 1091 1 11 295 34 19 0 56 1 5 1
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

User Del Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Adj Del/Veh: 38.4 46.3 38.4 35.2 24.6 23.7 0.0 24.9 23.3 23.3
LOS: D

Street Name: 3rd Street
Approach: North Bound
Min. Green: 10 36 36 17 38 38 32 32 32 32 32 32
Base Vol: 34 1091 1 11 295 34 19 0 56 1 5 1
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

User Del Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Adj Del/Veh: 38.4 46.3 38.4 35.2 24.6 23.7 0.0 24.9 23.3 23.3
LOS: D

Street Name: Channel Street
Approach: North Bound
Min. Green: 10 36 36 17 38 38 32 32 32 32 32 32
Base Vol: 34 1091 1 11 295 34 19 0 56 1 5 1
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

User Del Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Adj Del/Veh: 38.4 46.3 38.4 35.2 24.6 23.7 0.0 24.9 23.3 23.3
LOS: D

Note: Queue reported is the number of cars per lane.
Intersection #28: Channel Street

2000 HCM Operations (Base Volume Alternative)

2015 AM

Intersection #28: Channel/4th
Signal=Protect/Rights=Include
Base Vol: 37  130***  57
Lanes: 0 1 0  0 1

Cycle Time (sec): 64
Loss Time (sec): 10
Critical V/C: 0.221
Avg Crit Del (sec/veh): 15.9
Avg Delay (sec/veh): 15.9

LOS: B

Street Name: 4th Street
Approach: North Bound
Signal=Protect
Min. Green: 0  21  21  9  35  0  9  19  0  0  10  0
Y+R: 4.0  5.0  5.0  5.0  5.0  4.0  5.0  5.0
User DelAdj: 1.00
1  2      1 !

Cycle Time (sec): 64
Loss Time (sec): 10
Critical V/C: 0.193
Avg Crit Del (sec/veh): 22.9
Avg Delay (sec/veh): 16.7

LOS: B

Satisfaction Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50
Lanes: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

Cycle Time (sec): 64
Loss Time (sec): 10
Critical V/C: 0.193
Avg Crit Del (sec/veh): 22.9
Avg Delay (sec/veh): 16.7

LOS: B

Satisfaction Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.42 0.58 0.66 0.81 0.83 0.81 0.71 0.71 0.67 0.80 0.85 0.86
Lanes: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

Cycle Time (sec): 64
Loss Time (sec): 10
Critical V/C: 0.193
Avg Crit Del (sec/veh): 22.9
Avg Delay (sec/veh): 16.7

LOS: B

Sat/Lane: 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 11000 12000
Adjustment: 0.42 0.58 0.66 0.81 0.83 0.81 0.71 0.71 0.67 0.80 0.85 0.86
Lanes: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

Cycle Time (sec): 64
Loss Time (sec): 10
Critical V/C: 0.193
Avg Crit Del (sec/veh): 22.9
Avg Delay (sec/veh): 16.7

LOS: B
Intersection #29: Mission Rock/3rd

**2000 HCM Operations (Base Volume Alternative)**

**2015 AM**

**Intersection #29: Mission Rock/3rd**

**Signal=Protect/Rights=Include**

**Base Vol**: 12  280     59***

**Lanes**: 0 1 1  0 1

**Cycle Time (sec)**: 100

**Loss Time (sec)**: 15

**Critical V/C**: 0.500

**Avg Crit Del (sec/veh)**: 42.6

**Avg Delay (sec/veh)**: 38.3

**Street Name**: 3rd Street

**Approach**: North Bound  South Bound  East Bound  West Bound

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<td>1.00 1.00 1.00 1.00 1.00</td>
<td></td>
</tr>
</tbody>
</table>

**Final Volume**: 9 1133 25 62 295 13

**Volume Module**: Base Vol: 9 817 8

**LOS**: D

---

**2015 PM**

**Intersection #29: Mission Rock/3rd**

**Signal=Protect/Rights=Include**

**Base Vol**: 2  221    13***

**Lanes**: 0 1 1  0 1

**Cycle Time (sec)**: 100

**Loss Time (sec)**: 15

**Critical V/C**: 0.363

**Avg Crit Del (sec/veh)**: 30.8

**Avg Delay (sec/veh)**: 28.9

**Street Name**: 3rd Street

**Approach**: North Bound  South Bound  East Bound  West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
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<tbody>
<tr>
<td>Min. Green</td>
<td>15 37 37 15 37 37 33 33 33 33 33 33</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Base Vol</td>
<td>9 817 8 13 221 2</td>
<td>19 4 7 9 6 24</td>
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<td></td>
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<tr>
<td>Growth Adj</td>
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<td>1.00 1.00 1.00</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
</tr>
<tr>
<td>User Adj</td>
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<td>1.00 1.00 1.00 1.00 1.00 1.00</td>
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<td></td>
</tr>
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<td>0.95 0.95 0.95</td>
<td>0.95 0.95 0.95</td>
<td></td>
</tr>
<tr>
<td>Reduce Vol</td>
<td>0 0 0 0 0</td>
<td></td>
<td>0 0 0 0 0 0</td>
<td></td>
</tr>
<tr>
<td>PCE Adj</td>
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<td>1.00 1.00 1.00 1.00 1.00</td>
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</tr>
</tbody>
</table>

**Final Volume**: 9 1133 25 62 295 13

**Volume Module**: Base Vol: 9 817 8

**LOS**: C

---

Note: Queue reported is the number of cars per lane.
## Level Of Service Computation Report

### 2000 HCM Operations (Base Volume Alternative)

#### 2015 AM

**Intersection #30: Mission Bay North/3rd**

- **Signal=Protect/Rights=Include**
- **Base Vol:** 17,286,000
- **Lanes:** 0,1,2,0,0
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 10
- **Critical V/C:** 0.443
- **Avg Crit Del (sec/veh):** 17.0
- **Avg Delay (sec/veh):** 17.8
- **LOS:** B

<table>
<thead>
<tr>
<th>Street Name:</th>
<th>Mission Bay North</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approach:</td>
<td>North Bound</td>
</tr>
<tr>
<td>Min. Green:</td>
<td>14, 57, 57, 15, 38, 38</td>
</tr>
<tr>
<td>Base Vol:</td>
<td>27, 1088, 0, 0, 286, 17</td>
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<tr>
<td>Growth Adj:</td>
<td>1.00, 1.00, 1.00, 1.00, 1.00, 1.00</td>
</tr>
<tr>
<td>Vol/Cycle:</td>
<td>15, 57, 57, 15, 38, 38</td>
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<tr>
<td>PHI Volume:</td>
<td>29, 1136, 0, 0, 307, 18</td>
</tr>
<tr>
<td>Reduct Vol:</td>
<td>0, 0, 0, 0, 0, 0</td>
</tr>
<tr>
<td>User Adj:</td>
<td>1.00, 1.00, 1.00, 1.00, 1.00, 1.00</td>
</tr>
<tr>
<td>PHI Volume:</td>
<td>0.93, 0.93, 0.93, 0.93, 0.93, 0.93</td>
</tr>
<tr>
<td>AdjDel/Veh:</td>
<td>37.6, 16.9, 0.0, 0.0, 18.6, 18.6</td>
</tr>
</tbody>
</table>

#### 2015 PM

**Intersection #30: Mission Bay North/3rd**

- **Signal=Protect/Rights=Include**
- **Base Vol:** 7,318,000
- **Lanes:** 0,1,2,0,0
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 10
- **Critical V/C:** 0.334
- **Avg Crit Del (sec/veh):** 14.1
- **Avg Delay (sec/veh):** 16.2
- **LOS:** B

<table>
<thead>
<tr>
<th>Street Name:</th>
<th>Mission Bay North</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approach:</td>
<td>North Bound</td>
</tr>
<tr>
<td>Min. Green:</td>
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</tr>
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<tr>
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<tr>
<td>Vol/Cycle:</td>
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<tr>
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<td>Reduct Vol:</td>
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<tr>
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<tr>
<td>AdjDel/Veh:</td>
<td>37.8, 13.7, 0.0, 0.0, 18.7, 18.7</td>
</tr>
</tbody>
</table>

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**Saturation Flow Module:**

**Sat./Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

**Adjustment:** 0.81 0.81 1.00 1.00 0.77 0.77 1.00 1.00 0.79 0.82 0.62

**Lanes:** 1.00, 2.00, 0.00, 0.00, 0.17, 0.00, 0.00, 0.00, 0.61, 0.39 1.00

**Final Sat.:** 1539 3079 0 0 4142 246 0 0 914 609 1177

**Capacity Analysis Module:**

**Vol/Sat:** 0.02 0.38 0.00 0.00 0.07 0.07 0.00 0.00 0.00 0.00 0.01 0.01 0.02

**Crit Moves:**

**Green/Cycle:** 0.15 0.57 0.00 0.00 0.42 0.42 0.00 0.00 0.00 0.00 0.33 0.33 0.33

**Vol/Cap:** 0.12 0.67 0.00 0.00 0.18 0.18 0.00 0.00 0.00 0.00 0.04 0.04 0.06

**Uniform Del:** 36.5 14.9 0.0 0.0 18.4 18.4 0.0 0.0 0.0 22.8 22.8 22.9

**IncremDel:** 1.1 2.0 0.0 0.0 0.2 0.2 0.0 0.0 0.0 0.2 0.2 0.3

**InitQueDel:** 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

**Delay Adj:** 1.00 1.00 0.00 0.00 1.00 1.00 0.00 0.00 0.00 1.00 1.00 1.00

**User DelAdj:** 1.00 1.00 0.00 0.00 1.00 1.00 0.00 0.00 0.00 1.00 1.00 1.00

**AdjDel/Veh:** 37.6 16.9 0.0 0.0 18.6 18.6 0.0 0.0 0.0 22.9 22.9 23.2

**LOS by Move:**

**HCM2kAvgQ:**

1 13 0 0 2 2 0 0 0 0 0 0

Note: Queue reported is the number of cars per lane.
Intersection #31: Mission Bay South/3rd

**2000 HCM Operations (Base Volume Alternative)**

**2015 AM**

Intersection #31: Mission Bay South/3rd
Signal=Protect/Rights=Include
Base Vol: 0  277***  21
Lanes: 0 0 2  0 1

**Cycle Time (sec):** 100

**Loss Time (sec):** 10

**Critical V/C:** 0.130

**Avg Crit Del (sec/veh):** 23.9

**2015 PM**

Intersection #31: Mission Bay South/3rd
Signal=Protect/Rights=Include
Base Vol: 0  313***  5
Lanes: 0 0 2  0 1

**Cycle Time (sec):** 100

**Loss Time (sec):** 10

**Critical V/C:** 0.148

**Avg Crit Del (sec/veh):** 20.3

---

**Note:** Queue reported is the number of cars per lane.
Intersection #32: Mission Bay/Owens

**2015 AM**

**Intersection #32: Mission Bay/Owens**

**Base Vol:** 0 43 0

**Lanes:** 0 0 1 0 0

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.198

**Avg Crit Del (sec/veh):** 3.8

**Avg Delay (sec/veh):** 3.8

**LOS:** A

**Street Name:** Owens Street  Mission Bay

**Approach:**

<table>
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<tr>
<th>Movement</th>
<th>North Bound</th>
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<th>East Bound</th>
<th>West Bound</th>
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<tr>
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<td>L = T = R</td>
<td>L = T = R</td>
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<td>120 37 8</td>
<td>0 43 0</td>
<td>0 82 24</td>
<td>0 0 0</td>
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</table>

**Volume Module:** Base Vol: 120 37 8 0 43 0 58 0 82 24 0 0

**Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Initial Base:** 120 37 8 0 43 0 58 0 82 24 0 0

**User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Queue:** 0.7 0.2 0.6 0.1

**2015 PM**

**Intersection #32: Mission Bay/Owens**

**Base Vol:** 0 15 0

**Lanes:** 0 0 1 0 0

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.240

**Avg Crit Del (sec/veh):** 3.9

**Avg Delay (sec/veh):** 3.9

**LOS:** A

**Street Name:** Owens Street  Mission Bay

**Approach:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
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<td>L = T = R</td>
<td>L = T = R</td>
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<tr>
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<td>158 65 24</td>
<td>0 15 0</td>
<td>92 0 39</td>
<td>30 0 0</td>
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</tbody>
</table>

**Volume Module:** Base Vol: 158 65 24 0 15 0 92 0 39 30 0 0

**Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Initial Base:** 158 65 24 0 15 0 92 0 39 30 0 0

**User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Queue:** 0.9 0.0 0.4 0.1
### Level Of Service Computation Report

**2000 HCM Operations (Base Volume Alternative)**

#### 2015 AM

**Intersection #33: Mission Bay/7th**

- **Signal=Protect/Rights=Include**
- **Base Vol:** 0 336*** 109
- **Lanes:** 0 0 1 0 1
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0
- **Critical V/C:** 0.275
- **Avg Delay (sec/veh):** 21.7
- **LOS:** C

#### Street Name:

- **7th Street**
- **Mission Bay**

#### Approach:

- **North Bound**
- **South Bound**
- **East Bound**
- **West Bound**

<table>
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<tr>
<td>PHP Volume</td>
<td>0</td>
<td>562</td>
<td>31</td>
<td>114</td>
<td>351</td>
<td>0</td>
</tr>
<tr>
<td>Reduct Vol</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Reduced Vol</td>
<td>0</td>
<td>562</td>
<td>31</td>
<td>114</td>
<td>351</td>
<td>0</td>
</tr>
<tr>
<td>PCE Adj</td>
<td>1.00</td>
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<td>1.00</td>
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#### Street Name:

- **7th Street**
- **Mission Bay**

#### Approach:

- **North Bound**
- **South Bound**
- **East Bound**
- **West Bound**

<table>
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<tr>
<th>Movement</th>
<th>L</th>
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<th>L</th>
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<tbody>
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<td>Min. Green</td>
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<td>0 0</td>
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<td>1.00</td>
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<td>1.00</td>
</tr>
<tr>
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<td>1.00</td>
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<td>1.00</td>
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<td>89</td>
<td>228</td>
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</tr>
<tr>
<td>Reduct Vol</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Reduced Vol</td>
<td>0</td>
<td>762</td>
<td>31</td>
<td>89</td>
<td>228</td>
<td>0</td>
</tr>
<tr>
<td>PCE Adj</td>
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<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
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<td>MLP Adj</td>
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<td>31</td>
<td>89</td>
<td>228</td>
<td>0</td>
</tr>
</tbody>
</table>

#### Capacity Analysis Module:

- **Vol/Sat:** 0.00 0.18 0.03 0.07 0.22 0.00 0.00 0.00 0.00 0.02 0.00 0.10
- **Crit Moves:** 4
- **Green/Cycle:** 0.00 0.44 0.44 0.17 0.61 0.00 0.00 0.00 0.00 0.25 0.00 0.25
- **Vol/Cap:** 0.00 0.42 0.07 0.43 0.35 0.00 0.00 0.00 0.00 0.08 0.00 0.39
- **Uniform Del:** 0.00 19.2 16.2 37.1 9.7 0.0 0.0 0.0 0.0 28.7 0.0 31.2
- **IncremDel:** 0.0 0.9 0.3 5.1 1.0 0.0 0.0 0.0 0.0 4.0 0.0 2.3
- **InitQDel:** 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
- **Delay Adj:** 0.00 1.00 1.00 1.00 1.00 0.00 0.00 0.00 0.00 1.00 0.00 1.00
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Adj/Del/Veh:** 0.0 20.2 16.5 42.2 10.7 0.0 0.0 0.0 0.0 29.1 0.0 33.5
- **LOS by Move:** A A C A C B A A C B A A C
- **HCM2kAvgQ:** 0 6 1 4 5 0 0 0 0 1 0 3

Note: Queue reported is the number of cars per lane.
Level of Service Computation Report
2000 HCM Operations (Base Volume Alternative)

**2015 AM**

Intersection #34: 16th/3rd
Signal=Protect/Rights=Include
Base Vol: 74 214 18
Lanes: 0 1 1 0 1

Volume Module: >> Count Date: 5/8/2013 <<
Base Vol: 130
Cycle Time (sec): 100
Loss Time (sec): 15

Critical V/C: 0.575
Avg Crit Del (sec/veh): 40.5

**2015 PM**

Intersection #34: 16th/3rd
Signal=Protect/Rights=Include
Base Vol: 147 371 18
Lanes: 0 1 1 0 1

Volume Module: >> Count Date: n/a <<
Base Vol: 79
Cycle Time (sec): 100
Loss Time (sec): 15

Critical V/C: 0.691
Avg Crit Del (sec/veh): 33.3

Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)

#### 2015 AM

**Intersection #35: 16th/4th**

Street Name:
- 4th Street
- 16th Street

Approach:
- North Bound
- South Bound
- East Bound
- West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green:</td>
<td>30 30 30 30 30 30 17 30 30 15 28 28</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>User Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
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<tr>
<td>PHF:</td>
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<td></td>
<td></td>
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<tr>
<td>Reduce Vol:</td>
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<tr>
<td>Reduced Vol:</td>
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</tr>
<tr>
<td>PCE Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
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<tr>
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<td>Final Volume:</td>
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Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97
Lanes: 20.7 20.7 20.7 20.7 20.7 20.7 20.7 20.7 20.7 20.7 20.7 20.7 20.7 20.7

Saturation Flow Module:
- V/C: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- HCM2kAvgQ: 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1

### 2015 PM

**Intersection #35: 16th/4th**

Street Name:
- 4th Street
- 16th Street

Approach:
- North Bound
- South Bound
- East Bound
- West Bound

<table>
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<tr>
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<th>L - T - R</th>
<th>L - T - R</th>
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Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.52 0.73 0.70 0.60 0.73 0.69 0.74 0.74 0.74 0.81 0.80 0.79
Lanes: 20.7 20.7 20.7 20.7 20.7 20.7 20.7 20.7 20.7 20.7 20.7 20.7 20.7 20.7 20.7

Saturation Flow Module:
- V/C: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- HCM2kAvgQ: 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

---

**Notes**: Queue reported is the number of cars per lane.
Level Of Service Computation Report

2000 HCM Operations (Base Volume Alternative)

2015 AM

Intersection #36: 16th/Owens
Signal=Permit/Rights=Include
Base Vol: 63  58  80***
Lanes: 1 0 1  1 0

Cycle Time (sec): 110
Loss Time (sec): 10
Critical V/C: 0.472
vg Crit Del (sec/veh): 46.1
vg Delay (sec/veh): 34.8

2015 PM

Intersection #36: 16th/Owens
Signal=Permit/Rights=Include
Base Vol: 177  90  162***
Lanes: 1 0 1  1 0

Cycle Time (sec): 110
Loss Time (sec): 10
Critical V/C: 0.503
vg Crit Del (sec/veh): 34.3
vg Delay (sec/veh): 28.4

Street Name: Owens St                          16th St
Approach: North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R

Min. Green:    45   45    45    45   45    45    20   55    55    35   35    35
Y+R:          5.0  5.0   5.0   5.0  5.0   5.0   5.0  5.0   5.0   5.0  5.0   5.0

Volume Module: Base Vol:      17  150    16    80   58    63   249  337     5     10  311   186
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  19.7 20.6  20.6  24.6 21.4  24.5  46.4 15.7  15.7  25.9 35.7  35.7
LOS by Move:    B    C     C     C    C     C     D    B     B     C    D     D
HCM2kAvgQ:      0    2     2     2    1     1    11    4     0     0    8     8
Note: Queue reported is the number of cars per lane.
## Level Of Service Computation Report

### 2000 HCM Operations (Base Volume Alternative)

#### 2015 AM

**Intersection #38: 16th St/Rhode Island**

- **Signal=Permit/Rights=Include**
- **Base Vol:** 10 60 17
- **Lanes:** 0 0 1! 0 0
- **Cycle Time (sec):** 60
- **Loss Time (sec):** 10
- **Critical V/C:** 0.570
- **Avg Crit Del (sec/veh):** 18.5
- **Avg Delay (sec):** 15.5
- **LOS:** B

---

**Cycle Time (sec):** 60

**Volume Module:**

- **Count Date:** 5/29/2013
- **Base Vol:** 21
- **Lanes:** 0 0 1! 0 0
- **Critical V/C:** 0.570
- **Avg Crit Del (sec/veh):** 18.5
- **Avg Delay (sec):** 15.5
- **LOS:** B

---

**Growth Adj:** 1.00 1.00 1.00 1.00 1.00

**User DelAdj:** 1.00 1.00 1.00 1.00 1.00

**AdjDel/Veh:** 13.5 13.5 13.5 13.5 13.5

**LOS by Move:** B B B B B

**HCM2kAvgQ:** 2 2 2 2 2

**Note:** Queue reported is the number of cars per lane.

### 2015 PM

**Intersection #38: 16th St/Rhode Island**

- **Signal=Permit/Rights=Include**
- **Base Vol:** 19 80 27
- **Lanes:** 0 0 1! 0 0
- **Cycle Time (sec):** 60
- **Loss Time (sec):** 10
- **Critical V/C:** 0.538
- **Avg Crit Del (sec/veh):** 14.3
- **Avg Delay (sec):** 12.8
- **LOS:** B

---

**Volume Module:**

- **Count Date:** n/a
- **Base Vol:** 13
- **Lanes:** 0 0 1! 0 0
- **Critical V/C:** 0.538
- **Avg Crit Del (sec/veh):** 14.3
- **Avg Delay (sec):** 12.8
- **LOS:** B

---

**Growth Adj:** 1.00 1.00 1.00 1.00 1.00

**User DelAdj:** 1.00 1.00 1.00 1.00 1.00

**AdjDel/Veh:** 14.4 14.4 14.4 14.4 14.4

**LOS by Move:** B B B B B

**HCM2kAvgQ:** 4 4 4 4 4

**Note:** Queue reported is the number of cars per lane.
### Level of Service Computation Report

**2000 HCM Operations (Base Volume Alternative)**

**2015 AM**

**Intersection #39: 16th/Vermont**

**Signal=Permit/Rights=Include**

**Base Vol:** 22  0     26  

**Lanes:** 0 0 1! 0 0

**Cycle Time (sec): 60**

**Loss Time (sec): 10**

**Critical V/C:** 0.711

**vg Crit Del (sec/veh):** 26.7

**vg Delay (sec/veh):** 21.3

**_base_vol: 31  

**lanes: 1**

**LOS:** C

**Street Name:** Vermont St                         16th St

**Approach:** North Bound      South Bound       East Bound       West Bound

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<tr>
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| Note: Queue reported is the number of cars per lane.

**Saturation Flow Module:**

**Street Name:** Vermont St                         16th St

**Approach:** North Bound      South Bound       East Bound       West Bound

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| Note: Queue reported is the number of cars per lane.

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**Level of Service Computation Report**

**2000 HCM Operations (Base Volume Alternative)**

**2015 PM**

**Intersection #39: 16th/Vermont**

**Signal=Permit/Rights=Include**

**Base Vol:** 14  0     16  

**Lanes:** 0 0 1! 0 0

**Cycle Time (sec): 60**

**Loss Time (sec): 10**

**Critical V/C:** 0.601

**vg Crit Del (sec/veh):** 18.7

**vg Delay (sec/veh):** 15.9

**base_vol: 31  

**lanes: 1**

**LOS:** B

**Street Name:** Vermont St                         16th St

**Approach:** North Bound      South Bound       East Bound       West Bound

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| Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

**2000 HCM Operations (Base Volume Alternative)**

#### Intersection #40: 16th/Potrero

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<th>Signal=Permit</th>
<th>Rights=Include</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Vol:</td>
<td>Lanes:</td>
</tr>
<tr>
<td>162***</td>
<td>0 1 1 0 1</td>
</tr>
<tr>
<td>Vol/Cycle</td>
<td>Cycle Time (sec)</td>
</tr>
<tr>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Loss Time (sec)</td>
<td>10</td>
</tr>
<tr>
<td>Avg Crit Del (pct):</td>
<td>10</td>
</tr>
<tr>
<td>Critical V/C:</td>
<td>0.929</td>
</tr>
<tr>
<td>Vg Crit Del (sec/veh):</td>
<td>47.9</td>
</tr>
<tr>
<td>Vg Delay (sec/veh):</td>
<td>40.5</td>
</tr>
<tr>
<td>LOS:</td>
<td>D</td>
</tr>
</tbody>
</table>

**Street Name:** Potrero Ave

**Approach:** North Bound South Bound East Bound West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>50</td>
<td>0</td>
<td>50</td>
<td>0</td>
<td>50</td>
<td>0</td>
<td>50</td>
<td>0</td>
<td>50</td>
</tr>
<tr>
<td>Base Vol:</td>
<td>116 542</td>
<td>42</td>
<td>108 873</td>
<td>162</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Growth Adj:</td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>User Adj:</td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vg Delay:</td>
<td>210</td>
<td>0</td>
<td>210</td>
<td>0</td>
<td>210</td>
<td>0</td>
<td>210</td>
<td>0</td>
<td>210</td>
</tr>
<tr>
<td>LOS:</td>
<td>D</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>D</td>
<td>D</td>
<td>B</td>
<td>B</td>
<td>B</td>
</tr>
</tbody>
</table>

**Capacity Analysis Module:**

| Vg/Vol | 0.23 0.35 | 0.35 0.23 | 0.23 0.28 | 0.28 0.28 | 0.28 0.26 | 0.26 0.26 | 0.26 |

**Saturation Flow Module:**

| Vg/Sat | 0.39 0.26 | 0.26 0.19 | 0.19 0.47 | 0.47 0.34 | 0.34 0.31 | 0.31 0.31 | 0.31 |

Note: Queue reported is the number of cars per lane.

---

### Level Of Service Computation Report

**2000 HCM Operations (Base Volume Alternative)**

#### Intersection #40: 16th/Potrero

<table>
<thead>
<tr>
<th>Signal=Permit</th>
<th>Rights=Include</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Vol:</td>
<td>Lanes:</td>
</tr>
<tr>
<td>115 720</td>
<td>0 1 1 0 1</td>
</tr>
<tr>
<td>Vol/Cycle</td>
<td>Cycle Time (sec)</td>
</tr>
<tr>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td>Loss Time (sec)</td>
<td>90</td>
</tr>
<tr>
<td>Avg Crit Del (pct):</td>
<td>90</td>
</tr>
<tr>
<td>Critical V/C:</td>
<td>0.714</td>
</tr>
<tr>
<td>Vg Crit Del (sec/veh):</td>
<td>51.8</td>
</tr>
<tr>
<td>Vg Delay (sec/veh):</td>
<td>30.1</td>
</tr>
<tr>
<td>LOS:</td>
<td>C</td>
</tr>
</tbody>
</table>

**Street Name:** Potrero Ave

**Approach:** North Bound South Bound East Bound West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
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<tbody>
<tr>
<td>Min. Green</td>
<td>54</td>
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<td>54</td>
<td>0</td>
<td>54</td>
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<td>54</td>
</tr>
<tr>
<td>Base Vol:</td>
<td>115 720</td>
<td>48</td>
<td>130 436</td>
<td>76</td>
<td>31 435</td>
<td>142</td>
<td>36 447</td>
<td>37</td>
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<tr>
<td>Growth Adj:</td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>User Adj:</td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vg Delay:</td>
<td>142</td>
<td>0</td>
<td>142</td>
<td>0</td>
<td>142</td>
<td>0</td>
<td>142</td>
<td>0</td>
<td>142</td>
</tr>
<tr>
<td>LOS:</td>
<td>C</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>C</td>
<td>C</td>
<td>D</td>
<td>D</td>
<td>D</td>
</tr>
</tbody>
</table>

**Capacity Analysis Module:**

| Vg/Vol | 0.23 0.35 | 0.35 0.23 | 0.23 0.28 | 0.28 0.28 | 0.28 0.26 | 0.26 0.26 | 0.26 |

**Saturation Flow Module:**

| Vg/Sat | 0.39 0.26 | 0.26 0.19 | 0.19 0.47 | 0.47 0.34 | 0.34 0.31 | 0.31 0.31 | 0.31 |

Note: Queue reported is the number of cars per lane.
### 2000 HCM Operations (Base Volume Alternative)

#### 2015 AM

**Intersection #41: Mariposa/3rd**

<table>
<thead>
<tr>
<th>Base Vol Lanes:</th>
<th>Signal=Protect/Rights=Include</th>
</tr>
</thead>
<tbody>
<tr>
<td>59/393</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lane</th>
<th>Vol Cnt</th>
<th>Date: 5/8/2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Lanes</th>
<th>Rights=Include</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Critical V/C: 0.089</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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</table>

<table>
<thead>
<tr>
<th>Avg Delay (sec): 76.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LOS E:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

**Street Name:** Mariposa Street

**Approach:** North Bound, South Bound

### Movement

<table>
<thead>
<tr>
<th>Min. Green:</th>
<th>40</th>
<th>38</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>YrBs:</th>
<th>5.0</th>
</tr>
</thead>
</table>

### Base Volume: 70 282 11***

<table>
<thead>
<tr>
<th>Lanes:</th>
<th>0</th>
<th>1</th>
<th>1</th>
<th>0</th>
<th>1</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Cycle Time (sec): 15</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Loss Time (sec): 0</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
</tr>
</tbody>
</table>

### Critical V/C: 0.859

<table>
<thead>
<tr>
<th>Avg Crit Del (sec/veh): 63.7</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
</tr>
</tbody>
</table>

### LOS by Move: D C C E C

### HCM2kAvgQ: 2

**Note:** Queue reported is the number of cars per lane.

---

### 2015 PM

**Intersection #41: Mariposa/3rd**

<table>
<thead>
<tr>
<th>Base Vol Lanes:</th>
<th>Signal=Protect/Rights=Include</th>
</tr>
</thead>
<tbody>
<tr>
<td>59/393</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lane</th>
<th>Vol Cnt</th>
<th>Date: n/a</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lanes</th>
<th>Rights=Include</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Critical V/C: 0.031</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
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</table>

<table>
<thead>
<tr>
<th>Avg Delay (sec): 26.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LOS C:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

**Street Name:** Mariposa Street

**Approach:** North Bound, South Bound

### Movement

<table>
<thead>
<tr>
<th>Min. Green:</th>
<th>40</th>
<th>38</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>YrBs:</th>
<th>5.0</th>
</tr>
</thead>
</table>

### Base Volume: 242 434 16***

<table>
<thead>
<tr>
<th>Lanes:</th>
<th>0</th>
<th>1</th>
<th>1</th>
<th>0</th>
<th>1</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Cycle Time (sec): 15</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Loss Time (sec): 0</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
</tr>
</tbody>
</table>

### Critical V/C: 0.531

<table>
<thead>
<tr>
<th>Avg Crit Del (sec/veh): 29.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

### LOS by Move: D C C E C

### HCM2kAvgQ: 2

**Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

**2000 HCM Operations (Base Volume Alternative)**

#### 2015 AM

**Intersection #42: Mariposa/4th**

**Signal=Permit/Rights=Include**

**Base Vol:** 0 0 24***

**Lanes:** 0 1 0 0 1

**Cycle Time (sec):** 60

**Loss Time (sec):** 15

**Critical V/C:** 0.389

**Avg Crit Del (sec/veh):** 23.0

**Avg Delay (sec/veh):** 20.1

**LOS:** C

**Cycle Time:** 60

**Loss Time:** 15

**Critical V/C:** 0.389

**Avg Crit Del:** 23.0

**Avg Delay:** 20.1

**LOS:** C

### Synchronization Flow Module:

#### Sat/Lane:
- 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
- 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

#### Adjustment:
- 0.88 0.88 0.88 1.00 1.00 1.00 0.75 0.75 0.75 0.75 0.75 0.75

#### Lanes:
- 0.82 0.82 0.82 1.00 1.00 1.00 0.87 0.87 0.87 0.95 0.95 0.95

#### Final Sat.:
- 1053 0 243 1269 1900 0 1900 2681 179 1539 2351 461

### Capacity Analysis Module:

**Vol/Sat:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

**Crt Moves:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

**Green/Cycle:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

**Vol/Cap:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

**User Adj:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

**PHF Adj:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

**PHF Volume:** 14 14 14 14 14 14 14 14 14 14 14 14

**Reduc Vol:** 0 0 0 0 0 0 0 0 0 0 0 0

**PCE Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**MLF Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**LOS by Move:** C A C A A A A A A A A A

**HCM2kAvgQ:** 1 1 1 1 1 1 1 1 1 1 1 1

---

### 2015 PM

**Intersection #42: Mariposa/4th**

**Signal=Permit/Rights=Include**

**Base Vol:** 0 0 39

**Lanes:** 0 1 0 0 1

**Cycle Time (sec):** 60

**Loss Time (sec):** 12

**Critical V/C:** 0.322

**Avg Crit Del (sec/veh):** 19.6

**Avg Delay (sec/veh):** 14.8

**LOS:** B

**Cycle Time:** 60

**Loss Time:** 12

**Critical V/C:** 0.322

**Avg Crit Del:** 19.6

**Avg Delay:** 14.8

**LOS:** B

### Synchronization Flow Module:

#### Sat/Lane:
- 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
- 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

#### Adjustment:
- 0.83 0.83 0.83 1.00 1.00 1.00 0.75 0.75 0.75 0.75 0.75 0.75

#### Lanes:
- 0.83 0.83 0.83 1.00 1.00 1.00 0.87 0.87 0.87 0.95 0.95 0.95

#### Final Sat.:
- 998 0 210 1189 1900 0 1900 2730 136 1539 2810 68

### Capacity Analysis Module:

**Vol/Sat:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

**Crt Moves:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

**Green/Cycle:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

**Vol/Cap:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

**User Adj:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

**PHF Adj:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

**PHF Volume:** 40 40 40 40 40 40 40 40 40 40 40 40

**Reduc Vol:** 0 0 0 0 0 0 0 0 0 0 0 0

**PCE Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**MLF Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**LOS by Move:** C A C A A A A A A A A A

**HCM2kAvgQ:** 1 1 1 1 1 1 1 1 1 1 1 1

---

### Street Name:

**4th Street**

**Mariposa Street**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Bound</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Bound</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>East Bound</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>West Bound</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Min. Green | 15 15 15 15 15 15 15 15 15 15 15 15 |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Base Vol | 13 0 3 24 0 0 0 735 49 4 148 29 |
| Base Vol | 38 0 8 39 0 0 0 561 28 2 499 12 |

---

### Street Name:

**4th Street**

**Mariposa Street**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Bound</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>South Bound</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>East Bound</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>West Bound</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Min. Green | 15 15 15 15 15 15 15 15 15 15 15 15 |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Base Vol | 13 0 3 24 0 0 0 735 49 4 148 29 |
| Base Vol | 38 0 8 39 0 0 0 561 28 2 499 12 |
**Level Of Service Computation Report**

### 2000 HCM Operations (Base Volume Alternative)

#### 2015 AM

**Intersection #43: Mariposa/I-280NB**

**Signal=Split/Rights=Include**

<table>
<thead>
<tr>
<th>Lane(s)</th>
<th>Base Vol</th>
<th>Vol/Critical/Flow Rate</th>
<th>Cycle Time (sec)</th>
<th>Loss Time (sec)</th>
<th>Critical V/C</th>
<th>Avg Crit Del (sec/veh)</th>
<th>Avg Delay (sec/veh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>43***</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Cycle Time (sec):** 90
- **Loss Time (sec):** 1
- **Critical V/C:** 0.483
- **Avg Crit Del (sec/veh):** 16.7
- **Avg Delay (sec/veh):** 23.2

**Base Vol:** 43***

**Lanes:** 2 0 0 0 0 0

#### 2015 PM

**Intersection #43: Mariposa/I-280NB**

**Signal=Split/Rights=Include**

<table>
<thead>
<tr>
<th>Lane(s)</th>
<th>Base Vol</th>
<th>Vol/Critical/Flow Rate</th>
<th>Cycle Time (sec)</th>
<th>Loss Time (sec)</th>
<th>Critical V/C</th>
<th>Avg Crit Del (sec/veh)</th>
<th>Avg Delay (sec/veh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>87</td>
<td>2</td>
<td>24***</td>
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<tr>
<td>T</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Cycle Time (sec):** 12
- **Loss Time (sec):** 0
- **Critical V/C:** 0.413
- **Avg Crit Del (sec/veh):** 20.8
- **Avg Delay (sec/veh):** 26.5

**Base Vol:** 87

**Lanes:** 2 0 0 0 0 0

---

**Street Name:** I-280NB, Mariposa Street

**Approach:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>T</td>
<td>R</td>
<td>L</td>
<td>T</td>
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<tr>
<td>Min. Green:</td>
<td>55 55 55 13 13 13 15 15 15 15 15</td>
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<td>778 151 752 0 0 43 0 107 0 0 241 0</td>
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<td></td>
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<tr>
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<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>User Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>PED:</td>
<td>0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96</td>
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<td></td>
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<tr>
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<td>807 157 780 0 0 45 0 111 0 0 250 0</td>
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<tr>
<td>Reduce Vol:</td>
<td>0 0 0 0 0 0 0 0 0 0 0 0</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>PCE Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
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<td></td>
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<td></td>
<td></td>
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<tr>
<td>Final Volume:</td>
<td>107 157 780 0 0 45 0 111 0 0 250 0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Saturation Flow Module:**

| Sat/Lane: | 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 |
| Adjustment: | 1.13 0.74 0.72 1.00 0.61 0.98 0.94 1.00 1.00 0.90 0.93 |
| Lanes: | 100 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| Final Sat.: | 2138 1403 1374 0 0 2325 0 3558 0 0 5112 0 |

**Capacity Analysis Module:**

| Vol/Sat: | 0.38 0.11 0.57 0.00 0.00 0.02 0.00 0.03 0.00 0.00 0.05 8.00 |

---

**Street Name:** I-280NB, Mariposa Street

**Approach:**

<table>
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<tr>
<th>Movement</th>
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<tr>
<td>L</td>
<td>T</td>
<td>R</td>
<td>L</td>
<td>T</td>
</tr>
<tr>
<td>Min. Green:</td>
<td>29 29 29 26 26 26 26 23 23 23 23 23</td>
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<tr>
<td>Volume Module:</td>
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<tr>
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<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>User Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
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<tr>
<td>PED:</td>
<td>0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96</td>
<td></td>
<td></td>
<td></td>
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<td>PED Volume:</td>
<td>403 118 190 0 0 64 0 91 0 0 672 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduce Vol:</td>
<td>0 0 0 0 0 0 0 0 0 0 0 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCE Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MLP Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Final Volume:</td>
<td>403 118 190 0 0 64 0 91 0 0 672 0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Saturation Flow Module:**

| Sat/Lane: | 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 |
| Adjustment: | 1.06 0.77 0.81 1.00 1.00 0.62 0.98 0.94 1.00 1.00 0.90 0.93 |
| Lanes: | 100 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| Final Sat.: | 2018 1454 1540 0 0 2353 0 3558 0 0 5112 0 |

**Capacity Analysis Module:**

| Vol/Sat: | 0.20 0.08 0.12 0.00 0.00 0.03 0.00 0.03 0.00 0.00 0.03 8.00 |

---

**Note:** Queue reported is the number of cars per lane.
**Level Of Service Computation Report**

2000 HCM Unsignalized (Base Volume Alternative)

**Intersection #44: Mariposa/I-280 SB**

**2015 AM**

- Signal=Stop/Rights=Include
- Base Vol: 102 107 0
- Lanes: 1 0 1 0 0
- Cycle Time (sec): 100
- Loss Time (sec): 0
- Avg Crit Del (sec/veh): 17.5
- Avg Delay (sec/veh): 17.5
- LOS: F

---

**2015 PM**

- Signal=Stop/Rights=Include
- Base Vol: 572 87 0
- Lanes: 1 0 1 0 0
- Cycle Time (sec): 100
- Loss Time (sec): 0
- Avg Crit Del (sec/veh): 65.9
- Avg Delay (sec/veh): 65.9
- LOS: F

---

**Street Name:** I-280 Southbound Ramp

**Approach:** North Bound South Bound East Bound West Bound

---

**Volume Module:**

- Base Vol: 0 0 0 0 107 102 0 0 0 313 750 0
- Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- Initial Base: 0 0 0 0 107 102 0 0 0 313 750 0
- User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- Critical V/C: 1.029
- FollowUpTim: 4.1
- Critical Gap: 6.5
- Potent Cap.: 1636
- Move Cap.: 1636
- Volume/Cap.: 1.00 0.20
- Level Of Service Module:

---

**Volume Module:**

- Base Vol: 0 0 0 0 87 572 0 0 0 555 538 0
- Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- Initial Base: 0 0 0 0 87 572 0 0 0 555 538 0
- User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- Critical V/C: 1.678
- FollowUpTim: 4.1
- Critical Gap: 6.5
- Potent Cap.: 1636
- Move Cap.: 1636
- Volume/Cap.: 1.00 0.20
- Level Of Service Module:

---

**Note:** Queue reported is the number of cars per lane.
Year 2015 Plus LRDP (Mission Bay Only)
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

#### 2015 Plus MB Phase One AM

#### Intersection #24: King/3rd

**Signal=Split/Rights=Include**

**Base+Add Vol:** 0 0 0

**Lanes:** 0 0 0

**Cycle Time (sec):** 110

**Loss Time (sec):** 19

**Critical V/C:** 0.727

**Avg Crit Del (sec/veh):** 45.5

**Avg Delay (sec/veh):** 50.0

#### LOS: D

**Street Name:** 3rd Street, King Street

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
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<tr>
<td>Min. Green</td>
<td>39</td>
<td>39</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>18</td>
<td>37</td>
<td>37</td>
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<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
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<tr>
<td>Initial Base</td>
<td>689</td>
<td>825</td>
<td>35</td>
<td>347</td>
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<td>PasserVolVol</td>
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<td>825</td>
<td>35</td>
<td>347</td>
<td>780</td>
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<tr>
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<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
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<tr>
<td>PPH Volume</td>
<td>57</td>
<td>947</td>
<td>412</td>
<td>0</td>
<td>0</td>
<td>728</td>
<td>868</td>
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<tr>
<td>Reduct Vol.</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Reduct Vol.</td>
<td>57</td>
<td>947</td>
<td>412</td>
<td>0</td>
<td>0</td>
<td>728</td>
<td>868</td>
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<td>PE/C Adj.</td>
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<td>1.00</td>
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<td>926</td>
<td>763</td>
<td>12</td>
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<tr>
<td>InitQueuDel</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
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<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
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<td>412</td>
<td>0</td>
<td>0</td>
<td>728</td>
<td>868</td>
<td>37</td>
</tr>
</tbody>
</table>

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### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

#### 2015 Plus MB Phase One PM

#### Intersection #24: King/3rd

**Signal=Split/Rights=Include**

**Base+Add Vol:** 0 0 0

**Lanes:** 0 0 0

**Cycle Time (sec):** 110

**Loss Time (sec):** 19

**Critical V/C:** 0.870

**Avg Crit Del (sec/veh):** 89.4

**Avg Delay (sec/veh):** 73.4

#### LOS: E

**Street Name:** 3rd Street, King Street

<table>
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<tr>
<th>Movement</th>
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<th>T</th>
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<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
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<tbody>
<tr>
<td>Min. Green</td>
<td>39</td>
<td>39</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>18</td>
<td>37</td>
<td>37</td>
</tr>
<tr>
<td>Growth Adj.</td>
<td>1.00</td>
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<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
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<tr>
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<tr>
<td>PPH Volume</td>
<td>56</td>
<td>1073</td>
<td>288</td>
<td>0</td>
<td>0</td>
<td>926</td>
<td>763</td>
<td>12</td>
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<tr>
<td>InitQueuDel</td>
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<td>0</td>
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<td>0</td>
<td>0</td>
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<tr>
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<td>0</td>
<td>728</td>
<td>868</td>
<td>37</td>
</tr>
</tbody>
</table>

---

**Notice:** Queue reported is the number of cars per lane.
### Intersection #25: King/4th
#### 2000 HCM Operations (Future Volume Alternative)

**2015 Plus MB Phase One AM**

**Base+Add Vol:** 205 463*** 73
**Lanes:** 1 1 1 0 1

- **Signal=Permit/Rights=Include**
- **Cycle Time (sec):** 110
- **Loss Time (sec):** 19

**Critical V/C:** 0.673
**Avg Critical Del (sec/veh):** 46.8
**vg Del (sec/veh):** 45.0

**Base+Add Lanes:**
- Rights=Include
- Vol Cnt Date: 4/10/2013
- Rights=Include
- Lanes: Base+Add
- 87
- 1

**Street Name:**
- 4th Street
- King Street

#### Approach

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<th>T</th>
<th>R</th>
<th>L</th>
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<tr>
<td>West Bound</td>
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<td></td>
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</tr>
</tbody>
</table>

- **Cycle Time (sec):** 110
- **Loss Time (sec):** 19

**Cycle Time (sec):** 110
**Loss Time (sec):** 19

**Critical V/C:** 0.673
**Avg Critical Del (sec/veh):** 46.8
**vg Del (sec/veh):** 45.0

**Base+Add Vol:** 307 274*** 34
**Lanes:** 1 1 1 0 1

- **Signal=Protect**

- **Base+Add Lanes:** Rights=Include

- **Cycle Time (sec):** 110
- **Loss Time (sec):** 19

**Critical V/C:** 0.639
**Avg Critical Del (sec/veh):** 57.5
**vg Del (sec/veh):** 53.4

**Base+Add Vol:** 5 86 80
**Lanes:** 1 1 0 0 1

- **Signal=Permit/Rights=Overlap**

### Capacity Analysis Module

**Vol/Sat:** 0.04 0.04 0.04 0.03 0.07 0.17 0.15 0.06 0.36 0.36 0.03 0.28 0.28

**Green/Cycle:** 0.33 0.33 0.46 0.26 0.33 0.33 0.33 0.17 0.36 0.36 0.14 0.33 0.33

- **Volume/Cap:** 0.14 0.14 0.05 0.05 0.22 0.52 0.47 0.33 0.99 0.22 0.86 0.86

- **Uniform Del:** 26.6 26.0 16.2 26.8 30.0 29.4 40.1 34.7 34.7 42.3 34.7 34.7

- **Increase Del:** 0.3 0.6 0.3 0.1 0.1 1.1 1.6 0.3 0.3 0.1 1.1 1.6

- **InitQueueDel:** 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

- **Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

- **Delay/Veh:** 26.6 26.6 16.4 28.2 31.4 30.4 43.7 54.0 54.0 44.6 44.4 44.4

- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

- **AdjDel(Veh):** 26.6 26.6 16.4 28.2 31.4 30.4 43.7 54.0 54.0 44.6 44.4 44.4

- **HCM2kAvgQ:** 2 2 1 3 25 26 1 14 14

Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

### 2015 Plus MB Phase One AM

**Intersection #26: 7th St/Brannan**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 0 0 0

**Lanes:** 0 0 0 0 0

**Cycle Time (sec):** 60

**Loss Time (sec):** 8

**Critical V/C:** 0.481

**Avg Crit Del (sec/veh):** 13.7

**Critical V/C:** 0.877

**Avg Crit Del (sec/veh):** 45.2

**Min. Green:** 0 0 24 0 24

**Base Vol:** 44 1185 99 0 0 0

**Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00

**Critical V/C:** 0.481

**Avg Crit Del (sec/veh):** 13.7

**HCM2kAvgQ:** 8 8 2 2

**Note:** Queue reported is the number of cars per lane.

---

### Street Name: 7th St/Brannan Street

**Approach:** North Bound South Bound East Bound West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>Base Vol:</td>
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<td>1.00 1.00 1.00 1.00</td>
<td></td>
</tr>
</tbody>
</table>

**Volume Module:**

| Base Vol: | 24 695 | 71 | 0 | 0 |
| Growth Adj: | 1.00 1.00 1.00 1.00 | 1.00 1.00 1.00 1.00 |
| Initial Base: | 695 71 0 0 |
| Added Vol: | 0 9 1 0 |
| Critical V/C: | 0.481 |
| Avg Crit Del (sec/veh): | 13.7 |
| LOS: | B |

**Approach:** North Bound South Bound East Bound West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
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<tbody>
<tr>
<td>Min. Green:</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Base Vol:</td>
<td>44 1185 99</td>
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<tr>
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<td>1.00 1.00 1.00 1.00</td>
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<tr>
<td>Critical V/C:</td>
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<td>Avg Crit Del (sec/veh):</td>
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<td>LOS:</td>
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**Approach:** North Bound South Bound East Bound West Bound

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<td>Base Vol:</td>
<td>67 40</td>
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<tr>
<td>Avg Crit Del (sec/veh):</td>
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**Approach:** North Bound South Bound East Bound West Bound

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<th>L</th>
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<th>R</th>
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<tr>
<td>Min. Green:</td>
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<tr>
<td>Base Vol:</td>
<td>103 81</td>
<td>122</td>
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<td>Critical V/C:</td>
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<tr>
<td>Avg Crit Del (sec/veh):</td>
<td>13.7</td>
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<tr>
<td>LOS:</td>
<td>B</td>
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</tbody>
</table>
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #27: Channel/Third**

- **Signal=Protect/Rights=Include**
- **Base+Add Vol**: 35 329 11***
- **Lanes**: 0 1 1 0 1
- **Cycle Time (sec)**: 100
- **Loss Time (sec)**: 15
- **Critical V/C**: 0.497
- **Avg Crit Del (sec/veh)**: 46.2
- **Avg Delay (sec/veh)**: 40.4
- **LOS**: D

**Street Name: Third Street**

<table>
<thead>
<tr>
<th>Movement</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
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<tbody>
<tr>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
</tr>
<tr>
<td>Min. Green:</td>
<td>15 36 36 17 38 38 52 32 32 12 32 32</td>
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<td></td>
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<tr>
<td>Base Vol:</td>
<td>50 5.5 5.5 5.5 5.5 5.5 5.0 5.0 5.0 5.0 5.0 5.0</td>
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<tr>
<td>Growth Adj:</td>
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<tr>
<td>Init. Vol:</td>
<td>34 1091 11 295 34 19 0 56 1 5 1</td>
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<td></td>
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<tr>
<td>PJH Volume:</td>
<td>36 1116 1 12 346 37 21 0 94 1 5 1</td>
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<tr>
<td>Reduct Vol:</td>
<td>0 0 0 0 0 0 0 0 0 0 0 0</td>
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<tr>
<td>Final Volume:</td>
<td>36 1116 1 12 346 37 21 0 94 1 5 1</td>
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<tr>
<td>Capacity Analysis Module:</td>
<td>34.0 34.0 34.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0</td>
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<td>Crit Moves:</td>
<td>****</td>
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<tr>
<td>Green/Cycle:</td>
<td>0.35 0.36 0.37 0.38 0.38 0.38 0.32 0.32 0.32 0.32 0.32</td>
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<tr>
<td>Volume/Cap:</td>
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<tr>
<td>Uniform Del:</td>
<td>37.0 31.2 31.2 34.7 22.0 22.0 23.5 0.0 24.9 23.2 23.2 23.2</td>
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<tr>
<td>IncrementDel:</td>
<td>1.4 16.8 16.8 0.3 0.8 0.8 0.2 0.0 0.0 0.1 0.1 0.1</td>
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<tr>
<td>InitQueudel:</td>
<td>0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0</td>
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<tr>
<td>Delay Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
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<tr>
<td>Delay/Vol:</td>
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<td>User DelAdj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
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<tr>
<td>LOS by Move:</td>
<td>D D D D C C C A C C C C</td>
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<tr>
<td>HCMAvgQ:</td>
<td>1.14 1.17 1.17 2.0 2.0 2.0 0.0 0.0</td>
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</tr>
</tbody>
</table>

**Note:** Queue reported is the number of cars per lane.

---

**Intersection #27: Channel/Third**

- **Signal=Permit**
- **Base+Add Vol**: 18 165 12***
- **Lanes**: 0 1 1 0 1
- **Cycle Time (sec)**: 100
- **Loss Time (sec)**: 15
- **Critical V/C**: 0.449
- **Avg Crit Del (sec/veh)**: 33.1
- **Avg Delay (sec/veh)**: 30.8
- **LOS**: C

**Street Name: Third Street**

<table>
<thead>
<tr>
<th>Movement</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
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<tbody>
<tr>
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<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
</tr>
<tr>
<td>Min. Green:</td>
<td>15 37 37 16 38 38 52 32 32 12 32 32</td>
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<tr>
<td>Base Vol:</td>
<td>60 5.5 5.5 5.5 5.5 5.5 5.0 5.0 5.0 5.0 5.0 5.0</td>
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<tr>
<td>Growth Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
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<tr>
<td>Init. Vol:</td>
<td>34 1103 11 295 34 19 0 56 1 5 1</td>
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<tr>
<td>PJH Volume:</td>
<td>21 932 19 13 174 19 33 16 64 20 11 72</td>
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<tr>
<td>Reduct Vol:</td>
<td>0 0 0 0 0 0 0 0 0 0 0 0</td>
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<tr>
<td>Final Volume:</td>
<td>21 932 19 13 174 19 33 16 64 20 11 72</td>
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<tr>
<td>Capacity Analysis Module:</td>
<td>34.0 34.0 34.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0</td>
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<tr>
<td>Crit Moves:</td>
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<tr>
<td>Green/Cycle:</td>
<td>0.35 0.37 0.37 0.38 0.38 0.38 0.32 0.32 0.32 0.32 0.32</td>
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<tr>
<td>Volume/Cap:</td>
<td>0.35 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95</td>
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<td></td>
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<tr>
<td>Uniform Del:</td>
<td>36.6 28.2 28.2 35.6 20.5 20.5 24.0 24.0 24.4 25.1 25.1 25.1</td>
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<tr>
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<tr>
<td>Delay/Vol:</td>
<td>37.4 33.8 33.8 36.0 20.8 20.8 24.7 24.7 25.3 26.5 26.5 26.5</td>
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<tr>
<td>LOS by Move:</td>
<td>D D D D C C C C C C</td>
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<tr>
<td>HCMAvgQ:</td>
<td>1.14 1.17 1.17 2.0 2.0 2.0 0.0 0.0</td>
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</tr>
</tbody>
</table>

**Note:** Queue reported is the number of cars per lane.
**Level Of Service Computation Report**

2000 HCM Operations (Future Volume Alternative)

### Intersection #28: Channel/4th

**Signal=Protect/Rights=Include**

**Base+Add Vol:** 71 168*** 90

**Lanes:** 0 1 0 0 1

**Cycle Time (sec):** 64

**Loss Time (sec):** 10

**Critical V/C:** 0.281

**Avg Del (sec/veh):** 13.3

**Avg Delay (sec/veh):** 16.0

**Street Name:** 4th Street

**Approach:** North Bound

<table>
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<tr>
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<th>T</th>
<th>L</th>
<th>R</th>
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<th>T</th>
<th>R</th>
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<tbody>
<tr>
<td>Min. Green</td>
<td>0 21 21 9 35 0 9 19 0 0 10 0</td>
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<td>Y+R:</td>
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<tr>
<td>Init:</td>
<td>61 6 57 130 37 19 12 9 6 29 38</td>
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<td>YX:</td>
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<td>PFH Volume:</td>
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<tr>
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<td>LOS:</td>
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| Note: | Queue reported is the number of cars per lane.

### Street Name: Channel Street

**Approach:** North Bound

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<th>T</th>
<th>R</th>
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<tr>
<td>Min. Green</td>
<td>0 21 21 14 35 35 9 19 19 10 10 10</td>
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<tr>
<td>Y+R:</td>
<td>4.0 5.0 5.0 5.0 4.0 5.0 5.0 4.0 5.0 5.0</td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Init:</td>
<td>61 6 57 130 37 19 12 9 6 29 38</td>
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<td></td>
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<tr>
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<tr>
<td>YX:</td>
<td>14 66 6 90 168 71 19 13 9 6 30 38</td>
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<tr>
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<tr>
<td>LOS:</td>
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</tr>
</tbody>
</table>
| Note: | Queue reported is the number of cars per lane.

---

### Traffic Flow Module: Sat/Lane:

1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

### Adjustment:

0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33

### Lanes:

1.00 0.92 0.08 0.70 0.70 0.46 0.32 0.22 0.17 0.83 1.00

### Final Sat:

808 1173 107 1539 1083 458 620 424 294 126 1331 1298

---

### Capacity Analysis Module:

Vol/Sat: 0.02 0.07 0.07 0.07 0.18 0.18 0.04 0.04 0.04 0.03 0.03 0.03

Crit Moves: ****  ****  ****  ****  ****  ****  ****  ****  ****  ****  ****  ****

Green/Cycle: 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33

Uniform: 1.4 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5

InitQueuel: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

LOS by Move: B B B C A A C B B C C C

HCM&AvgQ: 0 1 1 1 1 1 1 1 1 1 1 1

Note: Queue reported is the number of cars per lane.
Intersection #29: Mission Rock/3rd

**2000 HCM Operations (Future Volume Alternative)**

**2015 Plus MB Phase One AM**

**Intersection #29: Mission Rock/3rd**

**Signal=Protect/Rights=Include**

**Base+Add Vol:** 13,346,59***

**Lanes:** 0, 1, 1, 0, 1

**Cycle Time (sec): 100**

**Loss Time (sec): 15**

**Critical V/C:** 0.504

**Avg Crit Del (sec/veh):** 43.8

**Avg Delay (sec/veh):** 38.7

**LOS:** D

**Street Name:** 3rd Street, Mission Rock

**Approach:** North Bound, South Bound, East Bound, West Bound

**Movement:** L - T - R, L - T - R, L - T - R, L - T - R

**Min. Green:** 15, 37, 37, 15, 37, 37, 33, 33, 33, 33, 33, 33

**Volume Module:**

**Base Vol:** 9,1076, 24, 59, 280, 12, 16, 16, 16, 7, 6, 34

**Growth Adj:** 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00

**Initial Base:** 9,1076, 24, 59, 280, 12, 16, 16, 16, 7, 6, 34

**Added Vol:** 0, 11, 0, 0, 66, 1, 0, 0, 0, 0, 0, 0

**PasserByVol:** 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0

**Init Delay:** 9,1078, 9, 59, 346, 13, 16, 16, 16, 7, 6, 34

**User Adj:** 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00

**PHF Volume:** 9,1144, 25, 62, 364, 14, 17, 17, 17, 7, 6, 36

**Reduct Vol:** 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0

**Final Volume:** 9,1144, 25, 62, 364, 14, 17, 17, 17, 7, 6, 36

**Saturation Flow Module:**

**Base Vol:** 9, 817, 8, 13, 221, 2, 19, 4, 7, 9, 6, 23

**Growth Adj:** 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00

**Initial Base:** 9, 817, 8, 13, 221, 2, 19, 4, 7, 9, 6, 23

**Added Vol:** 0, 61, 0, 0, 7, 0, 3, 0, 0, 0, 0, 0

**PasserByVol:** 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0

**Init Delay:** 9, 878, 8, 13, 228, 2, 22, 4, 7, 9, 6, 23

**User Adj:** 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00

**PHF Volume:** 9, 924, 8, 14, 240, 2, 23, 4, 7, 9, 6, 24

**Reduct Vol:** 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0

**Final Volume:** 9, 924, 8, 14, 240, 2, 23, 4, 7, 9, 6, 24

**Capacity Analysis Module:**

**Vol/Sat:** 0.0, 0.95, 0.05, 1.00, 1.93, 0.07, 0.33, 0.33, 0.34, 0.15, 0.12, 0.73

**Critical Moves:** **** **** **** **** **** **** **** **** **** **** ****

**HCM2kAvgQ:** 0, 23, 21, 1, 1, 1, 1, 1, 1, 1, 1, 1

Note: Queue reported is the number of cars per lane.

---

**Intersection #29: Mission Rock/3rd**

**Signal=Permit**

**Base+Add Vol:** 2, 228, 13***

**Lanes:** 0, 1, 1, 0, 1

**Cycle Time (sec): 100**

**Loss Time (sec): 15**

**Critical V/C:** 0.389

**Avg Crit Del (sec/veh):** 32.7

**Avg Delay (sec/veh):** 30.4

**LOS:** C

**Street Name:** 3rd Street, Mission Rock

**Approach:** North Bound, South Bound, East Bound, West Bound

**Movement:** L - T - R, L - T - R, L - T - R, L - T - R

**Min. Green:** 15, 37, 37, 15, 37, 37, 33, 33, 33, 33, 33, 33

**Volume Module:**

**Base Vol:** 9, 817, 8, 13, 241, 8, 13, 228, 2, 19, 4, 7, 9, 6, 23

**Growth Adj:** 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00

**Initial Base:** 9, 817, 8, 13, 241, 8, 13, 228, 2, 19, 4, 7, 9, 6, 23

**Added Vol:** 0, 61, 0, 0, 7, 0, 3, 0, 0, 0, 0, 0

**PasserByVol:** 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0

**Init Delay:** 9, 878, 8, 13, 228, 2, 22, 4, 7, 9, 6, 23

**User Adj:** 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00

**PHF Volume:** 9, 924, 8, 14, 240, 2, 23, 4, 7, 9, 6, 24

**Reduct Vol:** 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0

**Final Volume:** 9, 924, 8, 14, 240, 2, 23, 4, 7, 9, 6, 24

**Capacity Analysis Module:**

**Vol/Sat:** 0.0, 0.29, 0.29, 0.01, 0.08, 0.08, 0.03, 0.03, 0.03, 0.03, 0.03, 0.03

**Critical Moves:** **** **** **** **** **** **** **** **** **** **** ****

**HCM2kAvgQ:** 0, 15, 44, 1, 1, 1, 1, 1, 1, 1, 1, 1

Note: Queue reported is the number of cars per lane.
## Level Of Service Computation Report

### 2000 HCM Operations (Future Volume Alternative)

#### Intersection #30: Mission Bay North/3rd

**Signal=Protect/Rights=Include**

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<th>Lanes</th>
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<th>Loss Time (sec)</th>
<th>Critical V/C</th>
<th>Avg Delay (sec/veh)</th>
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#### Street Name: 3rd Street

**Approach:**
- North Bound
- South Bound
- East Bound
- West Bound

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<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
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### 2015 Plus MB Phase One AM

**Intersection #30: Mission Bay North/3rd**

**Signal=Protect/Rights=Include**

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#### Street Name: 3rd Street

**Approach:**
- North Bound
- South Bound
- East Bound
- West Bound

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<th>Movement</th>
<th>L</th>
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### 2015 Plus MB Phase One PM

**Intersection #30: Mission Bay North/3rd**

**Signal=Protect/Rights=Include**

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<th>Loss Time (sec)</th>
<th>Critical V/C</th>
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<tr>
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#### Street Name: 3rd Street

**Approach:**
- North Bound
- South Bound
- East Bound
- West Bound

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<thead>
<tr>
<th>Movement</th>
<th>L</th>
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<tbody>
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**Saturation Flow Module:**

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<tbody>
<tr>
<td>Adj/Lane:</td>
<td>0.81 0.81 1.00 1.00</td>
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</table>

**Final Sat.:**

| 1539 3079 |
| 4 4716 |

**Notes:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

#### 2015 Plus MB Phase One AM

**Intersection #31: Mission Bay South/3rd**

**Signal=Protect/Rights=Include**

**Base+Add Vol:** 0  342***  21

**Lanes:** 0 0 2  0 1

**Cycle Time (sec):** 100

**Loss Time (sec):** 10

**Critical V/C:** 0.154

**Avg Crit Del (sec/veh):** 23.6

**Street Name:** 3rd Street  Mission Bay South

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<tr>
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<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
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</thead>
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<td>L  T  R</td>
<td>L  T  R</td>
<td>L  T  R</td>
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<tr>
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<tr>
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<td>5.0 5.0 5.0</td>
<td>5.0 5.0 5.0</td>
<td>5.0 4.0 4.0</td>
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<tr>
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<tr>
<td>Volumes:</td>
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<td></td>
</tr>
<tr>
<td>Initial Base:</td>
<td>0 111</td>
<td>16 21 277 0</td>
<td>4 30 24 0</td>
<td>0 0 0 0</td>
</tr>
<tr>
<td>Added Vol:</td>
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<td>0 0 0 0</td>
<td>0 0 0 0</td>
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<tr>
<td>PassByVol:</td>
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<td>0 0 0</td>
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<tr>
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<td>1.00 1.00</td>
<td>1.00 1.00</td>
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<td>16 22 359</td>
<td>0 4 32 25</td>
<td>0 0 0 0</td>
</tr>
<tr>
<td>Reduce Vol:</td>
<td>0 0</td>
<td>0 0 0</td>
<td>0 0 0 0</td>
<td>0 0 0 0</td>
</tr>
<tr>
<td>Reduced Vol:</td>
<td>0 1179</td>
<td>16 22 359</td>
<td>0 4 32 25</td>
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</tr>
<tr>
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<td>1.00 1.00</td>
<td>1.00 1.00</td>
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<tr>
<td>Final Volume:</td>
<td>0 1179</td>
<td>16 22 359</td>
<td>0 4 32 25</td>
<td>0 0 0 0</td>
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**Saturation Flow Module:**

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<td>L  T  R</td>
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<td>5.0 5.0 5.0</td>
<td>5.0 5.0 5.0</td>
<td>5.0 4.0 4.0</td>
</tr>
<tr>
<td>Base+Add Vol:</td>
<td>Lanes:</td>
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<tr>
<td>Volumes:</td>
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<tr>
<td>Initial Base:</td>
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<td>4 30 24 0</td>
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**Capacity Analysis Module:**

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<tr>
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<td>Volumes:</td>
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</table>

**Note:** Queue reported is the number of cars per lane.
### Intersection #32: Mission Bay/Owens

**Traffic Conditions:**
- **Signal:** Yield/Rights=Include
- **Volume Module:** Base Vol: 120 37 8 0 43 0 58 0 82 24 0 0
- **Critical V/C:** 0.287
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0
- **Critical V/C:** 0.323
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0

#### Traffic Flow:

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<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
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<td>L - T - R</td>
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<td>L - T - R</td>
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#### Traffic Data:

- **Volume Module:** Base Vol: 158 65 24 0 15 0 92 0 39 30 0 0
- **Critical V/C:** 0.323
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0

#### Queue:
- A

---

**Traffic Conditions:**
- **Signal:** Yield/Rights=Include
- **Volume Module:** Base Vol: 120 37 8 0 43 0 58 0 82 24 0 0
- **Critical V/C:** 0.287
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0
- **Critical V/C:** 0.323
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0

#### Traffic Flow:

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#### Traffic Data:

- **Volume Module:** Base Vol: 158 65 24 0 15 0 92 0 39 30 0 0
- **Critical V/C:** 0.323
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0

#### Queue:
- A

---

**Traffic Conditions:**
- **Signal:** Yield/Rights=Include
- **Volume Module:** Base Vol: 120 37 8 0 43 0 58 0 82 24 0 0
- **Critical V/C:** 0.287
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0
- **Critical V/C:** 0.323
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0

#### Traffic Flow:

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
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<tr>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
</tr>
</tbody>
</table>

#### Traffic Data:

- **Volume Module:** Base Vol: 158 65 24 0 15 0 92 0 39 30 0 0
- **Critical V/C:** 0.323
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0

#### Queue:
- A

---

**Traffic Conditions:**
- **Signal:** Yield/Rights=Include
- **Volume Module:** Base Vol: 120 37 8 0 43 0 58 0 82 24 0 0
- **Critical V/C:** 0.287
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0
- **Critical V/C:** 0.323
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0

#### Traffic Flow:

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</table>

#### Traffic Data:

- **Volume Module:** Base Vol: 158 65 24 0 15 0 92 0 39 30 0 0
- **Critical V/C:** 0.323
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0

#### Queue:
- A

---

**Traffic Conditions:**
- **Signal:** Yield/Rights=Include
- **Volume Module:** Base Vol: 120 37 8 0 43 0 58 0 82 24 0 0
- **Critical V/C:** 0.287
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0
- **Critical V/C:** 0.323
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0

#### Traffic Flow:

<table>
<thead>
<tr>
<th>Movement</th>
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<td>L - T - R</td>
<td>L - T - R</td>
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</tr>
</tbody>
</table>

#### Traffic Data:

- **Volume Module:** Base Vol: 158 65 24 0 15 0 92 0 39 30 0 0
- **Critical V/C:** 0.323
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0

#### Queue:
- A
### Level Of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

#### 2015 Plus MB Phase One AM

**Intersection #33: Mission Bay/7th**

- **Cycle Time (sec):** 100
- **Loss Time (sec):** 14
- **Critical V/C:** 0.308
- **Average Critical Delay (sec/veh):** 12.6
- **Average Delay (sec/veh):** 25.3

**Signal=Protect/Rights=Include**

<table>
<thead>
<tr>
<th>Lane</th>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th>Vol Cnt Date</th>
<th>Cycle Time (sec)</th>
<th>Critical V/C</th>
<th>Avg Crit Del (sec)</th>
<th>Avg Delay (sec)</th>
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</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>100</td>
<td>0.308</td>
<td>12.6</td>
<td>25.3</td>
</tr>
</tbody>
</table>

**Base+Add Vol:** 0 379 194

**Lanes:** 0 0 1 0 1

### Level Of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

#### 2015 Plus MB Phase One PM

**Intersection #33: Mission Bay/7th**

- **Cycle Time (sec):** 100
- **Loss Time (sec):** 14
- **Critical V/C:** 0.194
- **Average Critical Delay (sec/veh):** 12.1
- **Average Delay (sec/veh):** 26.3

**Signal=Protect/Rights=Include**

<table>
<thead>
<tr>
<th>Lane</th>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th>Vol Cnt Date</th>
<th>Cycle Time (sec)</th>
<th>Critical V/C</th>
<th>Avg Crit Del (sec)</th>
<th>Avg Delay (sec)</th>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>100</td>
<td>0.194</td>
<td>12.1</td>
<td>26.3</td>
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</table>

**Base+Add Vol:** 0 221 93

**Lanes:** 0 0 1 0 1

### Street Name:

- **7th Street**
- **Mission Bay**

**Approach:**

- **North Bound**
- **South Bound**
- **East Bound**
- **West Bound**

**Movement:**

- **L** - **T** - **R**

- **Min. Green:**
  - North Bound: 0 36 14 61 0 0 0 0 0 0 0 25 0 25
  - South Bound: 0 36 14 61 0 0 0 0 0 0 0 25 0 25
  - East Bound: 0 36 14 61 0 0 0 0 0 0 0 25 0 25
  - West Bound: 0 36 14 61 0 0 0 0 0 0 0 25 0 25

**Volume Module:** Count Date: 9 May 2013

- **Base Vol:** 0 109 336 0 0 0 0 29 0 188
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Critical V/C:** 0.308
- **Average Critical Delay (sec/veh):** 12.6
- **Average Delay (sec/veh):** 25.3

**Base+Add Vol:** 0 379 194

**Lanes:** 0 0 1 0 1

### Street Name:

- **7th Street**
- **Mission Bay**

**Approach:**

- **North Bound**
- **South Bound**
- **East Bound**
- **West Bound**

**Movement:**

- **L** - **T** - **R**

- **Min. Green:**
  - North Bound: 0 36 14 61 0 0 0 0 0 0 0 25 0 25
  - South Bound: 0 36 14 61 0 0 0 0 0 0 0 25 0 25
  - East Bound: 0 36 14 61 0 0 0 0 0 0 0 25 0 25
  - West Bound: 0 36 14 61 0 0 0 0 0 0 0 25 0 25

**Volume Module:** Count Date: 9 May 2013

- **Base Vol:** 0 109 336 0 0 0 0 29 0 188
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Critical V/C:** 0.194
- **Average Critical Delay (sec/veh):** 12.1
- **Average Delay (sec/veh):** 26.3

**Base+Add Vol:** 0 221 93

**Lanes:** 0 0 1 0 1

### Capacity Analysis Module:

- **Sat/Lane:**
  - North Bound: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
  - South Bound: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
  - East Bound: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
  - West Bound: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

- **Adj/Min:**
  - North Bound: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
  - South Bound: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
  - East Bound: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
  - West Bound: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

- **Sat/Lane:**
  - North Bound: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
  - South Bound: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
  - East Bound: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
  - West Bound: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

- **InitQueueDelay:**
  - North Bound: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
  - South Bound: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
  - East Bound: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
  - West Bound: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

### Capacity Analysis Module:

- **Sat/Lane:**
  - North Bound: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
  - South Bound: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
  - East Bound: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
  - West Bound: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

- **Adj/Min:**
  - North Bound: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
  - South Bound: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
  - East Bound: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
  - West Bound: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

### Notes:

- Queue reported is the number of cars per lane.
**Level Of Service Computation Report**

**2000 HCM Operations (Future Volume Alternative)**

**Intersection #34: 16th/3rd**

**Signal=Protect/Rights=Include**

**Base+Add Vol:** 135, 220, 18,***

**Lanes:** 0, 1, 1, 0, 1

**Cycle Time (sec):** 100

**Loss Time (sec):** 15

**Critical V/C:** 0.586

**Avg Crit Del (sec/veh):** 39.8

**Avg Delay (sec/veh):** 44.4

**Signal=Permit**

**Base+Add Lanes:** Rights=Include

**Volume Module:** >> Count Date: 8 May 2013 << 7:00-8:45am

**Base Vol:** 370, 1014, 10, 18, 214, 74, 130, 67, 146, 2, 81, 40

**Growth Adj:** 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00

**Cycles:**

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<tr>
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<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
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<td>1.00</td>
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<td>1.00</td>
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<td>1.00</td>
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<tr>
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<td>D</td>
<td>D</td>
<td>D</td>
<td>C</td>
<td>C</td>
<td>C</td>
<td>C</td>
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</table>

**Critical V/C:** 0.732

**Avg Crit Del (sec/veh):** 40.2

**Avg Delay (sec/veh):** 33.9

**Signal=Protect/Rights=Include**

**Base+Add Vol:** 274, 656, 5, 18, 412, 74, 130, 67, 146, 2, 81, 40

**Cycles:**

<table>
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<th>L</th>
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<th>R</th>
<th>L</th>
<th>T</th>
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<th>T</th>
<th>R</th>
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<tbody>
<tr>
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<td>14</td>
<td>38</td>
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<td>12</td>
<td>36</td>
<td>36</td>
<td>35</td>
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<tr>
<td>LOS</td>
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<td>C</td>
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</table>

**Capacity Analysis Module:**

**Vol/Sat:** 0.14, 0.35, 0.35, 0.01, 0.13, 0.13, 0.14, 0.05, 0.12, 0.00, 0.05, 0.05

**Cycles:** 0.14, 0.38, 0.38, 0.12, 0.36, 0.36, 0.35, 0.35, 0.35, 0.35, 0.35, 0.35

**Uniform Del:** 43.0, 29.4, 29.4, 39.2, 23.5, 23.5, 24.6, 22.3, 24.0, 21.2, 22.1, 22.1

**Critical V/C:** 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0

**Delay Adj:** 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00

**User DelAdj:** 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00

**LOS by Move:** F, D, C, D, C, C, C, C, C, C

**Capacity Module:**

**Vol/Sat:** 0.10, 0.23, 0.23, 0.01, 0.22, 0.22, 0.14, 0.05, 0.31, 0.00, 0.05, 0.05

**Cycles:** 0.14, 0.38, 0.38, 0.12, 0.36, 0.36, 0.35, 0.35, 0.35, 0.35, 0.35, 0.35

**Uniform Del:** 41.0, 25.0, 25.0, 39.2, 26.1, 26.1, 26.4, 22.1, 30.5, 21.2, 22.2, 22.2

**Critical V/C:** 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0

**Delay Adj:** 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00

**User DelAdj:** 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00

**LOS by Move:** C, C, C, D, D, C, C, C, C, C

**Note:** Queue reported is the number of cars per lane.
### 2000 HCM Operations (Future Volume Alternative)

**Intersection #35: 16th/4th**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 89 31*** 22

**Lanes:** 0 1 0 0 1

**Cycle Time (sec):** 90

**Loss Time (sec):** 0

**Critical V/C:** 0.509

**Avg Crit Del (sec/veh):** 32.7

**Avg Delay (sec/veh):** 30.0

**LOS:** C

### 2015 Plus MB Phase One AM

**Street Name:** 4th Street 16th Street

**Approach:** North Bound South Bound East Bound West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
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<td>46</td>
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</tr>
<tr>
<td>Critical V/C</td>
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<tr>
<td>Avg Crit Del (sec/veh)</td>
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</tr>
<tr>
<td>Avg Delay (sec/veh)</td>
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<td>LOS</td>
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</tbody>
</table>

**Volume Module:** Base Vol: 8 1 35 46 1 143

**Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Init Adj:** 28 2 0 0 0 0 0 0 0

**Critical V/C:** 0.352

**Avg Crit Del (sec/veh):** 25.6

**Avg Delay (sec/veh):** 27.4

**LOS:** C

**Saturation Flow Module:**

**Sat./Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900

**Adj.:** 0.55 0.76 0.74 0.76 0.76 0.76 0.76 0.76 0.80

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<tr>
<td>Y+R:</td>
<td>5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0</td>
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<tr>
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<tr>
<td>Avg Delay (sec/veh)</td>
<td>27.4</td>
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<tr>
<td>LOS</td>
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**Capacity Analysis Module:**

**Vol./Sat:** 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03

**Green/Cycle:** 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33

**Volume/Cap:** 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05

**Cycle Time (sec):** 90

**Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Delay/Veh:** 30.2 26.0 26.7 23.6 25.4 24.5 24.4 24.3 32.6 31.1

**LOS by Move:** C C C C D C C C C

**Note:** Queue reported is the number of cars per lane.

---

**Intersection #35: 16th/4th**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 163 4*** 47

**Lanes:** 0 1 0 0 1

**Cycle Time (sec):** 90

**Loss Time (sec):** 0

**Critical V/C:** 0.352

**Avg Crit Del (sec/veh):** 25.6

**Avg Delay (sec/veh):** 27.4

**LOS:** C

### 2015 Plus MB Phase One PM

**Street Name:** 4th Street 16th Street

**Approach:** North Bound South Bound East Bound West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
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<tr>
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<td>28</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>46</td>
<td>0</td>
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<tr>
<td>Y+R:</td>
<td>5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0</td>
<td></td>
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<tr>
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<tr>
<td>Avg Crit Del (sec/veh)</td>
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<td>Avg Delay (sec/veh)</td>
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<tr>
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</tbody>
</table>

**Volume Module:** Base Vol: 8 1 35 46 1 143

**Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Init Adj:** 28 2 0 0 0 0 0 0 0

**Critical V/C:** 0.352

**Avg Crit Del (sec/veh):** 25.6

**Avg Delay (sec/veh):** 27.4

**LOS:** C

**Saturation Flow Module:**

**Sat./Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900

**Adj.:** 0.45 0.77 0.74 0.76 0.73 0.74 0.74 0.79 0.77

<table>
<thead>
<tr>
<th>Lanes</th>
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</tr>
<tr>
<td>Y+R:</td>
<td>5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0</td>
</tr>
<tr>
<td>Critical V/C</td>
<td>0.352</td>
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<tr>
<td>Avg Crit Del (sec/veh)</td>
<td>25.6</td>
</tr>
<tr>
<td>Avg Delay (sec/veh)</td>
<td>27.4</td>
</tr>
<tr>
<td>LOS</td>
<td>C</td>
</tr>
</tbody>
</table>

**Capacity Analysis Module:**

**Vol./Sat:** 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03

**Green/Cycle:** 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33

**Volume/Cap:** 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05

**Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Delay/Veh:** 30.2 26.0 26.7 23.6 25.4 24.5 24.4 24.3 32.6 31.1

**LOS by Move:** C C C C D C C C C

**Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

#### 2015 Plus MB Phase One AM

**Intersection #36: 16th/Owens**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 63  144***  81  
**Lanes:** 1 0 1  1 0

<table>
<thead>
<tr>
<th>Critical V/C:</th>
<th>0.012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avg Crit Del (sec):</td>
<td>46.8</td>
</tr>
<tr>
<td>Avg Delay (sec):</td>
<td>34.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cycle Time (sec):</th>
<th>110</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss Time (sec):</td>
<td>0</td>
</tr>
</tbody>
</table>

**Street Name:** Owens St                          16th St

**Approach:** North Bound      South Bound       East Bound       West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green:</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>20</td>
<td>55</td>
</tr>
<tr>
<td>Y+R:</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
</tbody>
</table>

**Cycle Time (sec):** 110

**Loss Time (sec):** 0

**Critical V/C:** 0.512

**Average Critical Delay (sec/veh):** 46.8

**Average Delay (sec/veh):** 34.3

**LOS:** C

### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

#### 2015 Plus MB Phase One PM

**Intersection #36: 16th/Owens**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 180  124    169***  
**Lanes:** 1 0 1  1 0

<table>
<thead>
<tr>
<th>Critical V/C:</th>
<th>0.036</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avg Crit Del (sec):</td>
<td>30.0</td>
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<tr>
<td>Avg Delay (sec):</td>
<td>28.5</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Cycle Time (sec):</th>
<th>110</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss Time (sec):</td>
<td>0</td>
</tr>
</tbody>
</table>

**Street Name:** Owens St                          16th St

**Approach:** North Bound      South Bound       East Bound       West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
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<tbody>
<tr>
<td>Min. Green:</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>20</td>
<td>55</td>
</tr>
<tr>
<td>Y+R:</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
</tbody>
</table>

**Cycle Time (sec):** 110

**Loss Time (sec):** 0

**Critical V/C:** 0.536

**Average Critical Delay (sec/veh):** 35.0

**Average Delay (sec/veh):** 28.5

**LOS:** C

### Capacity Analysis Module

**Vol/Sat:** 0.03 0.09 0.09 0.10 0.10 0.05 0.18 0.18 0.18 0.12 0.19 0.19

<table>
<thead>
<tr>
<th>Crit Moves:</th>
<th>****</th>
</tr>
</thead>
</table>

**Green/Cycle:** 0.41 0.41 0.41 0.41 0.41 0.18 0.50 0.50 0.50 0.32 0.32 0.32

**Uniform Del:** 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

<table>
<thead>
<tr>
<th>Street Name:</th>
<th>Owens St                          16th St</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lanes:</td>
<td>1 0 1  1 0</td>
</tr>
</tbody>
</table>

**Capacity Analysis Module**

**Vol/Sat:** 0.06 0.08 0.08 0.18 0.12 0.15 0.09 0.11 0.11 0.03 0.22 0.22

<table>
<thead>
<tr>
<th>Crit Moves:</th>
<th>****</th>
</tr>
</thead>
</table>

**Green/Cycle:** 0.41 0.41 0.41 0.41 0.41 0.18 0.50 0.50 0.50 0.32 0.32 0.32

**Uniform Del:** 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

<table>
<thead>
<tr>
<th>Street Name:</th>
<th>Owens St                          16th St</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lanes:</td>
<td>1 0 1  1 0</td>
</tr>
</tbody>
</table>

**Capacity Analysis Module**

**Vol/Sat:** 0.06 0.08 0.08 0.18 0.12 0.15 0.09 0.11 0.11 0.03 0.22 0.22

<table>
<thead>
<tr>
<th>Crit Moves:</th>
<th>****</th>
</tr>
</thead>
</table>

**Green/Cycle:** 0.41 0.41 0.41 0.41 0.41 0.18 0.50 0.50 0.50 0.32 0.32 0.32

**Uniform Del:** 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

<table>
<thead>
<tr>
<th>Street Name:</th>
<th>Owens St                          16th St</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lanes:</td>
<td>1 0 1  1 0</td>
</tr>
</tbody>
</table>

**Capacity Analysis Module**

**Vol/Sat:** 0.06 0.08 0.08 0.18 0.12 0.15 0.09 0.11 0.11 0.03 0.22 0.22

<table>
<thead>
<tr>
<th>Crit Moves:</th>
<th>****</th>
</tr>
</thead>
</table>

**Green/Cycle:** 0.41 0.41 0.41 0.41 0.41 0.18 0.50 0.50 0.50 0.32 0.32 0.32

**Uniform Del:** 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

Note: Queue reported is the number of cars per lane.
Intersection #37: 16th/7th

Signal=Split/Rights=Include
Base+Add Vol: 34 98 167
Lanes: 0 1 0 0 1

Cycle Time (sec): 110
Loss Time (sec): 14
Critical V/C: 0.581
Avg Crit Del (sec/veh): 42.4
Avg Delay (sec/veh): 39.7

Street Name: 16th Street
Approach: North Bound
Min. Green: 30 30 31 31 31 34 34 34 34 34 34 65
Y/Rt: 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 9.0 9.0 4.0

LOS: D
Cycle Time (sec): 110
Loss Time (sec): 14

Volume Module: >> Count Date: 9 May 2013 << 7:00-8:45am
Base Vol: 26 272 95 124 98 34 38 372 73 0 237 156
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Delay Adj: 1.00 1.00 0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Delay/Veh: 37.0 49.5 0.0 52.9 51.9 51.9 36.3 36.3 36.3 36.3 36.3 36.3

User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

LOS by Move: D D A T A A A A A A A

HCM2kAvgQ: 1 11 0 0 0 0 0 0 0 0 0 0
Note: Queue reported is the number of cars per lane.

---

Intersection #37: 16th/7th

Signal=Split/Rights=Include
Base+Add Vol: 40 139 74
Lanes: 0 1 0 0 1

Cycle Time (sec): 110
Loss Time (sec): 330
Critical V/C: 0.612
Avg Crit Del (sec/veh): 48.3
Avg Delay (sec/veh): 36.8

Street Name: 16th Street
Approach: North Bound
Min. Green: 30 30 31 31 31 34 34 34 34 34 34 65
Y/Rt: 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 9.0 9.0 4.0

LOS: D
Cycle Time (sec): 110
Loss Time (sec): 330

Volume Module: >> Count Date: 9 May 2013 << 7:00-8:45am
Base Vol: 62 252 70 139 35 47 319 71 34 361 293
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Delay Adj: 1.00 1.00 0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Delay/Veh: 46.4 64.6 0.0 46.1 57.6 57.6 26.0 26.0 26.0 24.9 24.9 30.8

User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

LOS by Move: D E A T A E A A A A A

HCM2kAvgQ: 2 12 0 0 0 0 0 0 0 0 0 0
Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #38: 16th St/Rhode Island**

- **Signal=Permit/Rights=Include**
- **Base+Add Vol:** 10  60     21
- **Lanes:** 0 0 1!
- **Cycle Time (sec):** 60
- **Loss Time (sec):** 10
- **Critical C/V:** 0.613
- **Avg Crit Del (sec/veh):** 23.1
- **Avg Delay (sec/veh):** 18.6
- **Critical V/C:** 0.542
- **Avg Crit Del (sec/veh):** 14.4
- **Avg Delay (sec/veh):** 13.0

<table>
<thead>
<tr>
<th>Street Name:</th>
<th>Rhode Island Street</th>
<th>16th Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approach:</td>
<td>North Bound</td>
<td>South Bound</td>
</tr>
<tr>
<td>Movement:</td>
<td>L  -  T  -  R</td>
<td>L  -  T  -  R</td>
</tr>
<tr>
<td>Min. Green:</td>
<td>22 22 22 22 22 22 22</td>
<td>28 28 28 28 28 28</td>
</tr>
<tr>
<td>Base Vol:</td>
<td>27 110 16 17 60 10</td>
<td>21 558 58 9 337 25</td>
</tr>
<tr>
<td>Growth Adj:</td>
<td>1.00 1.00 1.00 1.00</td>
<td>1.00 1.00 1.00 1.00</td>
</tr>
<tr>
<td>Initial Base:</td>
<td>110 110 16 17 60 10</td>
<td>21 558 58 9 337 25</td>
</tr>
<tr>
<td>Added Vol:</td>
<td>0 0 4 4 0 0 0 56 0 1 6 1</td>
<td>0 0 4 4 0 0 0 56 0 1 6 1</td>
</tr>
<tr>
<td>PasserByVol:</td>
<td>0 0 0 0 0 0 0 0 0 0 0</td>
<td>0 0 0 0 0 0 0 0 0 0 0</td>
</tr>
<tr>
<td>User Adj:</td>
<td>1.00 1.00 1.00 1.00</td>
<td>1.00 1.00 1.00 1.00</td>
</tr>
<tr>
<td>PHF Volume:</td>
<td>30 121 22 23 66 11</td>
<td>23 675 64 11 377 29</td>
</tr>
<tr>
<td>Reduce Vol:</td>
<td>0 0 0 0 0 0 0 0 0 0</td>
<td>0 0 0 0 0 0 0 0 0 0</td>
</tr>
<tr>
<td>Final Volume:</td>
<td>30 121 22 23 66 11</td>
<td>23 675 64 11 377 29</td>
</tr>
</tbody>
</table>

**Street Name: Rhode Island Street**

- **Approach:** North Bound
- **Movement:** L  -  T  -  R
- **Min. Green:** 22
- **Base Vol:** 48 152 19 27 80 19 13 602 30
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **MLP Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Initial Put:** 48 152 19 27 80 19 13 460 44 30 634 33
- **Final Volume:** 53 167 21 30 88 21 14 505 48 33 697 36
- **Saturation Flow Module:**
  - **Sat/Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
  - **Adj: 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30
  - **Lanes:** 0.17 0.70 0.13 0.23 0.66 0.11 0.03 0.89 0.08 0.05 1.81 0.14
  - **Final Sat.:** 303 1235 225 397 1355 189 58 1635 154 88 3014 229

**Capacity Analysis Module:**

<table>
<thead>
<tr>
<th>Vol/Sec</th>
<th>0.10 0.10 0.06 0.06 0.06 0.41 0.41 0.41 0.13 0.13 0.13</th>
</tr>
</thead>
</table>

**Saturation Flow Module:**

- **Sat/Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
- **Adj: 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30
- **Lanes:** 0.22 0.69 0.09 0.21 0.64 0.15 0.03 0.89 0.08 0.09 1.82 0.09
- **Final Sat.:** 374 1184 148 362 1072 255 46 1627 156 141 2984 155

**Capacity Analysis Module:**

<table>
<thead>
<tr>
<th>Vol/Sec</th>
<th>0.34 0.14 0.08 0.08 0.08 0.31 0.31 0.31 0.23 0.23 0.23</th>
</tr>
</thead>
</table>

Note: Queue reported is the number of cars per lane.
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2015 Plus MB Phase One AM

Intersection #39: 16th/Vermont
Signal=Permit/Rights=Include

Base+Add Vol: 22  0     30
Lanes: 0 0 1! 0 0

Cycle Time (sec): 60
Loss Time (sec): 10
Critical V/C: 0.756

Avg Crit Del (sec/veh): 35.7
Avg Delay (sec/veh): 27.6

Street Name: Vermont St                         16th St
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R

Min. Green:    21    0    21    21    0    21     0     0     0     0     0     0
Y+R:          5.0  4.0   5.0   5.0  4.0   5.0   4.0   5.0   4.0   5.0   4.0

Volume Module: >> Count Date: 7 May 2013 << 7:00-8:45am
Base Vol:     221  197    42    21    0    21    31  491     0     0  274    19
Growth Adj:  1.00  1.00  1.00  1.00 1.00  1.00  1.00  1.00  1.00  1.00  1.00
User Adj:    1.00  1.00  1.00  1.00 1.00  1.00  1.00  1.00  1.00  1.00  1.00

LOS: C

HCM2kAvgQ:      3    3     3     1    0     0     0    14     0     0    3     3
Note: Queue reported is the number of cars per lane.

---

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2015 Plus MB Phase One PM

Intersection #39: 16th/Vermont
Signal=Permit/Rights=Include

Base+Add Vol: 14  0     16
Lanes: 0 0 1! 0 0

Cycle Time (sec): 60
Loss Time (sec): 10
Critical V/C: 0.605

Avg Crit Del (sec/veh): 18.9
Avg Delay (sec/veh): 16.1

Street Name: Vermont St                         16th St
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R

Min. Green:    21    0    21    21    0    21     0     0     0     0     0     0
Y+R:          5.0  4.0   5.0   5.0  4.0   5.0   4.0   5.0   4.0   5.0   4.0

Volume Module: >> Count Date: 7 May 2013 << 7:00-8:45am
Base Vol:     218  132    30    14    0    14    31  486     0     0  464    27
Growth Adj:  1.00  1.00  1.00  1.00 1.00  1.00  0.4   1.4  8.8   0.0   0.0  1.9   1.9
User Adj:    1.00  1.00  1.00  1.00 1.00  1.00  0.00  0.00  0.00  0.00  0.00

LOS: B

HCM2kAvgQ:      2    2     2     0    0     0     0    13     0     0    6     6
Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

**Intersection #40: 16th/Potrero**

**Signal=Permit/Rights=Include**

**Base+Add Vol:**

<table>
<thead>
<tr>
<th>Lane</th>
<th>0</th>
<th>1</th>
<th>1</th>
<th>0</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>2015</td>
<td>476</td>
<td>142</td>
<td>436</td>
<td>136</td>
</tr>
</tbody>
</table>

**Cycle Time (sec):** 90

**Loss Time (sec):** 10

**Critical V/C:** 0.726

**vg Crit Del (sec/veh):** 40.1

**vg Delay (sec/veh):** 34.6

**Street Name:** Potrero Ave, 16th St

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Bound</td>
<td>54</td>
<td>0</td>
<td>54</td>
</tr>
<tr>
<td>South Bound</td>
<td>0</td>
<td>26</td>
<td>0</td>
</tr>
</tbody>
</table>

**Volume Module:**

| Base Vol | 115 | 720 | 49 | 31 | 435 | 142 |

**Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00

**Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00

**Delay/Veh:** 10.9 12.9 12.9 16.4 10.2 10.2

**User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00

**HCM2kAvgQ:** 2 8 9 4 17 16

** LOS:** C

---

**Level Of Service Computation Report**

**2000 HCM Operations (Future Volume Alternative)**

**Intersection #40: 16th/Potrero**

**Signal=Permit/Rights=Include**

**Base+Add Vol:**

<table>
<thead>
<tr>
<th>Lane</th>
<th>0</th>
<th>1</th>
<th>1</th>
<th>0</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>2015</td>
<td>476</td>
<td>142</td>
<td>436</td>
<td>136</td>
</tr>
</tbody>
</table>

**Cycle Time (sec):** 90

**Loss Time (sec):** 10

**Critical V/C:** 0.944

**vg Crit Del (sec/veh):** 54.2

**vg Delay (sec/veh):** 44.9

**Street Name:** Potrero Ave, 16th St

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Bound</td>
<td>50</td>
<td>0</td>
<td>50</td>
</tr>
<tr>
<td>South Bound</td>
<td>0</td>
<td>30</td>
<td>0</td>
</tr>
</tbody>
</table>

**Volume Module:**

| Base Vol | 116 | 524 | 42 | 34 | 592 | 67 |

**Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00

**Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00

**Delay/Veh:** 35.9 13.2 13.2 16.4 24.2 24.2

**User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00

**HCM2kAvgQ:** 4 5 6 2 16 18

** LOS:** D

---

Note: Queue reported is the number of cars per lane.
## Level Of Service Computation Report

### 2000 HCM Operations (Future Volume Alternative)

#### 2015 Plus MB Phase One AM

**Intersection #41: Mariposa/3rd**

- **Signal=Protect/Rights=Include**
- **Base+Add Vol:** 75 284 11***
- **Lanes:** 0 1 1 0 1

#### Signal and Cycle Time

<table>
<thead>
<tr>
<th>Cycle Time (sec)</th>
<th>Loss Time (sec)</th>
<th>Critical V/C</th>
<th>Avg Crit Del (sec/veh)</th>
<th>Avg Delay (sec/veh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>14</td>
<td>0.786</td>
<td>49.8</td>
<td>46.0</td>
</tr>
<tr>
<td>10</td>
<td>14</td>
<td>0.786</td>
<td>49.8</td>
<td>46.0</td>
</tr>
</tbody>
</table>

#### LOS by Move:

- **Critical V/C:** 0.761
- **Avg. Crit Del (sec/veh):** 49.8
- **Avg Delay (sec/veh):** 46.0

### LOS by Move:

- **Cycle Time (sec):** 100
- **Loss Time (sec):** 14
- **Base+Add Lanes:** Rights=Include Vol Cnt Date: 5/8/2013 Rights=Include Lanes: Base+Add

#### Cycle Time and Loss Time

- **Cycle Time:** 120
- **Loss Time:** 14

#### LOS by Move:

- **Critical V/C:** 0.533
- **Avg Crit Del (sec/veh):** 39.2
- **Avg Delay (sec/veh):** 37.6

---

**Intersection #41: Mariposa/3rd**

- **Signal=Protect/Rights=Include**
- **Base+Add Vol:** 268 458*** 16
- **Lanes:** 0 1 1 0 1

#### Signal and Cycle Time

<table>
<thead>
<tr>
<th>Cycle Time (sec)</th>
<th>Loss Time (sec)</th>
<th>Critical V/C</th>
<th>Avg Crit Del (sec/veh)</th>
<th>Avg Delay (sec/veh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>14</td>
<td>0.786</td>
<td>49.8</td>
<td>46.0</td>
</tr>
<tr>
<td>10</td>
<td>14</td>
<td>0.786</td>
<td>49.8</td>
<td>46.0</td>
</tr>
</tbody>
</table>

#### LOS by Move:

- **Critical V/C:** 0.533
- **Avg Crit Del (sec/veh):** 39.2
- **Avg Delay (sec/veh):** 37.6

### LOS by Move:

- **Cycle Time:** 120
- **Loss Time:** 14

#### LOS by Move:

- **Critical V/C:** 0.533
- **Avg Crit Del (sec/veh):** 39.2
- **Avg Delay (sec/veh):** 37.6

---

**Street Name:** Mariposa Street

- **Approach:** North Bound
- **Vol:** 52*** 789 35
- **Lanes:** 1 0 1 1 0
- **Base+Add Vol:** 52*** 789 35
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00
- **InitQueuDel:** 0.0 0.0 0.0 0.0 0.0
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00
- **LOS by Move:** D C C C C C

#### Volume Module:

- **Base Vol:** 50 787 35
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00
- **Delay Adj:** 1.00 1.00 1.00 1.00 1.00
- **Delay/Veh:** 52.9 33.9 33.9 50.6 50.6
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00
- **LOS by Move:** D C C C C C

---

**Street Name:** 3rd Street

- **Approach:** North Bound
- **Vol:** 50 787 35
- **Lanes:** 1 0 1 1 0
- **Base+Add Vol:** 50 787 35
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00
- **InitQueuDel:** 0.0 0.0 0.0 0.0 0.0
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00
- **LOS by Move:** D C C C C C

#### Volume Module:

- **Base Vol:** 50 787 35
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00
- **Delay Adj:** 1.00 1.00 1.00 1.00 1.00
- **Delay/Veh:** 50.7 33.9 33.9 50.6 50.6
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00
- **LOS by Move:** D C C C C C

---

**Street Name:** 3rd Street

- **Approach:** North Bound
- **Vol:** 50 787 35
- **Lanes:** 1 0 1 1 0
- **Base+Add Vol:** 50 787 35
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00
- **Delay Adj:** 1.00 1.00 1.00 1.00 1.00
- **Delay/Veh:** 50.7 33.9 33.9 50.6 50.6
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00
- **LOS by Move:** D C C C C C

#### Volume Module:

- **Base Vol:** 50 787 35
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00
- **Delay Adj:** 1.00 1.00 1.00 1.00 1.00
- **Delay/Veh:** 50.7 33.9 33.9 50.6 50.6
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00
- **LOS by Move:** D C C C C C

---

**Street Name:** 3rd Street

- **Approach:** North Bound
- **Vol:** 50 787 35
- **Lanes:** 1 0 1 1 0
- **Base+Add Vol:** 50 787 35
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00
- **Delay Adj:** 1.00 1.00 1.00 1.00 1.00
- **Delay/Veh:** 50.7 33.9 33.9 50.6 50.6
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00
- **LOS by Move:** D C C C C C

#### Volume Module:

- **Base Vol:** 50 787 35
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00
- **Delay Adj:** 1.00 1.00 1.00 1.00 1.00
- **Delay/Veh:** 50.7 33.9 33.9 50.6 50.6
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00
- **LOS by Move:** D C C C C C
### Intersection #42: Mariposa/4th

#### Level Of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

#### 2015 Plus MB Phase One AM

**Intersection #42: Mariposa/4th**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 2  0     27***  
**Lanes:** 0 1 0  0 1

**Cycle Time (sec):** 60  
**Loss Time (sec):** 15  
**Critical V/C:** 0.382

**Avg Crit Del (sec/veh):** 18.0  
**Avg Delay (sec/veh):** 18.0

**LOS:** B

---

**Street Name:** 4th Street Mariposa Street

**Approach:** North Bound South Bound East Bound West Bound

---

**Min. Green:** 15 15 15 15 15 15 15 15 15 15 15 15

**Volume Module:** Volume Count Date: 5/7/2013 Rights=Include Lanes: Base+Add

**Critical V/C:** 0.321

**User DelAdj:** 31.8 27.3 15.3 18.4 18.4

---

**Street Name:** 4th Street Mariposa Street

**Approach:** North Bound South Bound East Bound West Bound

---

**Min. Green:** 15 15 15 15 15 15 15 15 15 15 15 15

**Volume Module:** Volume Count Date: 7 May 2013 Rights=Include Lanes: Base+Add

**Critical V/C:** 0.349

**User DelAdj:** 31.4 27.6 17.6 17.6 17.6

---

**Note:** Queue reported is the number of cars per lane.
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)

Intersection #43: Mariposa/I-280NB

2000 HCM Operations (Future Volume Alternative)

Approach: North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R

Min. Green: 55  55  55  13  13  13  13  15  15  15  15  15
Base Vol: 778  151  752  0  0  43  0  107  0  0  241  0
Growth Adj: 1.00 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Critical V/C: 0.518 2  245*** 0
User DelAdj: 1.00 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
LOS: C

Approach: North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R

Min. Green: 29  29  29  26  26  26  26  23  23  23  23  23
Base Vol: 397  113  195  0  0  61  0  87  0  0  241  0
Growth Adj: 1.00 1.00  1.00  1.00  1.00  1.00
Critical V/C: 0.471 2  678*** 0
User DelAdj: 1.00 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
LOS: C

Saturation Flow Module:
Sat./Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

Capacity Analysis Module:
Vol./Sat.: 0.20 0.09 0.12 0.00 0.00 0.00 0.07 0.03 0.03 0.00 0.00 0.14 0.14

Note: Queue reported is the number of cars per lane.
### Level of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

**Intersection #440: Mariposa/I-280SB**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 0 0 0 0 0

**Lanes:** 0 0 0 0 0

**Cycle Time (sec):** 90

**Loss Time (sec):** 7

**Critical V/C:** 0.446

**User DelAdj:** 1.00 1.00 1.00 1.00 1.00

**LOS by Move:** A A A A A

**HCM2kAvgQ:** 0 0 0 0 0

**Note:** Queue reported is the number of cars per lane.

---

### Level of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

**Intersection #440: Mariposa/I-280SB**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 0 0 0 0 0

**Lanes:** 0 0 0 0 0

**Cycle Time (sec):** 90

**Loss Time (sec):** 90

**Critical V/C:** 0.335

**User DelAdj:** 1.00 1.00 1.00 1.00 1.00

**LOS by Move:** A A A A A

**HCM2kAvgQ:** 0 0 0 0 0

**Note:** Queue reported is the number of cars per lane.
Year 2040 Plus LRDP (4-Lane 16th Street)
### Level Of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

**Intersection #1: Stanyan / Oak-Fell / Kezar**

**2040 AM**

- **Signal=Perm+Prot/Rights=Include**
- **Base+Add Vol:** 134  707  299
- **Lanes:** 0 1 1 0 1

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<table>
<thead>
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</thead>
<tbody>
<tr>
<td>Cycle Time (sec): 90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss Time (sec): 11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Critical C/V: 1.034</td>
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<tr>
<td>Avg Crit Del (sec): 72.4</td>
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</tbody>
</table>

**Base+Add Lanes:** Rights=Include

**Vol Cnt Date:** n/a

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<tbody>
<tr>
<td>Signal=Permit</td>
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<tr>
<td>Signal=Permit</td>
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</table>

**Signal=Protect/Rights=Include**

- **Cycle Time (sec): 90**
- **Loss Time (sec): 11**
- **Critical V/C:** 1.778
- **Avg Crit Del (sec): 87.0

**Base+Add Vol:** 259  915  295

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<tbody>
<tr>
<td>Vol Cnt Date: 1484</td>
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<td></td>
</tr>
<tr>
<td>Loss Time (sec): 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Critical C/V: 1.029</td>
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<td></td>
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<tr>
<td>Avg Crit Del (sec): 79.0</td>
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</tbody>
</table>

**Street Name:** Stanyan Street / Kezar / Oak-Fell

**Approach:**
- North Bound
- South Bound
- East Bound
- West Bound

**Movement:**

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**Cycle Time:** 90 seconds

**Loss Time:** 11 seconds

**Critical V/C:** 1.324

**Avg Crit Del:** 72.4 seconds

**Delay:**

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**LOS:** D

**Lanes:** 0 0 1 1 0

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<tbody>
<tr>
<td>Base+Add Vol</td>
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**User DelAdj:**

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</table>

**Note:** Queue reported is the number of cars per lane.

---

**Level Of Service Computation Report**

**2040 PM**

- **Signal=Perm+Prot/Rights=Include**
- **Base+Add Vol:** 259  915  295
- **Lanes:** 0 1 1 0 1

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</thead>
<tbody>
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<td>Cycle Time (sec): 90</td>
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<tr>
<td>Critical C/V: 1.029</td>
<td></td>
<td></td>
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<tr>
<td>Avg Crit Del (sec): 79.0</td>
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</table>

**Base+Add Lanes:** Rights=Include

**Vol Cnt Date:** n/a

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<tbody>
<tr>
<td>Signal=Permit</td>
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<tr>
<td>Signal=Permit</td>
<td></td>
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</tbody>
</table>

**Signal=Protect/Rights=Include**

- **Cycle Time (sec): 90**
- **Loss Time (sec): 11**
- **Critical V/C:** 1.778
- **Avg Crit Del (sec): 87.0

**Base+Add Vol:** 0 661 28

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<tbody>
<tr>
<td>Vol Cnt Date: 1484</td>
<td></td>
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<tr>
<td>Loss Time (sec): 1</td>
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</tr>
<tr>
<td>Critical C/V: 1.029</td>
<td></td>
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<tr>
<td>Avg Crit Del (sec): 79.0</td>
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</table>

**Street Name:** Stanyan Street / Kezar / Oak-Fell

**Approach:**
- North Bound
- South Bound
- East Bound
- West Bound

**Movement:**

<table>
<thead>
<tr>
<th>L</th>
<th>T</th>
<th>R</th>
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</table>

**Cycle Time:** 90 seconds

**Loss Time:** 11 seconds

**Critical V/C:** 1.778

**Avg Crit Del:** 87.0 seconds

**Delay:**

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</table>

**LOS:** E

**Lanes:** 0 0 1 1 0

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</thead>
<tbody>
<tr>
<td>Base+Add Vol</td>
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</table>

**User DelAdj:**

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</table>

**Note:** Queue reported is the number of cars per lane.
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative) 2015 Irr

Intersection #2: 9th Ave / Lincoln

Signal=Permit/Rights=Include
Base+Add Vol: 49  193     0
Lanes: 0 0 1! 0 0
Cycle Time (sec): 90
Loss Time (sec): 10
Critical V/C: 1.089

Street Name: 9th Avenue                       Lincoln Way
Approach: North Bound      South Bound       East Bound       West Bound
Movement: L - T - R    L - T - R    L - T - R    L - T - R
-----------|---------------||---------------||---------------||---------------|
Min. Green: 26   26    26    26    26    26    54    54    54    54    54    54
Cycle Time: 90
Loss Time: 10
Critical V/C: 1.089

Cycle Time (sec): 90
Loss Time (sec): 10
Critical V/C: 1.209

Street Name: 9th Avenue                       Lincoln Way
Approach: North Bound      South Bound       East Bound       West Bound
Movement: L - T - R    L - T - R    L - T - R    L - T - R
-----------|---------------||---------------||---------------||---------------|
Min. Green: 23   23    23    23    23    23    57    57    57    57    57    57
Cycle Time: 90
Loss Time: 10
Critical V/C: 1.209

Volume Module:
Base Vol: 11  410    56     0  193    49     1 1617    31     0  859    68
Growth Adj: 1.00 1.00  1.00  1.00 1.00  ... 4.8  27.5 27.5  27.5   0.0  1.3   1.3
InitQueuDel: 0.0  0.0   0.0   0.0  0.0   0.0   0.0  0.0   0.0   0.0  0.0   0.0
User DelAdj: 1.00 1.00  1.00  0.00 1.00  1.00  0.00 1.00  1.00  0.00 1.00  1.00

Capacity Analysis Module:
Vol/Sat: 0.36  0.36  0.36  0.16  0.16  0.61  0.61  0.61  0.00  0.33  0.33
Growth Adj: 1.00 1.00  1.00  1.00 1.00  ... 4.8  27.5 27.5  27.5   0.0  1.3   1.3
InitQueuedel: 0.0  0.0   0.0   0.0  0.0   0.0   0.0  0.0   0.0   0.0  0.0   0.0
Delay Adj: 1.00 1.00  1.00  1.00 1.00  ... 4.8  27.5 27.5  27.5   0.0  1.3   1.3
User DelAdj: 1.00 1.00  1.00  1.00 1.00  ... 4.8  27.5 27.5  27.5   0.0  1.3   1.3

Traffic: 8 155
Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report
#### 2000 HCM Operations (Future Volume Alternative)

#### 2040 AM

**Intersection #3: 7th Ave / Lincoln**
- **Signal=Protect/Rights=Include**
- **Base+Add Vol:** 21 0 0
- **Lanes:** 1 0 0
- **Cycle Time (sec):** 90
- **Loss Time (sec):** 8
- **Critical V/C:** 1.039
- **Avg Crit Del (sec/veh):** 52.5
- **Avg Delay (sec/veh):** 37.1
- **LOS:** D

**Street Name:** 7th Avenue

**Approach:**
- **North Bound:**
  - L 4.0
  - T 4.0
  - R 4.0
- **South Bound:**
  - L 4.0
  - T 4.0
  - R 4.0
- **East Bound:**
  - L 4.0
  - T 4.0
  - R 4.0
- **West Bound:**
  - L 4.0
  - T 4.0
  - R 4.0

**Vehicle Module:**
- **Base Vol:** 429
- **Growth Adj:** 1.00
- **User Adj:** 1.00
- **Phase Adj:** 1.00
- ** hvad Volume:** 429

**Saturation Flow Module:**
- **Sat./Lane:** 1900
- **Lanes:** 0
- **Init. Del:** 0
- **Final Vol:** 0

**Capacity Analysis Module:**
- **Vol./Sat:** 0.26
- **Crit. Mov.:** 0.45
- **Green/Cycle:** 0.47
- **Cycle:** 21
- **Green:** 0.46
- **Uniform Del:** 0.26
- **IncremDel:** 0.19
- **InitQueudel:** 0.0
- **Delay Del:** 0.0
- **User DelAdj:** 1.00
- **LOS by Move:** A

### 2040 PM

**Intersection #3: 7th Ave / Lincoln**
- **Signal=Protect/Rights=Overlap**
- **Base+Add Vol:** 166 0 0
- **Lanes:** 1 0 0
- **Cycle Time (sec):** 90
- **Loss Time (sec):** 8
- **Critical V/C:** 1.060
- **Avg Crit Del (sec/veh):** 81.5
- **Avg Delay (sec/veh):** 51.0
- **LOS:** D

**Street Name:** 7th Avenue

**Approach:**
- **North Bound:**
  - L 101
  - T 101
  - R 101
- **South Bound:**
  - L 101
  - T 101
  - R 101
- **East Bound:**
  - L 101
  - T 101
  - R 101
- **West Bound:**
  - L 101
  - T 101
  - R 101

**Vehicle Module:**
- **Base Vol:** 257
- **Growth Adj:** 1.00
- **User Adj:** 1.00
- **Phase Adj:** 1.00
- ** hvad Volume:** 257

**Saturation Flow Module:**
- **Sat./Lane:** 1900
- **Lanes:** 0
- **Init. Del:** 0
- **Final Vol:** 0

**Capacity Analysis Module:**
- **Vol./Sat:** 0.22
- **Crit. Mov.:** 0.43
- **Green/Cycle:** 0.54
- **Cycle:** 22
- **Green:** 0.46
- **Uniform Del:** 0.41
- **IncremDel:** 0.19
- **InitQueudel:** 0.0
- **Delay Del:** 0.0
- **User DelAdj:** 1.00
- **LOS by Move:** A

---

**Notes:**
- **Queue reported is the number of cars per lane.**

---

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**Level Of Service Computation Report**

**2000 HCM Unsignalized (Future Volume Alternative)**

**Intersection #4: 4th Ave / Lincoln**

**2040 AM**

- **Base+Add Vol:** 0 0 0
- **Lanes:** 0 0 0 0 0

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 1.038

- **vg Crit Del (sec/veh):** 8.3
- **vg Delay (sec/veh):** 8.3

**Approach LOS:** E

- **Street Name:** 4th Avenue, Lincoln Way

**Approach:** North Bound, South Bound, East Bound, West Bound

**Movement:** L - T - R, L - T - R, L - T - R, L - T - R

**Volume Module:**

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<th>Base Vol:</th>
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<th>0</th>
<th>87</th>
<th>0</th>
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<tr>
<td>Initial Base:</td>
<td>0</td>
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<td>Added Vol:</td>
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<tr>
<td>PasserByVol:</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>User Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHP Adj:</td>
<td>0.98 0.98 0.98 0.98 0.98 0.98</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHP Volume:</td>
<td>0</td>
<td>89</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Reduct Vol:</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Final Volume:</td>
<td>0</td>
<td>89</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

- **Critical Gap Module:**

| Potential Cap: | 194 | 194 | 218 | 194 | 0 |
| Volume/Cap: | 0.46 | 0.46 | 1.04 | 0.46 | 0.46 |

- **Level Of Service Module:**

| Control Del1: | 38.4 | 38.4 | 118.1 | 38.4 |
| Shared LOS: | "F" | "F" | "F" | "F" |

Note: Queue reported is the number of cars per lane.

---

**Intersection #4: 4th Ave / Lincoln**

**2040 PM**

- **Base+Add Vol:** 0 0 0
- **Lanes:** 0 0 0 0 1

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.755

- **vg Crit Del (sec/veh):** 2.8
- **vg Delay (sec/veh):** 2.8

**Approach LOS:** E

- **Street Name:** 4th Avenue, Lincoln Way

**Approach:** North Bound, South Bound, East Bound, West Bound

**Movement:** L - T - R, L - T - R, L - T - R, L - T - R

**Volume Module:**

<table>
<thead>
<tr>
<th>Base Vol:</th>
<th>0</th>
<th>0</th>
<th>72</th>
<th>0</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Base:</td>
<td>0</td>
<td>0</td>
<td>72</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Added Vol:</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>PasserByVol:</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>User Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHP Adj:</td>
<td>0.99 0.99 0.99 0.99 0.99 0.99</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHP Volume:</td>
<td>0</td>
<td>73</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Reduct Vol:</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Final Volume:</td>
<td>0</td>
<td>73</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

- **Critical Gap Module:**

| Potential Cap: | 336 | 336 | 416 | 336 | 0 |
| Volume/Cap: | 0.22 | 0.22 | 0.75 | 0.22 | 0.22 |

- **Level Of Service Module:**

| Control Del1: | 18.7 | 18.7 | 35.8 | 18.7 |
| Shared LOS: | "E" | "E" | "E" | "E" |

Note: Queue reported is the number of cars per lane.
**Intersection #5: Lincoln Way-Kezar Drive-Third Avenue**

### 2000 HCM Unsignalized (Future Volume Alternative)

**2040 AM**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 0 2 0 0</td>
<td></td>
</tr>
</tbody>
</table>

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.257

**Avg Crit Del (sec/veh):** 0

**Csv Del (sec/veh):** 0

**Critical Gap:** 6.8

**Critical Gap Module:** 3.5

**Follow Up Time:** 6.9

**Capacity Module:** 470

**Potent Cap.:** 1216

**Move Cap.:** 176

**Volume/Cap.:** 0.26

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.507

**Avg Crit Del (sec/veh):** 2.1

**Csv Del (sec/veh):** 2.1

**Critical Gap:** 6.8

**Critical Gap Module:** 3.5

**Follow Up Time:** 6.9

**Capacity Module:** 347

**Potent Cap.:** 1311

**Move Cap.:** 153

**Volume/Cap.:** 0.01

**Level Of Service Module:** 2.4

**Control Del:1:** 50.6

**LOS by Move:** D

**Movement:** LT - LTR - BT  L2 - LTR - RT  LT - LTR - RT

**Shared Cap.:** 153

**Shared Quan.:** 28.4

**Approach LOS:** D

**Approach Del:** 26.2

**Note:** Queue reported is the number of cars per lane.

---

**Intersection #5: Lincoln Way-Kezar Drive-Third Avenue**

### 2000 HCM Unsignalized (Future Volume Alternative)

**2040 PM**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 0 2 0 0</td>
<td></td>
</tr>
</tbody>
</table>

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.257

**Avg Crit Del (sec/veh):** 0

**Csv Del (sec/veh):** 0

**Critical Gap:** 6.8

**Critical Gap Module:** 3.5

**Follow Up Time:** 6.9

**Capacity Module:** 470

**Potent Cap.:** 1216

**Move Cap.:** 176

**Volume/Cap.:** 0.26

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.507

**Avg Crit Del (sec/veh):** 2.1

**Csv Del (sec/veh):** 2.1

**Critical Gap:** 6.8

**Critical Gap Module:** 3.5

**Follow Up Time:** 6.9

**Capacity Module:** 347

**Potent Cap.:** 1311

**Move Cap.:** 153

**Volume/Cap.:** 0.01

**Level Of Service Module:** 2.4

**Control Del:1:** 50.6

**LOS by Move:** D

**Movement:** LT - LTR - BT  L2 - LTR - RT  LT - LTR - RT

**Shared Cap.:** 153

**Shared Quan.:** 28.4

**Approach LOS:** D

**Approach Del:** 26.2

**Note:** Queue reported is the number of cars per lane.
# Level Of Service Computation Report

## 2000 HCM Operations (Future Volume Alternative)

### 2040 AM

**Intersection #6: Stanyan / Frederick**

- **Signal=Permit/Rights=Include**
- **Base+Add Vol:** 187 334 72
- **Lanes:** 1 0 0 1 0

### 2040 PM

- **Signal=Permit**
- **Base+Add Vol:** 369 383 86
- **Lanes:** 1 0 0 1 0

---

## Traffic Flow Module

### 2040 AM

- **Cycle Time (sec):** 14
- **Loss Time (sec):** 14
- **Critical V/C:** 0.801
- **Avg Del (sec/veh):** 56.8
- **Avg Delay (sec/veh):** 32.0
- ** LOS:** C
- **Street Name:** Stanyan Street, Frederick Street
- **Approach:** North Bound, South Bound, East Bound, West Bound
- **Movement:** L - T - R

### 2040 PM

- **Cycle Time (sec):** 14
- **Loss Time (sec):** 14
- **Critical V/C:** 0.813
- **Avg Del (sec/veh):** 56.8
- **Avg Delay (sec/veh):** 32.0
- ** LOS:** C
- **Street Name:** Stanyan Street, Frederick Street
- **Approach:** North Bound, South Bound, East Bound, West Bound
- **Movement:** L - T - R

---

## Traffic Delay Module

### 2040 AM

- **Base Vol:** 30 437 159 22 334 187 290 285 44 25 161 78
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Delay/Veh:** 124.1 124 124.1 17.2 17.2 14.5 27.8 27.8 22.7 22.7 22.7 22.7
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **LOS by Move:** F F C C C C C C
- **HCM2kAvgQ:** 27 27 27 27 27 27 27 27 27

### 2040 PM

- **Base Vol:** 42 361 8 86 383 369 206 257 56 29 151 69
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Delay/Veh:** 41.2 41.2 41.2 37.7 37.7 31.2 25.2 25.2 22.6 22.6 22.6 22.6
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **LOS by Move:** D D D D D D C C C C C C
- **HCM2kAvgQ:** 10 10 10 10 10 10 10 10 10

---

**Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**2040 AM**

**Intersection #7: 9th Ave / Irving**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 24 158 53

**Lanes:** 0 0 1! 0 0

**Cycle Time (sec):** 60

**Loss Time (sec):** 8

**Critical V/C:** 0.666

**Avg Crit Del (sec/veh):** 20.5

**Avg Delay (sec/veh):** 20.1

**LOS:** C

**Street Name:** 9th Avenue / Irving Street

**Approach:** North Bound      South Bound       East Bound       West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
</table>

**Min. Green:** 31 31 31 31 31 31 31 31 31 31 31 31

**Y+R:** 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

**Critical Del (sec):** 175***

**Avg Delay (sec):** 22

### Volume Module:

**Base Vol:** 21 254 97 53 158 24 70 175 33 22 143 116

**Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Added Vol:** 0 0 0 0 0 0 0 0 0 0 0 0

**PassvrVol:** 0 0 0 0 0 0 0 0 0 0 0 0

**Initial Fut:** 21 254 97 53 158 24 70 175 33 22 143 116

**User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**PHF Adj:** 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90

**PHF Volume:** 23 282 108 59 176 27 78 194 37 24 159 129

**Reduc Vol:** 0 0 0 0 0 0 0 0 0 0 0 0

**Reduced Vol:** 23 282 108 59 176 27 78 194 37 24 159 129

**PCE Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**MLP Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**FinalVolume:** 23 282 108 59 176 27 78 194 37 24 159 129

**Saturation Flow Module:**

**Sat/Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

**Adjustment:** 0.69 0.49 0.49 0.49 0.49 0.49 0.49 0.49 0.49 0.49 0.49 0.49

**Lanes:** 0.06 0.68 0.26 0.23 0.67 0.10 0.25 0.63 0.12 0.08 0.50 0.42

**Final Sat.:** 74 892 341 265 789 120 298 746 141 97 633 514

#### Capacity Analysis Module:

**Vol/Sat:** 0.32 0.32 0.32 0.22 0.22 0.22 0.26 0.26 0.26 0.26 0.26 0.26

**Crit Move:** ****

**Green/Cycle:** 0.52 0.52 0.52 0.52 0.52 0.52 0.35 0.35 0.35 0.35 0.35 0.35

**Volume/Cap:** 0.61 0.61 0.61 0.61 0.61 0.61 0.43 0.43 0.43 0.43 0.43 0.43

**Uniform Del:** 10.2 10.2 10.2 9.0 9.0 9.0 17.1 17.1 17.1 16.9 16.9 16.9

**Increment Del:** 4.1 4.1 4.1 2.2 2.2 2.2 11.5 11.5 11.5 9.7 9.7 9.7

**IntqDel:** 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

**Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Delay/Veh:** 14.4 14.4 14.4 11.2 11.2 11.2 28.7 28.7 28.7 26.6 26.6 26.6

**User Del/Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Del/veh:** 14.4 14.4 14.4 11.2 11.2 11.2 28.7 28.7 28.7 26.6 26.6 26.6

**LOS by Move:** B B B B B B B B C C C C

**HCMAvgQ:** 6 6 6 6 6 6 6 6 6 6 6 6

**Note:** Queue reported is the number of cars per lane.

---

### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**2040 PM**

**Intersection #7: 9th Ave / Irving**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 57 277 58

**Lanes:** 0 0 1! 0 0

**Cycle Time (sec):** 60

**Loss Time (sec):** 8

**Critical V/C:** 0.795

**Avg Crit Del (sec/veh):** 52.1

**Avg Delay (sec/veh):** 38.0

**LOS:** D

**Street Name:** 9th Avenue / Irving Street

**Approach:** North Bound      South Bound       East Bound       West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
</table>

**Min. Green:** 32 32 32 32 32 32 20 20 20 20 20 20

**Y+R:** 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

**Critical Del (sec):** 114***

**Avg Delay (sec):** 62

**LOS:** D

**Street Name:** 9th Avenue / Irving Street

**Approach:** North Bound      South Bound       East Bound       West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
</table>

**Min. Green:** 32 32 32 32 32 32 20 20 20 20 20 20

**Y+R:** 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

**Critical Del (sec):** 242***

**Avg Delay (sec):** 28.7

**LOS:** D

**Note:** Queue reported is the number of cars per lane.
**Level Of Service Computation Report**

**2000 HCM Operations (Future Volume Alternative)**

### Intersection #8: 7th Ave / Irving

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 68  387    16

Lanes: 0 1 0  0 1

**Cycle Time (sec):** 75

**Loss Time (sec):** 10

**Critical V/C:** 0.838

**Avg Crit Del (sec/veh):** 36.0

**Avg Delay (sec/veh):** 28.9

**Street Name:** 7th Avenue

**Approach:** North Bound

**Vol:** 68**

**Delay Adj:** 1.00

**Delay/Veh:** 20.5

**InitQueuDel:** 0.0

**LOS:** C

---

**Street Name:** Irving Street

**Approach:** South Bound

**Vol:** 387

**Delay Adj:** 1.00

**Delay/Veh:** 39.6

**InitQueuDel:** 0.0

**LOS:** D

---

**Street Name:** 7th Avenue

**Approach:** East Bound

**Vol:** 16

**Delay Adj:** 1.00

**Delay/Veh:** 20.7

**InitQueuDel:** 0.0

**LOS:** C

---

**Street Name:** Irving Street

**Approach:** West Bound

**Vol:** 108

**Delay Adj:** 1.00

**Delay/Veh:** 33.3

**InitQueuDel:** 0.0

**LOS:** B

---

### 2040 PM

**Intersection #8: 7th Ave / Irving**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 108  497    24

Lanes: 0 1 0  0 1

**Cycle Time (sec):** 75

**Loss Time (sec):** 10

**Critical V/C:** 0.924

**Avg Crit Del (sec/veh):** 42.8

**Avg Delay (sec/veh):** 33.3

**Street Name:** 7th Avenue

**Approach:** North Bound

**Vol:** 117

**Delay Adj:** 1.00

**Delay/Veh:** 30.5

**InitQueuDel:** 0.0

**LOS:** C

---

**Street Name:** Irving Street

**Approach:** South Bound

**Vol:** 298

**Delay Adj:** 1.00

**Delay/Veh:** 16.9

**InitQueuDel:** 0.0

**LOS:** B

---

**Street Name:** 7th Avenue

**Approach:** East Bound

**Vol:** 76

**Delay Adj:** 1.00

**Delay/Veh:** 48.3

**InitQueuDel:** 0.0

**LOS:** D

---

**Street Name:** Irving Street

**Approach:** West Bound

**Vol:** 82

**Delay Adj:** 1.00

**Delay/Veh:** 48.3

**InitQueuDel:** 0.0

**LOS:** D

---

### Saturation Flow Module:

**Sat/Lane:** 900 1900 1900 1900 1900 1900 1900 1900 1900

**Adj: 0.30 0.70 0.72 0.70 0.70 0.70 0.70 0.70 0.70**

**Lanes:** 0.67 0.68 0.67 0.60 0.61 0.61

**Sat.: 578 1146 234 378 1178 207 178 791 315 406 705 41**

### Capacity Analysis Module:

**Vol/Sat:** 0.28 0.47 0.05 0.35 0.35 0.26 0.26 0.26 0.13 0.13 0.13

**Green/Cycle:** 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.37 0.37 0.37

**Volume/Cap:** 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.70 0.70 0.70

**Uniform Del:** 13.1 17.9 17.9 10.0 14.7 16.7 20.5 20.5 20.5 17.4 17.4 17.4

**IncremDel:** 7.4 21.8 21.8 1.0 6.0 6.0 8.5 8.5 8.5 2.3 2.3 2.3

**InitQueDel:** 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

**Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Delay/Veh:** 20.5 39.6 39.6 10.9 20.7 20.7 29.0 29.0 29.0 19.7 19.7 19.7

**User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Street Name:** 7th Avenue

**Approach:** North Bound

**Vol:** 117

**Delay Adj:** 1.00

**Delay/Veh:** 42.8

**InitQueuDel:** 0.0

**LOS:** C

---

**Street Name:** Irving Street

**Approach:** South Bound

**Vol:** 298

**Delay Adj:** 1.00

**Delay/Veh:** 48.3

**InitQueuDel:** 0.0

**LOS:** D

---

**Street Name:** 7th Avenue

**Approach:** East Bound

**Vol:** 76

**Delay Adj:** 1.00

**Delay/Veh:** 48.3

**InitQueuDel:** 0.0

**LOS:** D

---

**Street Name:** Irving Street

**Approach:** West Bound

**Vol:** 82

**Delay Adj:** 1.00

**Delay/Veh:** 48.3

**InitQueuDel:** 0.0

**LOS:** D
**Intersection #9: 4th Ave / Irving**

### 2000 HCM 4-Way Stop (Future Volume Alternative)

#### 2040 AM

**Signal=Stop/Rights=Include**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th>Sign Stop Right Include</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Base+Add Lanes:** Rights=Include Vol Cnt Date: n/a Rights=Include Lanes: Base+Add
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0

<table>
<thead>
<tr>
<th>Street Name:</th>
<th>4th Avenue</th>
<th>Irving Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movement:</td>
<td>North Bound</td>
<td>South Bound</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Min. Green:</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

#### Volume Module:

- **Base Vol:** 35 46 22 34 149 70 11 144 10 34 381 22
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Critical V/C:** 0.668 0.668
- **Critical Del (sec/veh):** 13.8 13.8
- **LOS:** B B
- **AllWayAvgQ:** 0.4 0.4

#### Capacity Analysis Module:

- **Critical V/C:** 0.668 0.668
- **Critical Del (sec/veh):** 13.8 13.8

---

**Note:** Queue reported is the number of cars per lane.

---

**Intersection #9: 4th Ave / Irving**

### 2000 HCM 4-Way Stop (Future Volume Alternative)

#### 2040 PM

**Signal=Stop/Rights=Include**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th>Sign Stop Right Include</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Base+Add Lanes:** Rights=Include Vol Cnt Date: n/a Rights=Include Lanes: Base+Add
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0

<table>
<thead>
<tr>
<th>Street Name:</th>
<th>4th Avenue</th>
<th>Irving Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movement:</td>
<td>North Bound</td>
<td>South Bound</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Min. Green:</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

#### Volume Module:

- **Base Vol:** 35 46 22 34 149 70 11 144 10 34 381 22
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Critical V/C:** 0.694 0.694
- **Critical Del (sec/veh):** 14.7 14.7
- **LOS:** B B
- **AllWayAvgQ:** 0.2 0.2

#### Capacity Analysis Module:

- **Critical V/C:** 0.694 0.694
- **Critical Del (sec/veh):** 14.7 14.7

---

**Note:** Queue reported is the number of cars per lane.
**Intersection #10: 2nd Avenue / Irving**

**2000 HCM 4-Way Stop (Future Volume Alternative)**

**2040 AM**

**Street Name:** 2nd Avenue

**Approach:**
- North Bound
- South Bound
- East Bound
- West Bound

**Volume Module:**
- Base Vol: 37 21 30
- Growth Adj: 1.00
- Initial Bse: 37 21 30

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.610

**vg Del (sec/veh):** 12.4

**LOS:** B

**Saturation Flow Module:**
- Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- Lanes: 0.84 0.48 0.68 0.16 0.42 0.42 0.06 0.94 1.00 0.91 0.89

**Capacity Analysis Module:**
- Voi/Sat: 0.09 0.08 0.08 0.07 0.07 0.07 0.61 0.61 0.05 0.04 0.02 0.21
- Crit Moves: **** **** **** ****
- Delay/Veh: 9.8 9.1 8.7 9.4 9.4 9.4 15.2 15.2 7.3 8.8 9.3 9.3
- Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**2040 PM**

**Street Name:** Irving

**Approach:**
- North Bound
- South Bound
- East Bound
- West Bound

**Volume Module:**
- Base Vol: 65 38 70 11 12 46
- Growth Adj: 1.00
- Initial Bse: 65 38 70 11 12 46

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.926

**vg Del (sec/veh):** 27.5

**LOS:** C

**Saturation Flow Module:**
- Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- Lanes: 0.75 0.44 0.81 0.16 0.17 0.67 0.10 0.90 1.00 0.96 0.84

**Capacity Analysis Module:**
- Voi/Sat: 0.09 0.08 0.08 0.07 0.07 0.07 0.61 0.61 0.05 0.04 0.02 0.21
- Crit Moves: **** **** **** ****
- Delay/Veh: 12.2 11.5 10.7 11.5 11.5 17.9 17.9 8.5 9.5 43.5 43.5
- Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Note:** Queue reported is the number of cars per lane.
**Level Of Service Computation Report**

2000 HCM Unsignalized (Future Volume Alternative)

### Intersection #11: Arguello / Irving-Carl

#### 2040 AM

**Base+Add Vol:** 40  71  31

**Lanes:** 0 0 1! 0 0

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.225

**vg Delay (sec/veh):** 5.0

**Note:** Queue reported is the number of cars per lane.

---

**Street Name:** Arguello, Carl - Irving

**Approach:** North Bound, South Bound, East Bound, West Bound

**Volume Module:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>Base</th>
<th>Add</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Vol:</td>
<td>18</td>
<td>13</td>
<td>16</td>
<td>31</td>
<td>71</td>
<td>40</td>
<td>22</td>
<td>232</td>
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<tr>
<td>Added Vol:</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>PasserByVol:</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
</tr>
<tr>
<td>Initial Put:</td>
<td>18</td>
<td>13</td>
<td>16</td>
<td>31</td>
<td>71</td>
<td>40</td>
<td>22</td>
<td>232</td>
<td>152</td>
</tr>
<tr>
<td>User Adj:</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>PHF Adj:</td>
<td>0.92</td>
<td>0.92</td>
<td>0.92</td>
<td>0.92</td>
<td>0.92</td>
<td>0.92</td>
<td>0.92</td>
<td>0.92</td>
<td>0.92</td>
</tr>
<tr>
<td>PHF Volume:</td>
<td>20</td>
<td>14</td>
<td>17</td>
<td>34</td>
<td>77</td>
<td>49</td>
<td>24</td>
<td>252</td>
<td>165</td>
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<tr>
<td>Reduct Vol:</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>FinalVolume:</td>
<td>20</td>
<td>14</td>
<td>17</td>
<td>34</td>
<td>77</td>
<td>49</td>
<td>24</td>
<td>252</td>
<td>165</td>
</tr>
</tbody>
</table>

**Critical Gap Module:**

| Critical Gp | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | 4.1 | 4.1 |
| FollowUpTim | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | 2.2 | 2.2 |

**Capacity Module:**

| ChnlVol | 673 | 632 | 335 | 628 | 695 | 130 | 149 | 417 | 417 |
| Potent Cap | 369 | 398 | 707 | 395 | 366 | 920 | 1433 | 1142 | 1142 |
| Move Cap: | 278 | 373 | 707 | 357 | 343 | 920 | 1433 | 1142 | 1142 |

**Volume/Cap:**

| 0.07 | 0.04 | 0.02 | 0.09 | 0.22 | 0.05 | 0.02 | 0.04 | 0.04 |

**Level Of Service Module:**

| 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |

**Shrd Con:**

| 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |

**ApproachLID:**

| * C | * L | * T | * R |

**ApproachDel:**

| 15.8 | 18.4 | 18.4 | 18.4 |

**ApproachLOS:**

| C | C | * | * |

**Note:** Queue reported is the number of cars per lane.

---

### Intersection #11: Arguello / Irving-Carl

#### 2040 PM

**Base+Add Vol:** 99  15  37

**Lanes:** 0 0 1! 0 0

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.559

**vg Delay (sec/veh):** 27.8

**Note:** Queue reported is the number of cars per lane.

---

**Street Name:** Arguello, Carl - Irving

**Approach:** North Bound, South Bound, East Bound, West Bound

**Volume Module:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>Base</th>
<th>Add</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Vol:</td>
<td>100</td>
<td>90</td>
<td>60</td>
<td>37</td>
<td>15</td>
<td>99</td>
<td>120</td>
<td>224</td>
<td>19</td>
</tr>
<tr>
<td>Added Vol:</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>PasserByVol:</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Initial Put:</td>
<td>100</td>
<td>90</td>
<td>60</td>
<td>37</td>
<td>15</td>
<td>99</td>
<td>120</td>
<td>224</td>
<td>19</td>
</tr>
<tr>
<td>User Adj:</td>
<td>0.60</td>
<td>0.70</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>PHF Adj:</td>
<td>0.84</td>
<td>0.84</td>
<td>0.84</td>
<td>0.84</td>
<td>0.84</td>
<td>0.84</td>
<td>0.84</td>
<td>0.84</td>
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<td>PHF Volume:</td>
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<td>75</td>
<td>71</td>
<td>44</td>
<td>18</td>
<td>118</td>
<td>143</td>
<td>267</td>
<td>23</td>
</tr>
<tr>
<td>Reduct Vol:</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>FinalVolume:</td>
<td>71</td>
<td>75</td>
<td>71</td>
<td>44</td>
<td>18</td>
<td>118</td>
<td>143</td>
<td>267</td>
<td>23</td>
</tr>
</tbody>
</table>

**Critical Gap Module:**

| Critical Gp | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | 4.1 | 4.1 |
| FollowUpTim | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | 2.2 | 2.2 |

**Capacity Module:**

| ChnlVol | 1095 | 1054 | 278 | 1100 | 1038 | 435 | 462 | 289 | 289 |
| Potent Cap | 191 | 226 | 761 | 150 | 231 | 621 | 1099 | 1273 | 1273 |
| Move Cap: | 128 | 152 | 761 | 107 | 196 | 621 | 1099 | 1273 | 1273 |

**Volume/Cap:**

| 0.56 | 0.39 | 0.09 | 0.41 | 0.09 | 0.19 | 0.33 | 0.01 | 0.01 |

**Level Of Service Module:**

| 0.4 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 |

**Control Del:**

| 8.8 | 7.9 | 8.8 | 7.9 | 8.8 | 7.9 | 8.8 | 7.9 | 8.8 |

**Shared LID:**

| * F | * F | * F | * F |

**ApproachDel:**

| 122.8 | 45.3 | 45.3 | 45.3 | 45.3 | 45.3 | 45.3 | 45.3 | 45.3 |

**ApproachLOS:**

| F | F | F | F |

**Note:** Queue reported is the number of cars per lane.
### Intersection #12: 9th Avenue / Judah Street

**2000 HCM Operations (Future Volume Alternative)**

**2040 AM**

**Base+Add Vol:** 16 156 30

**Lanes:** 0 0 1! 0 0

**Cycle Time (sec):** 60

**Loss Time (sec):** 8

**Critical V/C:** 0.620

**vg Crit Del (sec/veh):** 18.3

**vg Delay (sec/veh):** 16.7

**Street Name:** 9th Avenue / Judah Street

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>L T R L T R L T R</td>
<td>1 2 3 1 2 3 1 2 3</td>
<td>1 2 3 1 2 3 1 2 3</td>
<td>1 2 3 1 2 3 1 2 3</td>
<td>1 2 3 1 2 3 1 2 3</td>
</tr>
</tbody>
</table>

**Volume Module:**

| Base Vol: | 9 310 | 64 | 30 156 16 | 0 349 | 16 | 30 135 58 |
| Add Vol: | 0 0 0 0 | 0 0 | 0 0 | 0 0 | 0 0 | 0 0 |
| Initial Put: | 9 310 | 64 | 30 156 16 | 0 349 | 16 | 30 135 58 |
| User Adj: | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| PFH Volume: | 9 323 | 67 | 31 163 17 | 0 364 | 17 | 31 141 60 |
| Reduction: | 0 0 0 0 0 0 0 0 0 0 |
| Final Volume: | 9 323 | 67 | 31 163 17 | 0 364 | 17 | 31 141 60 |

**Saturation Flow Module:**

<table>
<thead>
<tr>
<th>Approach:</th>
<th>North Bound</th>
<th>South Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y+R:</td>
<td>4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0</td>
<td></td>
</tr>
</tbody>
</table>

**Capacity Analysis Module:**

| Vol/Sat: | 0.30 0.30 0.30 0.17 0.17 0.17 0.00 0.24 0.24 0.03 0.15 0.15 |
| Crit Moves: | ***** |

**2040 PM**

**Base+Add Vol:** 32 301 68

**Lanes:** 0 0 1! 0 0

**Cycle Time (sec):** 60

**Loss Time (sec):** 8

**Critical V/C:** 0.759

**vg Crit Del (sec/veh):** 25.7

**vg Delay (sec/veh):** 21.0

**Street Name:** 9th Avenue / Judah Street

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>L T R L T R L T R</td>
<td>1 2 3 1 2 3 1 2 3</td>
<td>1 2 3 1 2 3 1 2 3</td>
<td>1 2 3 1 2 3 1 2 3</td>
<td>1 2 3 1 2 3 1 2 3</td>
</tr>
</tbody>
</table>

**Volume Module:**

| Base Vol: | 15 197 | 48 | 68 301 32 | 0 221 | 29 | 61 272 85 |
| Add Vol: | 0 0 0 0 | 0 0 | 0 0 | 0 0 | 0 0 | 0 0 |
| Initial Put: | 15 197 | 48 | 68 301 32 | 0 221 | 29 | 61 272 85 |
| User Adj: | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| PFH Volume: | 17 219 | 53 | 76 334 36 | 0 246 | 32 | 68 302 94 |
| Reduction: | 0 0 0 0 0 0 0 0 0 0 0 0 |
| Final Volume: | 17 219 | 53 | 76 334 36 | 0 246 | 32 | 68 302 94 |

**Saturation Flow Module:**

<table>
<thead>
<tr>
<th>Approach:</th>
<th>North Bound</th>
<th>South Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y+R:</td>
<td>4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0</td>
<td></td>
</tr>
</tbody>
</table>

**Capacity Analysis Module:**

| Vol/Sat: | 0.22 0.22 0.22 0.36 0.36 0.36 0.00 0.18 0.18 0.06 0.30 0.30 |
| Crit Moves: | **** |

Note: Queue reported is the number of cars per lane.
**Level Of Service Computation Report**

### 2000 HCM Operations (Future Volume Alternative)

#### 2040 AM

**Intersection #13: 7th Avenue / Judah Street**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 31 403 26

**Lanes:** 0 1 0 0 1

- **Cycle Time (sec):** 75
- **Loss Time (sec):** 8
- **Critical V/C:** 0.824
- **Avg Crit Del (sec/veh):** 58.5
- **Opt Del (sec/veh):** 26 50

**Street Name:** 7th Avenue / Judah Street

**Approach:** North Bound South Bound East Bound West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
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</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>36</td>
<td>36</td>
<td>36</td>
<td>36</td>
<td>36</td>
<td>36</td>
<td>36</td>
<td>36</td>
<td>36</td>
<td>36</td>
<td>36</td>
<td>36</td>
</tr>
<tr>
<td>Y+R</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
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<td>4.0</td>
<td>4.0</td>
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<td>4.0</td>
</tr>
</tbody>
</table>

### Level Of Service (LOS)

- **LOS:** D

### Capacity Analysis Module

**Vol/Sat:** 0.13 0.23 0.51 0.11 0.32 0.32 0.15 0.22 0.22 0.12 0.10 0.10

<table>
<thead>
<tr>
<th>Crit Moves:</th>
<th>****</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green/Cycle</td>
<td>0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48</td>
</tr>
<tr>
<td>Volume/Cap</td>
<td>0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.28</td>
</tr>
<tr>
<td>Uniform Del</td>
<td>11.7 11.7 11.7 11.7 11.7 11.7 11.7 11.7 11.7</td>
</tr>
<tr>
<td>IncremDel</td>
<td>2.4 2.4 2.4 2.4 2.4 2.4 2.4 2.4 2.4</td>
</tr>
<tr>
<td>InitQueuDel</td>
<td>0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0</td>
</tr>
<tr>
<td>Delay Adj</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
</tr>
<tr>
<td>User Del Adj</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
</tr>
</tbody>
</table>

**LOS by Move:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
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<tbody>
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<td>South Bound</td>
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<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>West Bound</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
</tr>
</tbody>
</table>

---

**Street Name:** 7th Avenue / Judah Street

**Approach:** North Bound South Bound East Bound West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
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<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>36</td>
<td>36</td>
<td>36</td>
<td>36</td>
<td>36</td>
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<td>36</td>
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<td>36</td>
<td>36</td>
</tr>
<tr>
<td>Y+R</td>
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<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
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<td>4.0</td>
</tr>
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</table>

### Level Of Service (LOS)

- **LOS:** C

### Capacity Analysis Module

**Vol/Sat:** 0.36 0.36 0.36 0.04 0.04 0.04 0.04 0.04 0.04 0.04 0.04 0.04

<table>
<thead>
<tr>
<th>Crit Moves:</th>
<th>****</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green/Cycle</td>
<td>0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48</td>
</tr>
<tr>
<td>Volume/Cap</td>
<td>0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.28</td>
</tr>
<tr>
<td>Uniform Del</td>
<td>11.7 11.7 11.7 11.7 11.7 11.7 11.7 11.7 11.7</td>
</tr>
<tr>
<td>IncremDel</td>
<td>2.4 2.4 2.4 2.4 2.4 2.4 2.4 2.4 2.4</td>
</tr>
<tr>
<td>InitQueuDel</td>
<td>0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0</td>
</tr>
<tr>
<td>Delay Adj</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
</tr>
<tr>
<td>User Del Adj</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
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</table>

**LOS by Move:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Bound</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>West Bound</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

---

**Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM 4-Way Stop (Future Volume Alternative)

**Intersection #14: 6th Avenue / Judah Street**

<table>
<thead>
<tr>
<th>Signal=Stop</th>
<th>Right/Rights=Include</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base+Add Vol</td>
<td>Lanes</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>323</td>
<td>0</td>
</tr>
<tr>
<td>43</td>
<td>0</td>
</tr>
<tr>
<td>43</td>
<td>0</td>
</tr>
<tr>
<td>11***</td>
<td>0</td>
</tr>
</tbody>
</table>

**Base+Add Lanes:**

- Right/Rights=Include Vol Cnt Date: n/a
- Rights=Include Lanes: Base+Add
- Initial Fut: 6 259 118 19 52 15 43 323 11 77 263 42
- User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- PHF Adj: 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97
- PHF Volume: 6 267 122 9 54 15 44 333 11 79 271 43
- Critical V/C: 0.698
- Avg Crit Del (sec/veh): 19.6
- LOS: C

**Street Name:**

- 6th Avenue: North Bound
- Judah Street: South Bound
- 11***: West Bound
- 118: East Bound

**Min. Green:**

- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0

**Cycle Time (sec):**

- 100

**Loss Time (sec):**

- 0

**Critical V/C:**

- 0.698

**Avg Crit Del (sec/veh):**

- 19.6

**LOS:**

- C

**Growth Adj:**

- 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Initial Base:**

- 6 259 118 19 52 15 43 323 11 77 263 42

**Base Vol:**

- 6 259 118 9 52 15 43 323 11 77 263 42

**Growth Adj:**

- 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Initial Bse:**

- 6 259 118 19 52 15 43 323 11 77 263 42

**Saturation Flow Module:**

- Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Lanes:**

- 0.01 0.68 0.31 0.12 0.68 0.20 0.11 0.86 0.03 0.20 0.69 0.11

**Capacity Analysis Module:**

- Source: Traffic Counting Data
- Vol/Sat: 30 174 48 279 80
- Final Sat.: 17 299 152 33 277 180 92 371 39 146 356 42

**Critical Moves:**

- Delay/Veh: 20.3 20.3 20.3 11.2 11.2 20.3 20.3 20.3 20.3 20.3 20.3 20.3
- Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- Adj/Del/Veh: 20.3 20.3 20.3 20.3 20.3 20.3 20.3 20.3 20.3 20.3 20.3 20.3
- Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- ApprAdj/Del: 20.3 20.3 20.3 20.3 20.3 20.3 20.3 20.3 20.3 20.3 20.3 20.3
- LOS by Appr: C C C
- AllLanes: 1.8 1.8 1.8 0.1 0.1 1.7 1.7 1.7 1.8 1.8 1.8 1.8

**Note:** Queue reported is the number of cars per lane.

---

### Level Of Service Computation Report

#### 2000 HCM 4-Way Stop (Future Volume Alternative)

**Intersection #14: 6th Avenue / Judah Street**

<table>
<thead>
<tr>
<th>Signal=Stop</th>
<th>Right/Rights=Include</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base+Add Vol</td>
<td>Lanes</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>323</td>
<td>0</td>
</tr>
<tr>
<td>43</td>
<td>0</td>
</tr>
<tr>
<td>43</td>
<td>0</td>
</tr>
<tr>
<td>11***</td>
<td>0</td>
</tr>
</tbody>
</table>

**Base+Add Lanes:**

- Right/Rights=Include Vol Cnt Date: n/a
- Rights=Include Lanes: Base+Add
- Initial Fut: 9 155 79 19 162 105 59 239 25 119 291 34
- User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- PHF Adj: 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96
- PHF Volume: 9 161 82 20 169 109 59 239 25 119 291 34
- Critical V/C: 0.816
- Avg Crit Del (sec/veh): 21.6
- LOS: C

**Street Name:**

- 6th Avenue: North Bound
- Judah Street: South Bound
- 11***: East Bound
- 118: West Bound

**Min. Green:**

- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0
- 0

**Cycle Time (sec):**

- 100

**Loss Time (sec):**

- 0

**Critical V/C:**

- 0.816

**Avg Crit Del (sec/veh):**

- 21.6

**LOS:**

- C

**Growth Adj:**

- 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Initial Base:**

- 9 155 79 19 162 105 59 239 25 119 291 34

**Base Vol:**

- 9 155 79 19 162 105 59 239 25 119 291 34

**Growth Adj:**

- 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Initial Bse:**

- 9 155 79 19 162 105 59 239 25 119 291 34

**Saturation Flow Module:**

- Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Lanes:**

- 0.04 0.64 0.32 0.06 0.57 0.37 0.18 0.74 0.08 0.27 0.65 0.08

**Capacity Analysis Module:**

- Source: Traffic Counting Data
- Vol/Sat: 9 155 79 19 162 105 59 239 25 119 291 34
- Final Sat.: 17 299 152 33 277 180 92 371 39 146 356 42

**Critical Moves:**

- Delay/Veh: 15.9 15.9 15.9 15.9 15.9 15.9 15.9 15.9 15.9 15.9 15.9 15.9
- Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- Adj/Del/Veh: 15.9 15.9 15.9 15.9 15.9 15.9 15.9 15.9 15.9 15.9 15.9 15.9
- LOS by Appr: C C C C C C
- AllLanes: 0.8 0.8 0.8 1.1 1.1 1.3 1.3 3.0 3.0 3.0

**Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report
#### 2000 HCM Unsignalized (Future Volume Alternative)

#### 2040 AM

**Intersection #15: 5th Avenue / Judah Street**

<table>
<thead>
<tr>
<th>Sign/Unsignal Right</th>
<th>Lanes</th>
<th>Base+Add Vol</th>
<th>Lanes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signal=Stop/Rights=Include</td>
<td></td>
<td>26</td>
<td>5</td>
</tr>
</tbody>
</table>

- Volume Module: Base Vol: 5 39 188 5 8 26 14 421 20 78 318 9
- Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- Initial Base: 5 39 188 5 8 26 14 421 20 78 318 9
- Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
- Initial Vol: 5 39 188 5 8 26 14 421 20 78 318 9
- User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- PHF Adj: 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96
- PHF Volume: 5 41 196 5 8 27 15 439 21 81 331
- Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
- Final Volume: 5 41 196 5 8 27 15 439 21 81 331

- Critical V/C: 0.403
- Avg Crit Del (sec/veh): 8.2
- Loss Time (sec): 0
- Avg Delay (sec/veh): 8.2
- LOS: D

#### 2040 PM

**Intersection #15: 5th Avenue / Judah Street**

<table>
<thead>
<tr>
<th>Sign/Unsignal Right</th>
<th>Lanes</th>
<th>Base+Add Vol</th>
<th>Lanes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signal=Uncontrol</td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

- Volume Module: Base Vol: 5 37 95 12 68 44 7 310 14 196 386 33
- Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- Initial Base: 5 37 95 12 68 44 7 310 14 196 386 33
- Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
- Initial Vol: 5 37 95 12 68 44 7 310 14 196 386 33
- User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- PHF Adj: 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88
- PHF Volume: 6 42 108 14 77 50 8 352 16 223 439 38
- Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
- Final Volume: 6 42 108 14 77 50 8 352 16 223 439 38

- Critical V/C: 0.785
- Avg Crit Del (sec/veh): 33.4
- Loss Time (sec): 0
- Avg Delay (sec/veh): 33.4
- LOS: F

Note: Queue reported is the number of cars per lane.
Intersection #16: 4th Avenue / Parnassus

2000 HCM 4-Way Stop (Future Volume Alternative)

2040 AM

Intersection #16: 4th Avenue / Parnassus
Signal=Stop/Rights=Include
Base+Add Vol: 61  0     37
Lanes: 0 0 1! 0 0
Cycle Time (sec): 100
Critical V/C: 0.825
Avg Crit Del (sec/veh): 19.5
Loss Time (sec): 0
Avg Delay (sec/veh): 19.5

Street Name: 4th Avenue
Approach: North Bound  South Bound  East Bound  West Bound
Min. Green: | | | |
Volume Module:
Base Vol: 0 0 0 61 91 506 91 506 0 0 334 51
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 0 61 91 506 91 506 0 0 334 51

2040 PM

Intersection #16: 4th Avenue / Parnassus
Signal=Stop/Rights=Include
Base+Add Vol: 143  0     45
Lanes: 0 0 1! 0 0
Cycle Time (sec): 100
Critical V/C: 0.875
Avg Crit Del (sec/veh): 24.9
Loss Time (sec): 0
Avg Delay (sec/veh): 24.9

Street Name: 4th Avenue
Approach: North Bound  South Bound  East Bound  West Bound
Min. Green: | | | |
Volume Module:
Base Vol: 0 0 0 45 52 369 52 369 0 0 474 46
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 0 45 52 369 52 369 0 0 474 46

Note: Queue reported is the number of cars per lane.
### Intersection #17: 3rd Avenue / Parnassus

#### 2000 HCM Unsignalized (Future Volume Alternative)

**2040 AM**

**Intersection #17:** 3rd Avenue / Parnassus  
**Signal:** Stop/Rights=Include  
**Base+Add Vol:** 29 0 16  
**Lanes:** 0 0 1! 0 0  
**Cycle Time (sec):** 100  
**Loss Time (sec):** 0  
**Critical V/C:** 0.096  
**vg Crit Del (sec/veh):** 1.3  
**vg Delay (sec/veh):** 1.3  
**Street Name:** 3rd Avenue                        Parnassus  
**Approach:** North Bound      South Bound       East Bound       West Bound  
**Movement:** L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R  
**Volume Module:** Base Vol: 0 0 0 29 47 494 0 0 345 53  
**Initial Bse:** 0 0 0 16 0 29 47 494 0 0 345 53  
**Added Vol:** 0 0 0 0 0 0 0 0 0 0 0 0  
**PasserByVol:** 0 0 0 0 0 0 0 0 0 0 0 0  
**User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
**Phl Adj:** 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91  
**Phl Volume:** 0 0 18 0 32 52 543 0 379 58  
**Add Vol:** 0 0 0 0 0 0 0 0 0 0 0 0  
**Reduce Vol:** 0 0 0 0 0 0 0 0 0 0 0 0  
**Final Volume:** 0 0 18 0 32 52 543 0 379 58  
**Critical Gap Module:**  
**FollowUpTim:** 3.5 4.0 3.3  
**Capacity Module:**  
**Move Cap.:** 183 169 495 1024  
**Volume/Cap.:** 0.10 0.00 0.00 0.00  
**ApproachLOS:**  
**Level Of Service Module:**  
**ApproachLOS:**  
**Note:** Queue reported is the number of cars per lane.

---

#### 2040 PM

**Intersection #17:** 3rd Avenue / Parnassus  
**Signal:** Stop/Rights=Include  
**Base+Add Vol:** 60 0 31  
**Lanes:** 0 0 1! 0 0  
**Cycle Time (sec):** 100  
**Loss Time (sec):** 0  
**Critical V/C:** 0.175  
**vg Crit Del (sec/veh):** 2.2  
**vg Delay (sec/veh):** 2.2  
**Street Name:** 3rd Avenue                        Parnassus  
**Approach:** North Bound      South Bound       East Bound       West Bound  
**Movement:** L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R  
**Volume Module:** Base Vol: 0 0 0 31 60 21 400 0 0 461 60  
**Initial Bse:** 0 0 0 31 0 60 21 400 0 0 461 60  
**Added Vol:** 0 0 0 0 0 0 0 0 0 0 0 0  
**PasserByVol:** 0 0 0 0 0 0 0 0 0 0 0 0  
**User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
**Phl Adj:** 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91  
**Phl Volume:** 0 0 34 0 66 23 440 0 507 66  
**Add Vol:** 0 0 0 0 0 0 0 0 0 0 0 0  
**Reduce Vol:** 0 0 0 0 0 0 0 0 0 0 0 0  
**Final Volume:** 0 0 34 0 66 23 440 0 507 66  
**Critical Gap Module:**  
**FollowUpTim:** 3.5 4.0 3.3  
**Capacity Module:**  
**Move Cap.:** 195 181 417 913  
**Volume/Cap.:** 0.17 0.00 0.00 0.00  
**ApproachLOS:**  
**Level Of Service Module:**  
**ApproachLOS:**  
**Note:** Queue reported is the number of cars per lane.
**Intersection #18: Hillway / Parnassus**

**2000 HCM Unsignalized (Future Volume Alternative)**

**2040 AM**

**Signal=Stop/Rights=Include**

**Lanes**: 0 0 1! 0 0

**Base+Add Lanes**: Rights=Include

**Volume Module**: Base Vol: 26 0 3

**Critical V/C**: 0.084

**Loss Time (sec)**: 0

**Cycle Time (sec)**: 100

**Approach Del**: 1.2

**Approach LOS**: B

**Note**: Queue reported is the number of cars per lane.

---

**Street Name**: Hillway

**Approach**: North Bound

**Volume Module**: Base Vol: 86 0 403 0 0 372 40

**Critical Gap**: 6.4 6.5 6.2 4.1

**FollowUpTime**: 3.5 4.0 3.3

**Capacity Module**: CHnFOI Vol: 1087 1087 500

**Level Of Service Module**: Control Del: 0.3

**LOS by Move**: LT - LTR - RT

**Approach Del**: 13.6

**Approach LOS**: B

**Note**: Queue reported is the number of cars per lane.

---

**Intersection #18: Hillway / Parnassus**

**2000 HCM Unsignalized (Future Volume Alternative)**

**2040 PM**

**Signal=Stop/Rights=Include**

**Lanes**: 0 0 1! 0 0

**Base+Add Lanes**: Rights=Include

**Volume Module**: Base Vol: 33 0 13

**Critical V/C**: 0.087

**Loss Time (sec)**: 0

**Cycle Time (sec)**: 100

**Approach Del**: 1.2

**Approach LOS**: C

**Note**: Queue reported is the number of cars per lane.
Level of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)

Intersection #19: Hill Point / Parnassus

**2040 AM**

- **Base+Add Vol:** 9 0 5
- **Lanes:** 0 0 1! 0 0
- **Signal=Stop/Rights=Include**
- **Critical V/C:** 0.157
- **vg Crit Del (sec/veh):** 1.7
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0
- **PasserByVol:** 0
- **User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Critical Gap Module:**
  - Critical Gp: 7.1 6.5 6.2 7.1 6.5 6.2 4.1 xxxx xxxx 4.1 xxxx xxxx
  - FollowUpTim: 3.5 4.0 3.3 3.5 4.0 3.3 2.2 xxxx xxxx 2.2 xxxx xxxx
- **Capacity Module:**
  - ChnlVol: 838 834 370 842 847 401 401 xxxx xxxx 383 xxxx xxxx
- **Level Of Service Module:**
  - Control Del1:xxxx xxxx xxxx xxxx ❄️ 0.0 xxxx xxxx 0.0 xxxx xxxx
  - LOS by Move: LT - LTR - RT L2 - LTR - RT LT - LTR - RT
  - ApproachDel: 18.3 13.6 xxxx xxxx
  - ApproachLOS: C

Note: Queue reported is the number of cars per lane.

**2040 PM**

- **Base+Add Vol:** 7 0 7
- **Lanes:** 0 0 1! 0 0
- **Signal=Stop/Rights=Include**
- **Critical V/C:** 0.129
- **vg Crit Del (sec/veh):** 1.5
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0
- **PasserByVol:** 0
- **User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Critical Gap Module:**
  - Critical Gp: 7.1 6.5 6.2 7.1 6.5 6.2 4.1 xxxx xxxx 4.1 xxxx xxxx
  - FollowUpTim: 3.5 4.0 3.3 3.5 4.0 3.3 2.2 xxxx xxxx 2.2 xxxx xxxx
- **Capacity Module:**
  - ChnlVol: 947 946 402 952 954 467 470 xxxx xxxx 414 xxxx xxxx
- **Level Of Service Module:**
  - Control Del1:xxxx xxxx xxxx xxxx ❄️ 0.1 xxxx xxxx 0.3 xxxx xxxx
  - LOS by Move: LT - LTR - RT L2 - LTR - RT LT - LTR - RT
  - ApproachDel: 18.8 16.5 xxxx xxxx
  - ApproachLOS: C

Note: Queue reported is the number of cars per lane.
### 2000 HCM Operations (Future Volume Alternative)
#### 2040 AM

**Intersection #20: Stanyan / Parnassus**

<table>
<thead>
<tr>
<th>Signal=Permit</th>
<th>Rights=Include</th>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th>SignPErrnt</th>
<th>Right</th>
<th>Include</th>
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<tbody>
<tr>
<td>158</td>
<td>262</td>
<td>23</td>
<td>60</td>
<td>0</td>
<td></td>
<td></td>
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<tr>
<td>23</td>
<td>60</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Base+Add Vol:** 158  262  23
- **Lanes:** 0 0 1
- **Cycle Time (sec):** 60
- **Loss Time (sec):** 9
- **Critical V/C:** 1.089
- **Avg Crit Del (sec/veh):** 86.3
- **Loss Time (sec):** 9
- **Critical V/C:** 0.881
- **Avg Crit Del (sec/veh):** 49.5

**Street Name:** Stanyan / Parnassus

**Approach:**
- North Bound
- South Bound
- East Bound
- West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
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</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>27</td>
<td>27</td>
<td>27</td>
</tr>
<tr>
<td>Y+R:</td>
<td>4.5</td>
<td>4.5</td>
<td>4.5</td>
</tr>
</tbody>
</table>

**LOS:** E

<table>
<thead>
<tr>
<th>Vol/ Sat</th>
<th>0.50</th>
<th>0.50</th>
<th>0.50</th>
<th>0.38</th>
<th>0.38</th>
<th>0.38</th>
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<th>0.43</th>
<th>0.43</th>
<th>0.22</th>
<th>0.22</th>
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<tbody>
<tr>
<td>Crit Moves</td>
<td>****</td>
<td>****</td>
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<td></td>
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<td>Green/Cycle</td>
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<td>0.45</td>
<td>0.45</td>
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<td>13.5</td>
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<td>66.5</td>
<td>66.5</td>
<td>66.5</td>
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<td>0.0</td>
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<td>0.0</td>
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<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Delay Adj</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Delay/Veh</td>
<td>87.7</td>
<td>87.7</td>
<td>87.7</td>
<td>28.1</td>
<td>28.1</td>
<td>28.1</td>
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</tr>
<tr>
<td>User DelAdj</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
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<td>1.00</td>
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</tr>
</tbody>
</table>

**HCM2kAvgQ:** 20 21 21 10 10 10 15 15 15 5 5 5

**Note:** Queue reported is the number of cars per lane.

### 2040 PM

**Intersection #20: Stanyan / Parnassus**

<table>
<thead>
<tr>
<th>Signal=Permit</th>
<th>Rights=Include</th>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th>SignPErrnt</th>
<th>Right</th>
<th>Include</th>
</tr>
</thead>
<tbody>
<tr>
<td>110</td>
<td>330</td>
<td>32</td>
<td>60</td>
<td>0</td>
<td></td>
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<tr>
<td>32</td>
<td>60</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Base+Add Vol:** 110  330  32
- **Lanes:** 0 0 1
- **Cycle Time (sec):** 60
- **Loss Time (sec):** 44
- **Critical V/C:** 1.088
- **Avg Crit Del (sec/veh):** 86.3
- **Loss Time (sec):** 19
- **Critical V/C:** 1.088
- **Avg Crit Del (sec/veh):** 86.3

**Street Name:** Stanyan / Parnassus

**Approach:**
- North Bound
- South Bound
- East Bound
- West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Y+R:</td>
<td>4.5</td>
<td>4.5</td>
<td>4.5</td>
</tr>
</tbody>
</table>

**LOS:** D

<table>
<thead>
<tr>
<th>Vol/ Sat</th>
<th>0.34</th>
<th>0.36</th>
<th>0.10</th>
<th>0.07</th>
<th>0.70</th>
<th>0.23</th>
<th>0.35</th>
<th>0.38</th>
<th>0.27</th>
<th>0.04</th>
<th>0.78</th>
<th>0.18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crit Moves</td>
<td>****</td>
<td>****</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green/Cycle</td>
<td>0.50</td>
<td>0.50</td>
<td>0.50</td>
<td>0.50</td>
<td>0.50</td>
<td>0.50</td>
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<td>0.35</td>
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<td>0.35</td>
</tr>
<tr>
<td>Volume/Cap</td>
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<td>0.70</td>
<td>0.70</td>
<td>0.70</td>
<td>0.70</td>
<td>0.70</td>
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<td>0.35</td>
<td>0.35</td>
<td>0.35</td>
<td>0.35</td>
<td>0.35</td>
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<tr>
<td>Uniform Del</td>
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<td>11.5</td>
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<td>12.0</td>
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<td>19.5</td>
<td>19.5</td>
<td>15.7</td>
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<td>15.7</td>
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<td>7.7</td>
<td>7.7</td>
<td>7.7</td>
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<td>68.5</td>
<td>68.5</td>
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<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Delay Adj</td>
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<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
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<td>19.2</td>
<td>19.2</td>
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<td>19.5</td>
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<td>88.0</td>
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<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**HCM2kAvgQ:** 7 7 7 8 8 8 13 13 13 5 5 5

**Note:** Queue reported is the number of cars per lane.
## Traffic Analysis for Intersection #21: 7th Avenue / Kirkham Street

### 2040 AM

<table>
<thead>
<tr>
<th>Traffic Movement</th>
<th>Base Vol</th>
<th>Add Vol</th>
<th>Total Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Bound</td>
<td>54</td>
<td>532</td>
<td>586</td>
</tr>
<tr>
<td>South Bound</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>East Bound</td>
<td>6</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>West Bound</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Volume Module:**

- Base Vol: 96, 711, 37
- Add Vol: 6, 532, 54
- Total Vol: 93, 206, 139

**Signal Phases:**

- Green: 0.0, 0.0, 0.0
- Yellow: 0.0, 0.0, 0.0
- Red: 0.0, 0.0, 0.0

**Cycle Time:** 75 sec

**Critical V/C:** 1.214

**Average Delay:** 91.3 sec/veh

**Level Of Service:** F

### 2040 PM

<table>
<thead>
<tr>
<th>Traffic Movement</th>
<th>Base Vol</th>
<th>Add Vol</th>
<th>Total Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Bound</td>
<td>107</td>
<td>590</td>
<td>707</td>
</tr>
<tr>
<td>South Bound</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>East Bound</td>
<td>62</td>
<td>0</td>
<td>62</td>
</tr>
<tr>
<td>West Bound</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Volume Module:**

- Base Vol: 80, 535, 35
- Add Vol: 5, 590, 35
- Total Vol: 85, 106, 171

**Signal Phases:**

- Green: 0.0, 0.0, 0.0
- Yellow: 0.0, 0.0, 0.0
- Red: 0.0, 0.0, 0.0

**Cycle Time:** 75 sec

**Critical V/C:** 0.979

**Average Delay:** 51.6 sec/veh

**Level Of Service:** D

---

Note: Queue reported is the number of cars per lane.
**Level Of Service Computation Report**

**2000 HCM 4-Way Stop (Future Volume Alternative)**

### Intersection #22: 6th Avenue / Kirkham Street

**Signal=Stop/Rights=Include**

**Base+Add Vol:** 49 98 103

**Lanes:** 0 0 1! 0 0

**Cycle Time (sec):** 131

**Loss Time (sec):** 0

**Critical V/C:** 0.769

**vg Crit Del (sec/veh):** 17.0

**vg Delay (sec/veh):** 17.0

**LOS:** C

---

**Street Name:** 6th Avenue

**Approach:** North Bound  South Bound  East Bound  West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volume Module:</td>
<td>Base Vol: 11 267 10 98 49 100 131 9 34 67 23</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Base: 11 267 10 98 49 100 131 9 34 67 23</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Added Vol: 0 0 0 0 0 0 0 0 0 0 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PassByVol: 0 0 0 0 0 0 0 0 0 0 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Fut: 11 267 10 98 49 100 131 9 34 67 23</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHF Adj: 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHF Volume: 13 303 205 11 111 56 114 149 10 39 76 26</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduced Vol: 13 303 205 11 111 56 114 149 10 39 76 26</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FinalVolume: 13 303 205 11 111 56 114 149 10 39 76 26</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Saturation Flow Module:**

| Adjustm: | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
|-----------------------------------------------|
| Lanes: | 0.02 0.09 0.39 0.06 0.73 0.31 0.42 0.54 0.04 0.27 0.54 0.19 |

---

**Capacity Analysis Module:**

| Vol/Sat: | 0.77 0.77 0.77 0.31 0.31 0.31 0.49 0.49 0.49 0.28 0.28 0.28 |
|-----------------------------------------------|
| Crit Moves: | **** | **** | **** |
| Delay/Veh: | 22.1 22.1 22.1 11.0 11.0 11.0 14.0 14.0 14.0 14.0 14.0 14.0 |
| AdjDel/Veh: | 22.1 22.1 22.1 11.0 11.0 11.0 14.0 14.0 14.0 14.0 14.0 14.0 |
| LOS by Move: | C C B B B B B B |
| ApproachDel: | 22.1 | 11.0 | 14.0 | 11.2 |
| Delay Adj: | 1.00 | 1.00 | 1.00 |
| ApprAdjDel: | 22.1 | 11.0 | 14.0 | 11.2 |
| LOS by Appr: | C C |
| AllMaxVol: | 2.6 2.6 0.4 0.4 0.4 0.8 0.8 0.8 0.3 0.3 0.3 |

Note: Queue reported is the number of cars per lane.

---

**Street Name:** Kirkham Street

**Approach:** North Bound  South Bound  East Bound  West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volume Module:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Base Vol: 23 161 97 11 182 99 51 72 16 129 215 31</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Base: 23 161 97 11 182 99 51 72 16 129 215 31</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PassByVol: 0 0 0 0 0 0 0 0 0 0 0 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Fut: 23 161 97 11 182 99 51 72 16 129 215 31</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHF Adj: 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>PHF Volume: 26 183 99 13 207 113 58 82 18 147 244 35</td>
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<tr>
<td>Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0</td>
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<td></td>
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<tr>
<td>FinalVolume: 26 183 99 13 207 113 58 82 18 147 244 35</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Saturation Flow Module:**

| Adjustm: | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
|-----------------------------------------------|
| Lanes: | 0.08 0.60 0.32 0.04 0.62 0.34 0.37 0.52 0.11 0.34 0.58 0.88 |

---

**Capacity Analysis Module:**

| Vol/Sat: | 0.57 0.57 0.57 0.60 0.60 0.34 0.34 0.34 0.34 0.34 0.75 0.75 0.75 |
|-----------------------------------------------|
| Crit Moves: | **** | **** | **** |
| Delay/Veh: | 5.9 15.9 15.9 16.7 16.7 16.7 12.5 12.5 12.5 23.5 23.5 23.5 |
| AdjDel/Veh: | 15.9 15.9 15.9 16.7 16.7 16.7 12.5 12.5 12.5 23.5 23.5 23.5 |
| LOS by Move: | C C C C C C C C B B |
| ApproachDel: | 15.9 | 16.7 | 12.5 | 23.5 |
| Delay Adj: | 1.00 | 1.00 | 1.00 |
| ApprAdjDel: | 15.9 | 16.7 | 12.5 | 23.5 |
| LOS by Appr: | C C |
| AllMaxVol: | 1.0 1.0 1.0 1.2 1.2 1.2 0.4 0.4 0.4 2.3 2.3 2.3 |

Note: Queue reported is the number of cars per lane.
### Intersection #23: 5th Avenue / Kirkham Street

#### 2040 AM

**Street Name:** 5th Avenue / Kirkham Street  
**Approach:** North Bound    South Bound    East Bound    West Bound  
**Movement:** L - T - R    L - T - R    L - T - R    L - T - R

<table>
<thead>
<tr>
<th>Lanes</th>
<th>Base Vol</th>
<th>Growth Adj</th>
<th>Initial Bse</th>
<th>ApprAdjDel</th>
<th>LOS</th>
<th>AllWayAvgQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>9</td>
<td>1.00</td>
<td>9</td>
<td>8.4</td>
<td>A</td>
<td>0.0</td>
</tr>
<tr>
<td>2</td>
<td>25</td>
<td>1.00</td>
<td>25</td>
<td>8.7</td>
<td>A</td>
<td>0.0</td>
</tr>
<tr>
<td>3</td>
<td>0</td>
<td>1.00</td>
<td>0</td>
<td>8.7</td>
<td>A</td>
<td>0.0</td>
</tr>
<tr>
<td>4</td>
<td>51</td>
<td>1.00</td>
<td>51</td>
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<td>A</td>
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</tr>
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<td>5</td>
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<td>177</td>
<td>8.7</td>
<td>A</td>
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<td>6</td>
<td>128</td>
<td>1.00</td>
<td>128</td>
<td>8.7</td>
<td>A</td>
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</tr>
<tr>
<td>7</td>
<td>11</td>
<td>1.00</td>
<td>11</td>
<td>8.7</td>
<td>A</td>
<td>0.0</td>
</tr>
<tr>
<td>8</td>
<td>0</td>
<td>1.00</td>
<td>0</td>
<td>8.7</td>
<td>A</td>
<td>0.0</td>
</tr>
</tbody>
</table>

#### 2040 PM

**Street Name:** 5th Avenue / Kirkham Street  
**Approach:** North Bound    South Bound    East Bound    West Bound  
**Movement:** L - T - R    L - T - R    L - T - R    L - T - R

<table>
<thead>
<tr>
<th>Lanes</th>
<th>Base Vol</th>
<th>Growth Adj</th>
<th>Initial Bse</th>
<th>ApprAdjDel</th>
<th>LOS</th>
<th>AllWayAvgQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>13</td>
<td>1.00</td>
<td>13</td>
<td>8.5</td>
<td>A</td>
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<tr>
<td>2</td>
<td>7</td>
<td>1.00</td>
<td>7</td>
<td>8.5</td>
<td>A</td>
<td>0.0</td>
</tr>
<tr>
<td>3</td>
<td>0</td>
<td>1.00</td>
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Note: Queue reported is the number of cars per lane.
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)

### Intersection #24: King/3rd

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### Street Name: King Street

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### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

#### 2040 AM

**Intersection #25: King/4th**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 245 765*** 73  
**Lanes:** 1 1 1 0 1  
**Cycle Time (sec):** 110  
**Loss Time (sec):** 19  
**Critical V/C:** 0.907  
**vg Crit Del (sec/veh):** 51.4  
**vg Delay (sec/veh):** 51.5  
**LOS:** D  

**Street Name:** 4th Street, King Street  
**Approach:** North Bound, South Bound, East Bound, West Bound

#### Volume Module:

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### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

#### 2040 PM

**Intersection #25: King/4th**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 592 609*** 47  
**Lanes:** 1 1 1 0 1  
**Cycle Time (sec):** 110  
**Loss Time (sec):** 23  
**Critical V/C:** 1.060  
**vg Crit Del (sec/veh):** 95.7  
**vg Delay (sec/veh):** 90.1  
**LOS:** F  

**Street Name:** 4th Street, King Street  
**Approach:** North Bound, South Bound, East Bound, West Bound

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**Capacity Analysis Module:**

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**Capacity Analysis Module:**

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**Note:** Queue reported is the number of cars per lane.
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 AM
Intersection #26: 7th St/Brannan
Signal=Permit/Rights=Include
Base+Add Vol: 0 0 0
Lanes: 0 0 0
Cycle Time (sec): 60
Loss Time (sec): 8
Critical V/C: 0.749
Avg Crit Del (sec/veh): 51.2
Avg Delay (sec/veh): 27.1
LOS: C

Street Name: 7th St
Approach: North Bound South Bound East Bound West Bound
Movement: L T R L T R L T R L T R
Min. Green: 0 0 21 0 0 21 0 31 31 31 31 31
Y+R: 0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

Capacity Analysis Module:
Vol/Sat: 0.33 0.30 0.31 0.00 0.00 0.00 0.18 0.37 0.54 0.20 0.20 0.22
Crit Moves: **** ****
Green/Cycle: 0.35 0.35 0.35 0.00 0.00 0.00 0.02 0.52 0.52 0.52 0.52 0.52
Volume/Cap: 0.85 0.85 0.30 0.00 0.00 0.00 0.38 0.38 0.38 0.42
Uniform Del: 18.0 18.0 14.2 0.0 0.0 6.81 11.2 14.5 8.7 8.7 9.0
IncrementDel: 8.4 8.4 1.9 0.0 0.0 2.7 2.6 40.2 0.8 0.8 1.0
InitQueuDel: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Delay Adj: 1.00 1.00 1.00 0.00 0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Delay/Vcn: 26.5 26.5 16.1 0.0 0.0 11.2 13.8 54.7 9.5 9.5 10.0
User Del(Add): 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PM
Intersection #26: 7th St/Brannan
Signal=Permit/Rights=Include
Base+Add Vol: 0 0 0
Lanes: 0 0 0
Cycle Time (sec): 60
Loss Time (sec): 8
Critical V/C: 1.208
Avg Crit Del (sec/veh): 123.1
Avg Delay (sec/veh): 65.6
LOS: E

Street Name: Brannan St
Approach: North Bound South Bound East Bound West Bound
Movement: L T R L T R L T R L T R
Min. Green: 0 0 24 0 0 24 0 28 28 28 28 28
Y+R: 0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0

Capacity Analysis Module:
Vol/Sat: 0.49 0.49 0.16 0.00 0.00 0.00 0.56 0.38 0.38 0.28 0.28 0.28
Crit Moves: **** ****
Green/Cycle: 0.40 0.40 0.40 0.00 0.00 0.00 0.46 0.46 0.46 0.46 0.46 0.46
Volume/Cap: 1.21 1.21 0.39 0.82 0.82 0.82 0.36 0.36 0.36 0.36 0.36 0.36
Uniform Del: 17.9 17.9 12.6 0.0 0.0 16.1 14.0 14.0 12.1 12.1 12.1
IncrementDel: 101.8 102 2.3 0.0 0.0 0.0 126.5 5.8 5.8 2.1 2.1 2.1
InitQueuDel: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Delay Adj: 1.00 1.00 1.00 0.00 0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Delay/Vcn: 119.4 119 14.9 0.0 0.0 142.6 19.8 19.8 14.2 14.2 14.2
User Del(Add): 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Note: Queue reported is the number of cars per lane.
**Level Of Service Computation Report**

**2000 HCM Operations (Future Volume Alternative)**

### 2040 AM

**Intersection #27: Channel/3rd**

- Signal=Protect/Rights=Include
- Base+Add Vol: 35 396 97
- Lanes: 0 1 1 0 1
- Cycle Time (sec): 100
- Loss Time (sec): 15
- Critical V/C: 0.905
- Avg Crit Del (sec/veh): 60.0
- Avg Delay (sec/veh): 52.2
- LOS: C
- Street Name: Channel Street
- Approach: North Bound South Bound East Bound West Bound
  - Movement: L T R L T R L T R L T R
  - Yr/Bt: 6.0 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5

### 2040 PM

**Intersection #27: Channel/3rd**

- Signal=Protect/Rights=Include
- Base+Add Vol: 23 410 58
- Lanes: 0 1 1 0 1
- Cycle Time (sec): 100
- Loss Time (sec): 15
- Critical V/C: 0.833
- Avg Crit Del (sec/veh): 60.1
- Avg Delay (sec/veh): 50.5
- LOS: D
- Street Name: Channel Street
- Approach: North Bound South Bound East Bound West Bound
  - Movement: L T R L T R L T R L T R
  - Min. Green: 20 48 48 8 35 35 29 29 29 29 29
  - Yr/Bt: 6.0 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5

---

**Volume Module:**

- Base Vol: 39 1467 176 97 396 35 120 100 194
- Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- InitQueuDel: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
- Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- Delay/Veh: 32.0 61.5 61.5 63.7 23.6 23.6 46.8 46.8 42.4 42.4 42.4 42.4
- User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- LOS by Move: C E E E E E E E E E E E

---

**Saturation Flow Module:**

- Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
- Adjustment: 0.81 0.88 0.79 0.81 0.81 0.80 0.80 0.71 0.74 0.64 0.68 0.71 0.64
- Lanes: 1.00 1.77 0.23 1.00 1.84 0.16 0.55 0.45 1.00 0.14 0.72 0.14
- Final Sat.: 1539 2942 353 1539 2794 247 708 590 1259 220 1101 220

---

**Capacity Analysis Module:**

- Vol/Sat.: 0.03 0.52 0.52 0.07 0.15 0.15 0.18 0.18 0.16 0.00 0.00 0.00
- Crit Moves: **** **** ****
- Green/Cycle: 0.22 0.50 0.50 0.10 0.38 0.38 0.25 0.25 0.25 0.25 0.25 0.25
- Volume/Cap: 0.12 1.65 1.05 0.66 0.39 0.39 0.71 0.71 0.63 0.02 0.02 0.02
- Uniform Del: 31.3 25.0 25.0 43.4 22.6 22.6 34.2 34.2 33.4 28.3 28.3 28.3
- IncrementDel: 0.7 36.5 36.5 20.3 1.0 1.0 26.1 26.1 9.0 0.1 0.1 0.1
- InitQueuDel: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
- Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- Delay/Veh: 32.0 61.5 61.5 63.7 23.6 23.6 46.8 46.8 42.4 28.4 28.4 28.4
- User Del/Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- AdjDel/Veh: 32.0 61.5 61.5 63.7 23.6 23.6 46.8 46.8 42.4 28.4 28.4 28.4
- LOS by Move: C E E E E E E E E E E E
- Num Qs: 1 33 40 3 7 6 0 3 0
- Note: Queue reported is the number of cars per lane.

---

**Table 6-20.55**

**Table 6-20.55**
### Intersection #28: Channel/4th

#### 2040 AM

**Signal=Protect/Rights=Include**

- **Base+Add Vol:** 183 266 263
- **Lanes:** 0 1 0 0 1

**Cycle Time (sec):** 64

**Loss Time (sec):** 10

**Critical V/C:** 0.880

**Avg Crit Del (sec/veh):** 46.3

**Avg Delay (sec/veh):** 27.9

### 2040 PM

**Signal=Permit/Rights=Include**

- **Base+Add Vol:** 43 317 297
- **Lanes:** 0 1 0 0 1

**Cycle Time (sec):** 64

**Loss Time (sec):** 10

**Critical V/C:** 0.638

**Avg Crit Del (sec/veh):** 41.6

**Avg Delay (sec/veh):** 26.9

---

**Street Name:** 4th Street, Channel Street

**Approach:** North Bound, South Bound, East Bound, West Bound

**Movement:** L - T - R

**Volume Module:**

- **Base Vol:** 16 114 29 263 266 183
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00
- **Delay Adj:** 1.00 1.00 1.00 1.00 1.00
- **Delay/Veh:** 17.5 19.7 19.7 34.0 56.8
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00

**LOS:** C

**HCM2kAvgQ:** 0 3 7 3 7

**Note:** Queue reported is the number of cars per lane.
### Intersection #29: Mission Rock/3rd

#### 2040 AM

**Intersection:** Mission Rock/3rd

**Signal:** Protect/Rights=Include

**Base+Add Vol:** 24 503

**Lanes:** 0 1 1 0 1

**Cycle Time (sec):** 100

**Loss Time (sec):** 15

**Critical V/C:** 0.767

**A vg Crit Del (sec/veh):** 54.6

**A vg Delay (sec/veh):** 47.2

**Street Name:** Mission Rock

**Approach:**
- **North Bound:** L - T - R
- **South Bound:** L - T - R
- **East Bound:** L - T - R
- **West Bound:** L - T - R

**Min. Green:** 18 30

**Growth Adj:** 1.00

**Delay Adj:** 1.00

**Delay/Veh:** 34.9

**User DelAdj:** 1.00

**LOS:** D

**Volume Module:**
- **Base Vol:** 26 1612
- **Growth Adj:** 1.00
- **Delay Adj:** 1.00
- **Delay/Veh:** 34.9
- **User DelAdj:** 1.00
- **LOS:** D

**Saturation Flow Module:**
- **Sat/Lane:** 1800 1900 1900 1900 1900 1900
- **Adj:0.81 0.49 0.81 0.49 0.81 0.49
- **Lanes:** 0 1 1 0 1

**Street Name:** 3rd Street

**Approach:**
- **North Bound:** L - T - R
- **South Bound:** L - T - R
- **East Bound:** L - T - R
- **West Bound:** L - T - R

**Min. Green:** 18 30

**Growth Adj:** 1.00

**Delay Adj:** 1.00

**Delay/Veh:** 34.9

**User DelAdj:** 1.00

**LOS:** D

**Capacity Analysis Module:**
- **Vol/Sat:** 0.02 0.03 0.02 0.03 0.02 0.03
- **Crit Moves:** ****
- **Green/Cycle:** 0.10 0.10 0.10 0.10 0.10 0.10
- **Volume/Cap:** 0.30 0.30 0.30 0.30 0.30 0.30
- **Cycle:** 80 80 80 80 80 80
- **Volume:** 90
- **Delay:** 80 80 80 80 80 80
- **User Del:** 80 80 80 80 80 80

**Street Name:** Mission Rock

**Approach:**
- **North Bound:** L - T - R
- **South Bound:** L - T - R
- **East Bound:** L - T - R
- **West Bound:** L - T - R

**Min. Green:** 18 30

**Growth Adj:** 1.00

**Delay Adj:** 1.00

**Delay/Veh:** 34.9

**User DelAdj:** 1.00

**LOS:** D

**Capacity Analysis Module:**
- **Vol/Sat:** 0.02 0.03 0.02 0.03 0.02 0.03
- **Crit Moves:** ****
- **Green/Cycle:** 0.10 0.10 0.10 0.10 0.10 0.10
- **Volume/Cap:** 0.30 0.30 0.30 0.30 0.30 0.30
- **Cycle:** 80 80 80 80 80 80
- **Volume:** 90
- **Delay:** 80 80 80 80 80 80
- **User Del:** 80 80 80 80 80 80

---

### Intersection #29: Mission Rock/3rd

#### 2040 PM

**Intersection:** Mission Rock/3rd

**Signal:** Protect/Rights=Include

**Base+Add Vol:** 4 613

**Lanes:** 0 1 1 0 1

**Cycle Time (sec):** 100

**Loss Time (sec):** 15

**Critical V/C:** 0.911

**A vg Crit Del (sec/veh):** 50.4

**A vg Delay (sec/veh):** 42.9

**Street Name:** Mission Rock

**Approach:**
- **North Bound:** L - T - R
- **South Bound:** L - T - R
- **East Bound:** L - T - R
- **West Bound:** L - T - R

**Min. Green:** 9 14

**Growth Adj:** 1.00

**Delay Adj:** 1.00

**Delay/Veh:** 56.1

**User DelAdj:** 1.00

**LOS:** D

**Volume Module:**
- **Base Vol:** 67 1426
- **Growth Adj:** 1.00
- **Delay Adj:** 1.00
- **Delay/Veh:** 56.1
- **User DelAdj:** 1.00
- **LOS:** D

**Saturation Flow Module:**
- **Sat/Lane:** 1800 1900 1900 1900 1900 1900
- **Adj:0.81 0.49 0.81 0.49 0.81 0.49
- **Lanes:** 0 1 1 0 1

**Street Name:** 3rd Street

**Approach:**
- **North Bound:** L - T - R
- **South Bound:** L - T - R
- **East Bound:** L - T - R
- **West Bound:** L - T - R

**Min. Green:** 9 14

**Growth Adj:** 1.00

**Delay Adj:** 1.00

**Delay/Veh:** 56.1

**User DelAdj:** 1.00

**LOS:** D

**Capacity Analysis Module:**
- **Vol/Sat:** 0.02 0.03 0.02 0.03 0.02 0.03
- **Crit Moves:** ****
- **Green/Cycle:** 0.10 0.10 0.10 0.10 0.10 0.10
- **Volume/Cap:** 0.30 0.30 0.30 0.30 0.30 0.30
- **Cycle:** 80 80 80 80 80 80
- **Volume:** 90
- **Delay:** 80 80 80 80 80 80
- **User Del:** 80 80 80 80 80 80
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #30: Mission Bay North/3rd**

- **Signal**: Protect/Rights=Include
- **Base+Add Vol**: 26 497
- **Lanes**: 0 1 2 0 0
- **Cycle Time (sec)**: 100
- **Loss Time (sec)**: 10
- **Critical V/C**: 0.661
- **Avg Delay (sec/veh)**: 43.2
- **vg Delay (sec/veh)**: 37.6
- **LOS**: D
- **Street Name**: 3rd Street, Mission Bay North
- **Approach**: North Bound, South Bound, East Bound, West Bound
- **Min. Green**: 14 57 57 15 38 38 0 0 0 33 33 33
- **InitQueuDel**: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
- **User DelAdj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

---

**Intersection #30: Mission Bay North/3rd**

- **Signal**: Protect/Rights=Include
- **Base+Add Vol**: 8 976
- **Lanes**: 0 1 2 0 0
- **Cycle Time (sec)**: 100
- **Loss Time (sec)**: 10
- **Critical V/C**: 0.641
- **Avg Delay (sec/veh)**: 28.8
- **vg Delay (sec/veh)**: 27.2
- **LOS**: C
- **Street Name**: 3rd Street, Mission Bay North
- **Approach**: North Bound, South Bound, East Bound, West Bound
- **Min. Green**: 14 57 57 15 38 38 0 0 0 33 33 33
- **InitQueuDel**: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
- **User DelAdj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

---

**Volume Module:**

- **Base Vol**: 53 1638
- **Growth Adj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Delay Adj**: 1.00 1.00 0.00 0.00 1.00 1.00 0.00 0.00 0.00 1.00 1.00 0.00
- **Delay/Veh**: 39.6 43.6 0.0 0.0 20.0 20.0 0.0 0.0 0.0 23.3 23.3 0.0
- **HCM2kAvgQ**: 1 29
- **Note**: Queue reported is the number of cars per lane.

---

**Volume Module:**

- **Base Vol**: 87 1517
- **Growth Adj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Delay Adj**: 1.00 1.00 0.00 0.00 1.00 1.00 0.00 0.00 0.00 1.00 1.00 0.00
- **Delay/Veh**: 42.9 28.8 0.0 0.0 23.3 23.3 0.0 0.0 0.0 24.4 24.4 0.0
- **HCM2kAvgQ**: 2 24
- **Note**: Queue reported is the number of cars per lane.
**Intersection #31: Mission Bay South/3rd**

**Volume Module:**

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<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
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<tr>
<td>Base Vol.</td>
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<td>29</td>
<td>496</td>
</tr>
<tr>
<td>Growth Adj:</td>
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<tr>
<td>Add Vol:</td>
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<tr>
<td>User Adj:</td>
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<td>1.00</td>
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<tr>
<td>Initial Put:</td>
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<td>496</td>
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<td>Cycle Time (sec):</td>
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<td>Loss Time (sec):</td>
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<td>Critical V/C:</td>
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<th>R</th>
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<td>Initial Put:</td>
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<td>7058</td>
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<tr>
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<td>Avg Crit Del (sec/veh):</td>
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**Capacity Analysis Module:**

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<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
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<td>G</td>
<td>H</td>
<td>I</td>
<td>J</td>
<td>K</td>
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</tbody>
</table>
| Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### FHWA Roundabout (Future Volume Alternative)

#### 2040 AM

**Intersection #32: Mission Bay/Owens**

- **Signal**: Yield/Rights=Include
- **Base+Add Vol**: 21 180 8
- **Lanes**: 0 0 1 0 0
- **Cycle Time (sec)**: 100
- **Loss Time (sec)**: 0
- **Critical V/C**: 0.393
- **Avg Crit Del (sec/veh)**: 4.6
- **Critical Del (sec)**: 0
- **Cycle Del (sec)**: 0
- **LOS**: A

**Street Name:** Owens Street  
**Approach:** North Bound  
**Movement:** L - T - R  
**Volume:** 87 178 345 26 134 7

**Growth Adj:** 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0

**Initial Bse:** 114 10 25 8 180 21 178 345 26 134 7

**Added Vol:** 0 0 0 0 0 0 0 0 0 0 0 0 0 0

**Cycle Del (sec)**: 0

**Delay Del (sec/veh)**: 0

**Queue (veh)**: 0

#### 2040 PM

**Intersection #32: Mission Bay/Owens**

- **Signal**: Yield/Rights=Include
- **Base+Add Vol**: 0 40 0
- **Lanes**: 0 0 1 0 0
- **Cycle Time (sec)**: 100
- **Loss Time (sec)**: 0
- **Critical V/C**: 0.618
- **Avg Crit Del (sec/veh)**: 6.8
- **Critical Del (sec)**: 0
- **Cycle Del (sec)**: 0
- **LOS**: A

**Street Name:** Owens Street  
**Approach:** North Bound  
**Movement:** L - T - R  
**Volume:** 551 40 30 0 40 0 119 20 126 10 40 10

**Growth Adj:** 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0

**Initial Bse:** 551 40 30 0 40 0 119 20 126 10 40 10

**Added Vol:** 0 0 0 0 0 0 0 0 0 0 0 0 0 0

**Cycle Del (sec)**: 0

**Delay Del (sec/veh)**: 0

**Queue (veh)**: 4.5

---

**Volume Module:**

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<th>Lane</th>
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<th>Growth Adj</th>
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**Growth Module:**

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**Volume Module:**

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**Growth Module:**

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**Volume Module:**

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</table>
### 2000 HCM Operations (Future Volume Alternative)

#### 2040 AM

**Intersection #33: Mission Bay/7th**

- **Signal=Protect/Rights=Include**
- **Base+Add Vol**: 0 549 388***
- **Lanes**: 0 0 1 0 1
- **Cycle Time (sec)**: 100
- **Loss Time (sec)**: 14
- **Critical V/C**: 0.623
- **Avg Critical Del (sec/veh)**: 53.1
- **Avg Delay (sec/veh)**: 39.1
- **LOS**: D

### 2040 PM

**Intersection #33: Mission Bay/7th**

- **Signal=Protect/Rights=Include**
- **Base+Add Vol**: 0 714*** 222
- **Lanes**: 0 0 1 0 1
- **Cycle Time (sec)**: 100
- **Loss Time (sec)**: 14
- **Critical V/C**: 0.547
- **Avg Critical Del (sec/veh)**: 59.3
- **Avg Delay (sec/veh)**: 49.0
- **LOS**: D

---

### Street Name: 7th Street

**Approach**

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<tr>
<th>L</th>
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<tbody>
<tr>
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<tr>
<td>West Bound</td>
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</tbody>
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**Movement**

- **Min. Green**: 0 36 14 61
- **Y+R: 4.0**
- **User DelAdj: 1.00**

---

### Volume Module:

- **Base Vol**: 0 714 222 388 549
- **Growth Adj**: 1.00 1.00 1.00 1.00 1.00
- **Add Vol**: 0 0 0 0 0
- **PasserByVol**: 0 0 0 0 0
- **User Adj**: 1.00 1.00 1.00 1.00 1.00
- **MHP Adj**: 0.96 0.96 0.96 0.96 0.96
- **PhF Volume**: 0 745 232 405 573
- **Reduct Vol**: 0 0 0 0 0
- **Reduced Vol**: 0 745 232 405 573
- **PCV Adj**: 1.00 1.00 1.00 1.00 1.00
- **MHP Volume**: 0 858 72 313 268
- **InitQueuDel**: 0.0 0.0 0.0 0.0 0.0
- **User DelAdj**: 1.00 1.00 1.00 1.00 1.00

---

### Capacity Analysis Module:

- **Vol/Sat**: 0.0 0.92 0.30 0.16 0.00
- **Crit Moves**: **** 0.00 0.00 0.00 0.00
- **Green/Cycle**: 0.00 0.34 0.24 0.23 0.17
- **Uniform Del**: 0.27 0.21 0.16 0.14 0.10
- **InitQueuDel**: 0.0 0.0 0.0 0.0 0.0
- **Delay Adj**: 0.00 0.00 0.00 0.00 0.00
- **Delay/Veh**: 0.00 0.00 0.00 0.00 0.00
- **User DelAdj**: 1.00 1.00 1.00 1.00 1.00

---

### Saturation Flow Module:

- **Sat/Lane**:
  - 0.00 0.00 0.00 0.00 0.00
- **Lanes**: 0.00 0.00 0.00 0.00 0.00
- **Final Sat.**: 0.00 0.00 0.00 0.00 0.00

---

### LOS by Move:

- **A**
- **C**
- **B**
- **A**
- **A**
- **C**

---

### HCM2kAvgQ:

- 0 0 0 0 0

---

Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

#### 2040 AM

**Intersection #34: 16th/3rd**

- **Signal**: Protect/Rights=Include
- **Base+Add Vol**: 203 259 88
- **Lanes**: 0 1 1 0 1
- **Cycle Time (sec)**: 100
- **Loss Time (sec)**: 15
- **Critical V/C**: 0.918
- **vg Crit Del (sec/veh)**: 60.8
- **vg Delay (sec/veh)**: 48.6
- **Critical Lanes**: 1

**Street Name**: 3rd Street / 16th Street

**Approach**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
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</tr>
<tr>
<td>West Bound</td>
<td>190 190</td>
<td>190 190</td>
<td>190 190</td>
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</table>

**Vol Module**

- **Base Vol**: 439 1449 55 88 259 203 180 224 190 26 112 136
- **Growth Adj**: 1.00 1.00 1.00 1.00 1.00 ...
- **Delay Adj**: 1.00 1.00 1.00 1.00 1.00 ...
- **Delay/Veh**: 47.6 61.0 55.5 55.5 55.5 55.5 55.5 55.5 55.5 55.5

**Capacity Analysis Module**

- **Vol/Sat**: 0.15 0.21 0.21 0.16 0.16 0.04 0.09 0.11
- **Critt Moves**: **** ****

#### 2040 PM

**Intersection #34: 16th/3rd**

- **Signal**: Permit
- **Base+Add Vol**: 216 923 63
- **Lanes**: 0 1 1 0 1
- **Cycle Time (sec)**: 100
- **Loss Time (sec)**: 15
- **Critical V/C**: 0.998
- **vg Crit Del (sec/veh)**: 66.5
- **vg Delay (sec/veh)**: 50.4
- **Critical Lanes**: 1

**Street Name**: 3rd Street / 16th Street

**Approach**

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<tr>
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<td>190 190</td>
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**Vol Module**

- **Base Vol**: 320 1090 7 63 923 216 193 123 353
- **Growth Adj**: 1.00 1.00 1.00 1.00 1.00 ...
- **Delay Adj**: 1.00 1.00 1.00 1.00 1.00 ...
- **Delay/Veh**: 58.4 24.0 24.0 120.2 55.5 55.5 100.2 27.9 30.7 30.7

**Capacity Analysis Module**

- **Vol/Sat**: 0.32 0.38 0.38 0.04 0.41 0.41 0.30 0.10 0.32 0.05 0.14 0.14
- **Critt Moves**: **** ****

Note: Queue reported is the number of cars per lane.
Level Of Service Computation Report

2000 HCM Operations (Future Volume Alternative)

Intersection #35: 16th/4th

Signal=Permit/Rights=Include

Base+Add Vol: 110 65 23

Lanes: 0 1 0 0 1

Cycle Time (sec): 90

Loss Time (sec): 15

Critical V/C: 0.691

Avg Crit Del (sec/veh): 57.2

Avg Delay (sec/veh): 43.6

Loss: D

Street Name: 4th Street 16th Street

Approach: North Bound South Bound East Bound West Bound

Min. Green: 20 20 20 20 15 40 40 15 40 40

Vol/Sat: 0.13 0.12 0.12 0.03 0.13 0.13 0.20 0.21 0.21 0.04 0.25 0.25

Street Name: 4th Street 16th Street

Approach: North Bound South Bound East Bound West Bound

Min. Green: 20 20 20 20 10 40 40 15 45 45

Vol/Sat: 0.10 0.10 0.10 0.10 0.22 0.10 0.20 0.20 0.10 0.27 0.27

Comparative Times:

Base+Add Vol: 228 34 88

Lanes: 0 1 0 0 1

Cycle Time (sec): 90

Loss Time (sec): 15

Critical V/C: 0.541

Avg Crit Del (sec/veh): 38.8

Avg Delay (sec/veh): 32.4

Loss: C

Volume Module:

Base Vol: 49 54 88 77 54 77 57 77 77 57 77 88

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

InitQudel: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

HCM2kAvgQ: 2 4 4 3 13 13 4 6 6 1 8 8

Note: Queue reported is the number of cars per lane.

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

Adjustment: 0.44 0.79 0.76 0.44 0.77 0.76 0.81 0.78 0.77

Vol/Sat: 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10

Note: Queue reported is the number of cars per lane.
### 2000 HCM Operations (Future Volume Alternative)

#### 2040 AM

**Intersection #36: 16th/Owens**

- **Signal:** Permit/Rights=Include
- **Base+Add Vol:** 75 232 71
- **Lanes:** 1 0 1 0 1 0
- **Cycle Time (sec):** 60
- **Loss Time (sec):** 0
- **Critical V/C:** 0.756
- **Avg Crit Del (sec/veh):** 45.7
- **Avg Delay (sec/veh):** 37.0
- **Cycle Time:**
  - North Bound: 20
  - South Bound: 20
  - East Bound: 20
  - West Bound: 20
- **Volume Module:**
  - **Base Vol:** 115 355 135 71 232 75
  - Growth Adj: 1.00
  - Delay Adj: 1.00
  - Delay/Veh: 20.4
  - User DelAdj: 1.00
- **LOS:** D

**Saturation Flow Module:**

- **Sat/Lane:** 1900
  - North Bound: 1900
  - South Bound: 1900
  - East Bound: 1900
  - West Bound: 1900
- **Capacity Analysis Module:**
  - **Vol/Sat:** 0.14
  - **Crit Moves:** ****
  - **Green/Cycle:** 0.33
  - **Uniform Del:** 15.6
  - **IncremDel:** 4.8
  - **IntqDel:** 0.0
  - **Delay Adj:** 1.00
  - **Delay/Veh:** 20.4
- **User DelAdj:** 1.00

**Note:** Queue reported is the number of cars per lane.

---

#### 2040 PM

**Intersection #36: 16th/Owens**

- **Signal:** Permit/Rights=Include
- **Base+Add Vol:** 197 329 162
- **Lanes:** 1 0 1 0 1 0
- **Cycle Time (sec):** 60
- **Loss Time (sec):** 92
- **Critical V/C:** 0.728
- **Avg Crit Del (sec/veh):** 37.3
- **Avg Delay (sec/veh):** 33.4
- **Cycle Time:**
  - North Bound: 20
  - South Bound: 20
  - East Bound: 20
  - West Bound: 20
- **Volume Module:**
  - **Base Vol:** 138 173 129 162 329 197
  - Growth Adj: 1.00
  - Delay Adj: 1.00
  - Delay/Veh: 50.9
  - User DelAdj: 1.00
- **LOS:** C

**Saturation Flow Module:**

- **Sat/Lane:** 1900
  - North Bound: 1900
  - South Bound: 1900
  - East Bound: 1900
  - West Bound: 1900
- **Capacity Analysis Module:**
  - **Vol/Sat:** 0.26
  - **Crit Moves:** ****
  - **Green/Cycle:** 0.36
  - **Uniform Del:** 30.3
  - **IncremDel:** 20.6
  - **IntqDel:** 0.0
  - **Delay Adj:** 1.00
  - **Delay/Veh:** 50.9
- **User DelAdj:** 1.00

**Note:** Queue reported is the number of cars per lane.
Level of Service Computation Report
2000 HCM Operations (Future Volume Alternative)

Intersection #37: 16th/7th
Signal=Split/Rights=Include
Base+Add Vol: 47 78 287***
Lanes: 0 1 0 0 1
Base+Add Lanes: Rights=Include
Vol Cnt Date: n/a Rights=Include Lanes: Base+Add
Cycle Time (sec): 110
Loss Time (sec): 14
Critical V/C: 0.934
Avg Crit Del (sec/veh): 66.1
Avg Delay (sec/veh): 54.4

Street Name: 7th Street
Approach: North Bound South Bound East Bound West Bound
Min. Green: 30 30 30 30 30 30 30 30 36 36 36 36 36 67
Cycle Time (sec): 110

Lanes: 1 0 1 0 1
Base+Add Vol: 51 143 750***
Volume Module:
Base Vol: 51 315 149 287 78 47 143 750 88 53 304 277
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
User Adj: 1.00 1.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
User Delay Adj: 1.00 1.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
User Delay/Veh: 46.3 46.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
InitQueueDel: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
InitQueueDel Adj: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
InitDelay/Mv: 0 0 0 0 0 0 0 0 0 0 0 0
LOS: D

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
PCT: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
PCT: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Capacity Analysis Module:
Vol/Sat: 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3
Ct Move: ****    ****
Green/Cycle: 0.21 0.21 0.21 0.21 0.21 0.21 0.21 0.21 0.21 0.21 0.21 0.21
Volume/Cap: 0.16 0.16 0.16 0.16 0.16 0.16 0.16 0.16 0.16 0.16 0.16 0.16
Uniform Del: 45.2 45.2 45.2 45.2 45.2 45.2 45.2 45.2 45.2 45.2 45.2 45.2
Increment Del: 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
InitQueuedel: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Delay/Veh: 46.3 46.3 46.3 46.3 46.3 46.3 46.3 46.3 46.3 46.3 46.3 46.3
User Del Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 46.3 46.3 46.3 46.3 46.3 46.3 46.3 46.3 46.3 46.3 46.3 46.3
LOS by Move: D 0 0 0 0 0 0 0 0 0 0 0
HCM Avg Q: 3 3 3 3 3 3 3 3 3 3 3 3
Note: Queue reported is the number of cars per lane.

Intersection #37: 16th/7th
Signal=Split/Rights=Include
Base+Add Vol: 131 90*** 185
Lanes: 0 1 0 0 1
Base+Add Lanes: Rights=Include
Vol Cnt Date: n/a Rights=Include Lanes: Base+Add
Cycle Time (sec): 110
Loss Time (sec): 14
Critical V/C: 0.754
Avg Crit Del (sec/veh): 57.8
Avg Delay (sec/veh): 47.5

Street Name: 16th Street
Approach: North Bound South Bound East Bound West Bound
Min. Green: 37 37 37 37 37 37 37 37 36 36 36 67
Cycle Time (sec): 110

Lanes: 1 0 1 0 1
Base+Add Vol: 75 219*** 48
Volume Module:
Base Vol: 75 219 48 185 90 131 72 512 76 58 599 459
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
User Adj: 1.00 1.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
User Delay Adj: 1.00 1.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
User Delay/Veh: 40.9 40.9 40.9 40.9 40.9 40.9 40.9 40.9 40.9 40.9 40.9 40.9
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
InitQueueDel: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
InitQueueDel Adj: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
InitDelay/Mv: 0 0 0 0 0 0 0 0 0 0 0 0
LOS by Move: D 0 0 0 0 0 0 0 0 0 0 0
HCM Avg Q: 3 3 3 3 3 3 3 3 3 3 3 3
Note: Queue reported is the number of cars per lane.
## Intersection #38: 16th St/Rhode Island

### 2000 HCM Operations (Future Volume Alternative)

**Traffic Flow Module:**
- **Street Name:** Rhode Island Street, 16th Street
- **Approach:** North Bound, South Bound, East Bound, West Bound

### Level of Service Computation Report

**2040 AM**

- **Intersection:** #38: 16th St/Rhode Island
- **Signal=Permit/Rights=Include**
- **Base+Add Vol:** 16 59 42
- **Lanes:** 0 0 1! 0 0

<table>
<thead>
<tr>
<th>Signal=Permit</th>
<th>Rights=Include</th>
<th>Vol Cnt Date: n/a</th>
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<tbody>
<tr>
<td>Vol</td>
<td>25</td>
<td>Rights=Include</td>
</tr>
<tr>
<td>Lanes</td>
<td>0</td>
<td>Base+Add</td>
</tr>
<tr>
<td>Cycle Time (sec)</td>
<td>60</td>
<td>0</td>
</tr>
<tr>
<td>Loss Time (sec)</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>Critical V/C</td>
<td>0.763</td>
<td>1</td>
</tr>
<tr>
<td>Avg Crit Del (sec/veh)</td>
<td>51.1</td>
<td>14 363</td>
</tr>
<tr>
<td>Avg Delay (sec/veh)</td>
<td>71.1</td>
<td>1</td>
</tr>
<tr>
<td>LOS</td>
<td>D</td>
<td></td>
</tr>
</tbody>
</table>

**Key Details:**
- **Cycle Time:** 60 seconds
- **Loss Time:** 10 seconds
- **Critical V/C:** 0.763
- **Avg Crit Del:** 51.1 sec/veh
- **Avg Delay:** 71.1 sec/veh

### 2000 HCM Operations (Future Volume Alternative)

**Traffic Flow Module:**
- **Street Name:** Rhode Island Street, 16th Street
- **Approach:** North Bound, South Bound, East Bound, West Bound

### Level of Service Computation Report

**2040 PM**

- **Intersection:** #38: 16th St/Rhode Island
- **Signal=Permit/Rights=Include**
- **Base+Add Vol:** 40 125 31
- **Lanes:** 0 0 1! 0 0

<table>
<thead>
<tr>
<th>Signal=Permit</th>
<th>Rights=Include</th>
<th>Vol Cnt Date: n/a</th>
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<tbody>
<tr>
<td>Vol</td>
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<tr>
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<td>Base+Add</td>
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<td>Cycle Time (sec)</td>
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<td>0</td>
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<tr>
<td>Loss Time (sec)</td>
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<tr>
<td>Critical V/C</td>
<td>0.715</td>
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</tr>
<tr>
<td>Avg Crit Del (sec/veh)</td>
<td>22.9</td>
<td>49 703</td>
</tr>
<tr>
<td>Avg Delay (sec/veh)</td>
<td>17.9</td>
<td>49 703</td>
</tr>
<tr>
<td>LOS</td>
<td>B</td>
<td></td>
</tr>
</tbody>
</table>

**Key Details:**
- **Cycle Time:** 60 seconds
- **Loss Time:** 50 seconds
- **Critical V/C:** 0.715
- **Avg Crit Del:** 22.9 sec/veh
- **Avg Delay:** 17.9 sec/veh

---

**Saturation Flow Module:**
- **Sat/Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
- **Adjustment:** 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86
- **Lanes:** 0.31 0.35 0.10 0.16 0.64 0.20 0.02 0.85 0.13 0.12 0.16 0.12
- **Final Sat:** 491 927 158 268 1081 346 37 1546 241 188 2700 192

---

**Capacity Analysis Module:**
- **Vol/Sat:** 0.18 0.18 0.13 0.13 0.13 0.41 0.41 0.41 0.29 0.29 0.29 0.29
- **Crit Moves:** 0.15 0.15 0.15 0.08 0.08 0.08 0.49 0.49 0.49 0.14 0.14 0.14
- **Uniform Delay:** 0.64 0.64 0.64 0.64 0.64 0.64 0.64 0.64 0.64 0.64 0.64 0.64
- **User Delay:** 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10

---

**Note:** Queue reported is the number of cars per lane.
### Intersection #39: 16th/Vermont

#### 2040 AM
- **Intersection #39:** 16th/Vermont
- **Signal**: Permit / Rights: Include
- **Base+Add Vol:** 23
- **Lanes:** 0 0 1
- **Cycle Time (sec):** 60
- **Loss Time (sec):** 10
- **Critical V/C:** 0.833
- **Avg Crit Del (sec/veh):** 48.5
- **Avg Delay (sec/veh):** 34.4
- **LOS:** C

#### 2040 PM
- **Intersection #39:** 16th/Vermont
- **Signal**: Permit / Rights: Include
- **Base+Add Vol:** 39
- **Lanes:** 0 0 1
- **Cycle Time (sec):** 60
- **Loss Time (sec):** 10
- **Critical V/C:** 0.637
- **Avg Crit Del (sec/veh):** 19.4
- **Avg Delay (sec/veh):** 17.1
- **LOS:** B
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

#### 2040 AM

**Intersection #40: 16th/Potrero**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th>Sign/Permits/Right-inclu.</th>
<th>Vol Ctr Date</th>
<th>Cycle Time (sec)</th>
<th>Loss Time (sec)</th>
<th>Avg Crit Del (sec/veh)</th>
<th>Avg Delay (sec/veh)</th>
<th>LOS</th>
<th>Street Name</th>
<th>16th St</th>
</tr>
</thead>
<tbody>
<tr>
<td>114 941 49 172***</td>
<td>0 1 1 0 1</td>
<td>Permit/Include</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>78</td>
<td>57 538 143</td>
<td>36 451</td>
<td>42</td>
<td>90</td>
<td>0</td>
<td>172***</td>
<td>0</td>
<td>538***</td>
<td>0</td>
<td>71</td>
</tr>
</tbody>
</table>

- **Signal=Permit/Rights=Include**
- **Critical V/C: 1.178**
- **Avg Crit Del (sec/veh): 82.8**
- **Avg Delay (sec/veh): 51.1**

#### 2040 PM

**Intersection #40: 16th/Potrero**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th>Sign/Permits/Right-inclu.</th>
<th>Vol Ctr Date</th>
<th>Cycle Time (sec)</th>
<th>Loss Time (sec)</th>
<th>Avg Crit Del (sec/veh)</th>
<th>Avg Delay (sec/veh)</th>
<th>LOS</th>
<th>Street Name</th>
<th>16th St</th>
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<tbody>
<tr>
<td>133 625 44 131 1076 247</td>
<td>0 1 1 0 1</td>
<td>Permit/Include</td>
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<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
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<tr>
<td>247</td>
<td>49 406 242</td>
<td>38 746</td>
<td>71</td>
<td>90</td>
<td>0</td>
<td>741***</td>
<td>0</td>
<td>741***</td>
<td>0</td>
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</table>

- **Signal=Permit/Rights=Include**
- **Critical V/C: 1.417**
- **Avg Crit Del (sec/veh): 82.1**
- **Avg Delay (sec/veh): 99.9**

---

### Notes

- Queue reported is the number of cars per lane.
- LOS: D
- LOS: F
- LOS: C
- LOS: F
- LOS: C
- LOS: C

---

### Capacity Analysis Module

<table>
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<tr>
<th>Vol/Sat</th>
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<th>0.45</th>
<th>0.45</th>
<th>0.70</th>
<th>0.25</th>
<th>0.25</th>
<th>0.25</th>
<th>0.35</th>
<th>0.35</th>
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<tbody>
<tr>
<td>Crit Moves</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Green/Cycle</td>
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<td>0.44</td>
<td>0.44</td>
<td>0.44</td>
<td>0.44</td>
<td>0.44</td>
<td>0.44</td>
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<td>0.44</td>
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<tr>
<td>Volume/Cap</td>
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<td>1.02</td>
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<tr>
<td>Uniform Del</td>
<td>17.6 25.0 25.0</td>
<td>18.4</td>
<td>18.4</td>
<td>21.4</td>
<td>21.4</td>
<td>21.4</td>
<td>18.5</td>
<td>18.5</td>
<td>18.5</td>
<td>18.5</td>
<td>18.5</td>
<td>18.5</td>
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<tr>
<td>Increment Del</td>
<td>6.4 32.9 32.9</td>
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<td>2.2</td>
<td>2.2</td>
<td>6.7</td>
<td>6.7</td>
<td>6.7</td>
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<tr>
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<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
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<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Delay/Veh</td>
<td>24.0 57.9</td>
<td>57.9</td>
<td>57.9</td>
<td>20.6</td>
<td>20.6</td>
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<tr>
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<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
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<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Delay(Veh)</td>
<td>24.0 57.9</td>
<td>57.9</td>
<td>57.9</td>
<td>20.6</td>
<td>20.6</td>
<td>28.1</td>
<td>28.1</td>
<td>28.1</td>
<td>20.8</td>
<td>20.8</td>
<td>20.8</td>
<td>20.8</td>
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<tr>
<td>User Del(Adj)</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
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<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

#### Notes

- Queue reported is the number of cars per lane.
### 2000 HCM Operations (Future Volume Alternative) 2040 AM

**Intersection #41: Mariposa/3rd**

**Signal=Protect/Rights=Include**

**Base+Add Vol:** 121*** 318  36

**Lanes:** 0 1 1  0 1

**Cycle Time (sec):** 100

**Loss Time (sec):** 10

**Critical V/C:** 0.609

**Avg Crit Del (sec/veh):** 61.5

**Avg Delay (sec/veh):** 54.2

**Street Name:** 3rd Street  Mariposa Street

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Bound</td>
<td>23</td>
<td>51</td>
<td>51</td>
</tr>
<tr>
<td>South Bound</td>
<td>4</td>
<td>32</td>
<td>44</td>
</tr>
<tr>
<td>East Bound</td>
<td>31</td>
<td>27</td>
<td>27</td>
</tr>
<tr>
<td>West Bound</td>
<td>12</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

**Y+R:** 5.0  5.0  5.0  5.0  5.0  5.0  5.0  5.0  5.0  5.0  5.0  5.0

**Volume Module:**

- **Base Vol:** 98 1459  36 36 121  462 484  77 8  68  22
- **Growth Adj:** 1.00  1.00  1.00  1.00  1.00  ...  1.1  45.6  14.8  14.8  0.6  65.8  65.8
- **InitQueuDel:** 0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
- **Delay Adj:** 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
- **Delay/Veh:** 42.7  46.8  46.8  108.8  27.5  108.8  27.5  27.5  108.8  27.5  27.5  27.5
- **User DelAdj:** 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
- **LOS by Move:** D  D  D  F  C  C  C  F  E  D  F  F
- **HCM2kAvgQ:** 3  37  37  1  6  6  21  11  11  0  4  4

---

### 2000 HCM Operations (Future Volume Alternative) 2040 PM

**Intersection #41: Mariposa/3rd**

**Signal=Protect/Rights=Include**

**Base+Add Vol:** 333  941***  26

**Lanes:** 0 1 1  0 1

**Cycle Time (sec):** 100

**Loss Time (sec):** 15

**Critical V/C:** 0.975

**Avg Crit Del (sec/veh):** 65.3

**Avg Delay (sec/veh):** 49.8

**Street Name:** 3rd Street  Mariposa Street

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
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<tbody>
<tr>
<td>North Bound</td>
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<td>1167</td>
<td>55</td>
</tr>
<tr>
<td>South Bound</td>
<td>55</td>
<td>26</td>
<td>941</td>
</tr>
<tr>
<td>East Bound</td>
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</tr>
<tr>
<td>West Bound</td>
<td>55</td>
<td>26</td>
<td>941</td>
</tr>
</tbody>
</table>

**Y+R:** 5.0  5.0  5.0  5.0  5.0  5.0  5.0  5.0  5.0  5.0  5.0  5.0

**Volume Module:**

- **Base Vol:** 106 1167  55  26 941  333  205  89  106  49  378  45
- **Growth Adj:** 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
- **InitQueuDel:** 0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
- **Delay Adj:** 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
- **Delay/Veh:** 106  77  0  106  77  0  106  77  0  106  77  0
- **User DelAdj:** 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
- **LOS by Move:** F  C  D  D  D  D  D  D  D  D  D  D
- **HCM2kAvgQ:** 8  20  20  1  20  18  8  3  3  2  13  13

---

**Note:** Queue reported is the number of cars per lane.
### 2040 AM

**Intersection #42: Mariposa/4th**

**Signal=Permit/Rights=Include**

**Base+Add Vol**: 68 0 20

**Lanes**: 0 1 0 0 1

**Cycle Time (sec)**: 60

**Loss Time (sec)**: 15

**Critical V/C**: 0.565

**Cycle Dur (sec)**: 49

**Critical Del (sec/veh)**: 24.7

**Loss Del (sec/veh)**: 15

**User Del Adj**: 1.00

**Critical Del (sec/veh)**: 24.7

**Loss Del (sec/veh)**: 15

**User Del Adj**: 1.00

**LOS by Move**: D A D C A D D C C C

**HCM2kAvgQ**: 1 0 1 0 1 1 1 1

**Note**: Queue reported is the number of cars per lane.

---

### 2040 PM

**Intersection #42: Mariposa/4th**

**Signal=Permit/Rights=Include**

**Base+Add Vol**: 172 0 46

**Lanes**: 0 1 0 0 1

**Cycle Time (sec)**: 60

**Loss Time (sec)**: 105

**Critical V/C**: 0.603

**Cycle Dur (sec)**: 719

**Critical Del (sec/veh)**: 26.7

**Loss Del (sec/veh)**: 15

**User Del Adj**: 1.00

**Critical Del (sec/veh)**: 26.7

**Loss Del (sec/veh)**: 15

**User Del Adj**: 1.00

**LOS by Move**: C A C A C A D D C C C

**HCM2kAvgQ**: 1 0 1 1 1 1 1 1

**Note**: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #43: Mariposa/I-280NB**

**2040 AM**

<table>
<thead>
<tr>
<th>Base+Add Vol:</th>
<th>161***</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lanes:</td>
<td>2 0 0 0 0 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Signal=Split/Rights=Include**
- **Base+Add Lanes: Rights=Include Vol Cnt Date: n/a Rights=Include Lanes: Base+Add**
  - **68**
  - **0**

- **Cycle Time (sec): 90**
- **Loss Time (sec): 7**
- **Critical V/C: 1.010**
- **A vg Crit Del (sec/veh): 86.3**
- **A vg Delay (sec/veh): 45.2**

**Street Name:** Mariposa Street

**Approach:** North Bound South Bound East Bound West Bound

| Movement | L  R  T  L  R  T  L  R  T  L  R  T  L  R  T |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Min. Green | 58 85 85 10 10 10 15 15 15 15 15 15 |
| YR: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 |

**Volume Module:**
- **Base Vol:** 891 710 1039
- **Growth Adj:** 1.00 1.00 1.00
- **Delay Adj:** 1.00 1.00 1.00
- **Delay/Veh:** 13.8 14.2 95.9
- **User DelAdj:** 1.00 1.00 1.00

- **HCM2kAvgQ:** 17 17 54

**Note:** Queue reported is the number of cars per lane.

**Street Name:** I-280NB

**Approach:** North Bound South Bound East Bound West Bound

| Movement | L  R  T  L  R  T  L  R  T  L  R  T |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Min. Green | 58 85 85 10 10 10 15 15 15 15 15 15 |
| YR: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 |

**Volume Module:**
- **Base Vol:** 539 248 464
- **Growth Adj:** 1.00 1.00 1.00
- **Delay Adj:** 1.00 1.00 1.00
- **Delay/Veh:** 33.5 23.7 39.5
- **User DelAdj:** 1.00 1.00 1.00

- **HCM2kAvgQ:** 15 6 17

**Note:** Queue reported is the number of cars per lane.

---

**Intersection #43: Mariposa/I-280NB**

**2040 PM**

<table>
<thead>
<tr>
<th>Base+Add Vol:</th>
<th>606***</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lanes:</td>
<td>2 0 0 0 0 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Signal=Split/Rights=Include**
- **Base+Add Lanes: Rights=Include Vol Cnt Date: n/a Rights=Include Lanes: Base+Add**
  - **25**
  - **0**

- **Cycle Time (sec): 90**
- **Loss Time (sec): 12**
- **Critical V/C: 0.878**
- **A vg Crit Del (sec/veh): 41.0**
- **A vg Delay (sec/veh): 38.7**

**Street Name:** Mariposa Street

**Approach:** North Bound South Bound East Bound West Bound

| Movement | L  R  T  L  R  T  L  R  T  L  R  T |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Min. Green | 29 29 29 26 26 26 26 26 26 26 26 26 |
| YR: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 |

**Volume Module:**
- **Base Vol:** 539 248 464
- **Growth Adj:** 1.00 1.00 1.00
- **Delay Adj:** 1.00 1.00 1.00
- **Delay/Veh:** 51.7 27.6 27.6
- **User DelAdj:** 1.00 1.00 1.00

- **HCM2kAvgQ:** 15 6 17

**Note:** Queue reported is the number of cars per lane.
### Intersection #45: Divisadero/Pine

#### 2000 HCM Operations (Future Volume Alternative)

#### 2040 AM

**Intersection #45: Divisadero/Pine**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 44 486 0

**Lanes:** 0 1 1 0 0

**Cycle Time (sec):** 60

**Loss Time (sec):** 8

**Critical V/C:** 0.672

**Avg Crit Del (sec/veh):** 16.2

**Loss Del:** B

**Cycle Time (sec):** 60

**Loss Time (sec):** 8

**Critical V/C:** 0.874

**Avg Crit Del (sec/veh):** 37.3

**Loss Del:** C

**Cycle Time (sec):** 195

**Loss Time (sec):** 195

**Critical V/C:** 0.874

**Avg Crit Del (sec/veh):** 37.3

**Loss Del:** C

---

### Street Names

**Divisadero Street**

**Pine Street**

**Approach:**

<table>
<thead>
<tr>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>L - R</td>
<td>L - R</td>
<td>L - R</td>
<td>L - R</td>
</tr>
</tbody>
</table>

**Min. Green:**

<table>
<thead>
<tr>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 26 0</td>
<td>0 26 0</td>
<td>0 26 0</td>
<td>0 26 0</td>
</tr>
</tbody>
</table>

**Reduced Vol:**

<table>
<thead>
<tr>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 0 0</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>0 0 0</td>
</tr>
</tbody>
</table>

**Final Volume:**

<table>
<thead>
<tr>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 0 0</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>0 0 0</td>
</tr>
</tbody>
</table>

---

### Volume Module:

**Base Vol:**

<table>
<thead>
<tr>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>34 574</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>0 0 0</td>
</tr>
</tbody>
</table>

**Growth Adj:**

<table>
<thead>
<tr>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00 1.00 1.00 1.00</td>
<td>1.00 1.00 1.00 1.00</td>
<td>1.00 1.00 1.00 1.00</td>
<td>1.00 1.00 1.00 1.00</td>
</tr>
</tbody>
</table>

**Reduced Vol:**

<table>
<thead>
<tr>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>34 574</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>0 0 0</td>
</tr>
</tbody>
</table>

**Final Volume:**

<table>
<thead>
<tr>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>34 574</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>0 0 0</td>
</tr>
</tbody>
</table>

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### Capacity Analysis Module:

**Vol/Sat:**

<table>
<thead>
<tr>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.24 0.24 0.00 0.00</td>
<td>0.20 0.20 0.20 0.20</td>
<td>0.20 0.20 0.20 0.20</td>
<td>0.24 0.24 0.00 0.00</td>
</tr>
</tbody>
</table>

**Curt Moves:**

****

**Green/Cycle:**

<table>
<thead>
<tr>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.43 0.43 0.00 0.00</td>
<td>0.43 0.43 0.00 0.00</td>
<td>0.43 0.43 0.00 0.00</td>
<td>0.43 0.43 0.00 0.00</td>
</tr>
</tbody>
</table>

---

### Street Name:

**Divisadero Street**

**Pine Street**

**Approach:**

<table>
<thead>
<tr>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>L - R</td>
<td>L - R</td>
<td>L - R</td>
<td>L - R</td>
</tr>
</tbody>
</table>

**Min. Green:**

<table>
<thead>
<tr>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 23 0</td>
<td>0 23 0</td>
<td>0 23 0</td>
<td>0 23 0</td>
</tr>
</tbody>
</table>

**Reduced Vol:**

<table>
<thead>
<tr>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 0 0</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>0 0 0</td>
</tr>
</tbody>
</table>

**Final Volume:**

<table>
<thead>
<tr>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 0 0</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>0 0 0</td>
</tr>
</tbody>
</table>

---

### Volume Module:

**Base Vol:**

<table>
<thead>
<tr>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>51 526</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>0 0 0</td>
</tr>
</tbody>
</table>

**Growth Adj:**

<table>
<thead>
<tr>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00 1.00 1.00 1.00</td>
<td>1.00 1.00 1.00 1.00</td>
<td>1.00 1.00 1.00 1.00</td>
<td>1.00 1.00 1.00 1.00</td>
</tr>
</tbody>
</table>

**Reduced Vol:**

<table>
<thead>
<tr>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>51 526</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>0 0 0</td>
</tr>
</tbody>
</table>

**Final Volume:**

<table>
<thead>
<tr>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>51 526</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>0 0 0</td>
</tr>
</tbody>
</table>
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

#### 2040 AM

**Intersection #46: Broderick/Bush**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 0 74*** 124

**Lanes:** 0 0 0 1 0

- **Critical V/C:** 0.861
- **Avg Crit Del (sec/veh):** 43.2
- **Avg Delay (sec/veh):** 42.4

**Vol Chart:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green:</td>
<td>0</td>
<td>0</td>
<td>20</td>
</tr>
<tr>
<td>Yr/B:</td>
<td>4.0 4.0 4.0 4.0 4.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Cycle Time (sec):** 60

**Loss Time (sec):** 8

**Cycle Sum:** 1377

**Delay Time (sec):** 8

**Cycle Sum:** 1377

**Critical V/C:**

- Broderick North Bound: 0.861
- Broderick South Bound: 0.861
- Bush East Bound: 0.861
- Bush West Bound: 0.861

**LOS:**

- Broderick North Bound: D
- Broderick South Bound: D
- Bush East Bound: D
- Bush West Bound: D

**User DelAdj:** 1.00 1.00 1.00 1.00

**LOS by Move:** A B C D A A A

**Traffic Flow Module:**

- Broderick North Bound: 1453
- Broderick South Bound: 73

**Saturation Flow Module:**

- Broderick North Bound: 1453
- Broderick South Bound: 73

**Capacity Analysis Module:**

- Broderick North Bound: 0.0 0.0 0.0 0.0

**Signal=Permit**

**Base+Add Lanes:**

**Vol Chart:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green:</td>
<td>0</td>
<td>0</td>
<td>20</td>
</tr>
<tr>
<td>Yr/B:</td>
<td>4.0 4.0 4.0 4.0 4.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Cycle Time (sec):** 60

**Loss Time (sec):** 8

**Cycle Sum:** 1377

**Delay Time (sec):** 8

**Cycle Sum:** 1377

**Critical V/C:**

- Broderick North Bound: 0.522
- Broderick South Bound: 0.522
- Bush East Bound: 0.522
- Bush West Bound: 0.522

**LOS:**

- Broderick North Bound: B
- Broderick South Bound: B
- Bush East Bound: B
- Bush West Bound: B

**User DelAdj:** 1.00 1.00 1.00 1.00

**LOS by Move:** A B C D A A A

**Traffic Flow Module:**

- Broderick North Bound: 1453
- Broderick South Bound: 73

**Saturation Flow Module:**

- Broderick North Bound: 1453
- Broderick South Bound: 73

**Capacity Analysis Module:**

- Broderick North Bound: 0.0 0.0 0.0 0.0

**Signal=Permit**

**Base+Add Lanes:**

**Vol Chart:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green:</td>
<td>0</td>
<td>0</td>
<td>20</td>
</tr>
<tr>
<td>Yr/B:</td>
<td>4.0 4.0 4.0 4.0 4.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Cycle Time (sec):** 60

**Loss Time (sec):** 8

**Cycle Sum:** 1377

**Delay Time (sec):** 8

**Cycle Sum:** 1377

**Critical V/C:**

- Broderick North Bound: 0.861
- Broderick South Bound: 0.861
- Bush East Bound: 0.861
- Bush West Bound: 0.861

**LOS:**

- Broderick North Bound: D
- Broderick South Bound: D
- Bush East Bound: D
- Bush West Bound: D

**User DelAdj:** 1.00 1.00 1.00 1.00

**LOS by Move:** A B C D A A A

---

**Note:** Queue reported is the number of cars per lane.
**Level Of Service Computation Report**

**2000 HCM Operations (Future Volume Alternative)**

**2040 AM**

**Intersection #47: Divisadero/Bush**

- **Signal:** Perm + Prot
- **Rights:** Include

**Base+Add Vol:**
- **Add Vol:** 0 494 118
- **Lanes:** 0 0 1 1 0

**Volume Module:**
- **Min. Green:** 0
- **Cycle Time (sec):** 60
- **Loss Time (sec):** 8
- **Critical V/C:** 1.366
- **Avg Crit Del (sec/veh):** 24.8
- **Delay Adj:** 0.00
- **Delay/Veh:** 0.0
- **InitQueuDel:** 0.0
- **User DelAdj:** 1.00
- **LOS:** D

**Street Name:** Divisadero Street
- **Approach:** North Bound
  - **Min. Green:** 0
  - **Cycle Time (sec):** 60
  - **Loss Time (sec):** 8
  - **Critical V/C:** 1.00
  - **Avg Crit Del (sec/veh):** 24.8
  - **Delay Adj:** 0.00
  - **Delay/Veh:** 0.0
  - **InitQueuDel:** 0.0
  - **User DelAdj:** 1.00
  - **LOS:** D

**Street Name:** Bush Street
- **Approach:** North Bound
  - **Min. Green:** 0
  - **Cycle Time (sec):** 60
  - **Loss Time (sec):** 8
  - **Critical V/C:** 1.00
  - **Avg Crit Del (sec/veh):** 24.8
  - **Delay Adj:** 0.00
  - **Delay/Veh:** 0.0
  - **InitQueuDel:** 0.0
  - **User DelAdj:** 1.00
  - **LOS:** D

**2040 PM**

**Intersection #47: Divisadero/Bush**

- **Signal:** Perm

**Base+Add Vol:**
- **Add Vol:** 0 621 114
- **Lanes:** 0 0 1 1 0

**Volume Module:**
- **Min. Green:** 0
- **Cycle Time (sec):** 60
- **Loss Time (sec):** 8
- **Critical V/C:** 1.490
- **Avg Crit Del (sec/veh):** 24.0
- **Delay Adj:** 0.00
- **Delay/Veh:** 0.0
- **InitQueuDel:** 0.0
- **User DelAdj:** 1.00
- **LOS:** C

**Street Name:** Divisadero Street
- **Approach:** North Bound
  - **Min. Green:** 0
  - **Cycle Time (sec):** 60
  - **Loss Time (sec):** 8
  - **Critical V/C:** 1.00
  - **Avg Crit Del (sec/veh):** 24.0
  - **Delay Adj:** 0.00
  - **Delay/Veh:** 0.0
  - **InitQueuDel:** 0.0
  - **User DelAdj:** 1.00
  - **LOS:** D

**Street Name:** Bush Street
- **Approach:** North Bound
  - **Min. Green:** 0
  - **Cycle Time (sec):** 60
  - **Loss Time (sec):** 8
  - **Critical V/C:** 1.00
  - **Avg Crit Del (sec/veh):** 24.0
  - **Delay Adj:** 0.00
  - **Delay/Veh:** 0.0
  - **InitQueuDel:** 0.0
  - **User DelAdj:** 1.00
  - **LOS:** D
### 2000 HCM Operations (Future Volume Alternative)

#### 2040 AM

**Intersection #48: Scott/Bush**

- **Signal:** Permit
- **Rights:** Include
- **Base+Add Vol:** 0 199 96
- **Lanes:** 0 0 0 1 0
- **Cycle Time (sec):** 60
- **Loss Time (sec):** 8
- **Critical V/C:** 0.979
- **Avg Crit Del (sec/veh):** 39.8
- **Avg Delay (sec/veh):** 39.7

#### 2040 PM

**Intersection #48: Scott/Bush**

- **Signal:** Permit
- **Rights:** Include
- **Base+Add Vol:** 0 276 126
- **Lanes:** 0 0 0 1 0
- **Cycle Time (sec):** 60
- **Loss Time (sec):** 8
- **Critical V/C:** 0.934
- **Avg Crit Del (sec/veh):** 28.0
- **Avg Delay (sec/veh):** 26.9

---

**Street Name:** Scott Street

**Approach:** North Bound  South Bound  East Bound  West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green:</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td>34</td>
<td>34</td>
<td>34</td>
<td>0</td>
</tr>
<tr>
<td>Y+R:</td>
<td>4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>LOS:</td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Volume Module:**

- **Base Vol:** 0 291 58 96 199
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Initial Base:** 0 0 0 0 0
- **Added Vol:** 0 0 0 0 0
- **PassbyVol:** 0 0 0 0 0
- **User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **MPH Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Critical V/C:** 0.979 0.934
- **Avg Crit Del (sec/veh):** 39.8 28.0
- **Avg Delay (sec/veh):** 39.7 26.9

**Saturation Flow Module:**

- **Sat/Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
- **Adj.:** 1.00 1.00 0.73 0.73 0.73 0.73 1.00 1.00
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Volume/Cap:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

---

**Street Name:** Bush Street

**Approach:** North Bound  South Bound  East Bound  West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
</table>
| Min. Green: | 0 0 23 | 23 | 23 | 23 | 0 0 0 0 0 0
| Y+R: | 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 |
| LOS: | C |

**Volume Module:**

- **Base Vol:** 0 185 74 126 276
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Initial Base:** 0 0 0 0 0
- **Added Vol:** 0 0 0 0 0
- **PassbyVol:** 0 0 0 0 0
- **User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **MPH Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Critical V/C:** 0.934
- **Avg Crit Del (sec/veh):** 28.0
- **Avg Delay (sec/veh):** 26.9

**Saturation Flow Module:**

- **Sat/Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
- **Adj.:** 1.00 0.72 0.71 0.71 0.71 0.71 0.74 0.74 0.74 1.00 1.00
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Volume/Cap:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

---

**Capacity Analysis Module:**

- **Vol/Sat:** 0.00 0.27 0.27 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25
- **Crt Moves:** **** ****
- **Green/Cycle:** 0.00 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30
- **Volume/Cap:** 0.00 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48
- **Uniform Del:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
- **Increment Del:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
- **InitQueuelDel:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
- **Delay Adj:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
- **Delay/Veh:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
- **User Del Adj:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
- **User Del Adj:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
- **HCM2kAvgQ:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

Note: Queue reported is the number of cars per lane.
### Intersection #49: Bush/Pierce

**2040 AM**

- **Intersection #:** 49
- **Street Names:** Pierce Street, Bush Street
- **Approach:** North Bound, South Bound, East Bound, West Bound
- **Movement:** L - T - R
- **Cycle Time:** 60 sec
- **Lost Time:** 8 sec
- **Critical V/C:** 0.727
- **Avg Crit Del (sec/veh):** 48.6
- **Avg Delay (sec/veh):** 47.7
- **LOS:** D

**Volume Module:**
- **Base Vol:** 0 44 22 42 35 0 53 2202 25 0 0
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **PHF Volume:** 46 23 44 36 0 55 2294 26 0 0
- **Reduced Vol:** 0 0 0 0 0 0 0 0 0 0 0 0 0
- **PCE Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Final Volume:** 46 23 44 36 0 55 2294 26 0 0

**Saturation Flow Module:**
- **Sat/Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
- **Lanes:** 0.00 0.66 0.34 0.55 0.45 0.00 0.07 2.90 0.03 0.00 0.00 0.00
- **Max Queu Del:** 0 0 0 0 0 0 0 0 0 0 0 0 0

**Capacity Analysis Module:**
- **Vol/Sat:** 0.00 0.05 0.05 0.07 0.07 0.00 0.56 0.56 0.56 0.00 0.00 0.00
- **Crit Moves:** ****
- **User Del Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

---

### Intersection #49: Bush/Pierce

**2040 PM**

- **Intersection #:** 49
- **Street Names:** Pierce Street, Bush Street
- **Approach:** North Bound, South Bound, East Bound, West Bound
- **Movement:** L - T - R
- **Cycle Time:** 60 sec
- **Lost Time:** 8 sec
- **Critical V/C:** 0.611
- **Avg Crit Del (sec/veh):** 26.0
- **Avg Delay (sec/veh):** 25.5
- **LOS:** C

**Volume Module:**
- **Base Vol:** 0 39 31 38 34 0 45 1847 18 0 0
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **PHF Volume:** 44 35 43 39 0 51 1872 20 0 0
- **Reduced Vol:** 0 0 0 0 0 0 0 0 0 0 0 0 0
- **PCE Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Final Volume:** 44 35 43 39 0 51 1872 20 0 0

**Saturation Flow Module:**
- **Sat/Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
- **Lanes:** 0.00 0.55 0.45 0.53 0.47 0.00 0.08 2.89 0.03 0.00 0.00 0.00
- **Max Queu Del:** 0 0 0 0 0 0 0 0 0 0 0 0 0

**Capacity Analysis Module:**
- **Vol/Sat:** 0.00 0.06 0.06 0.07 0.07 0.00 0.46 0.46 0.46 0.00 0.00 0.00
- **Crit Moves:** ****
- **User Del Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

---

**Note:** Queue reported is the number of cars per lane.
Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative) 2040 AM
Intersection #50: Broderick/Sutter

Street Name: Broderick Street
Approach: North Bound
Movement: L - T - R
Volume: 15 43 49 40 70 11 12 148 50 23 70 21

Min. Green: L - T - R
Capacity Analysis Module:
Voi/Sat: 0.15 0.15 0.15 0.18 0.18 0.18 0.28 0.28 0.28 0.16 0.16 0.16

Critical Moves:
Delay: 8.3 8.3 8.3 8.7 8.7 9.1 9.1 8.4 8.4 8.4
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 8.3 8.3 8.3 8.7 8.7 9.1 9.1 8.4 8.4 8.4

Queue = 0
Note: Queue reported is the number of cars per lane.

40
35
30
25
20
15
10
5
0

101| 100| 99| 98| 97| 96| 95| 94| 93| 92| 91| 90| 89| 88| 87| 86| 85| 84| 83| 82| 81| 80| 79| 78| 77| 76| 75| 74| 73| 72| 71| 70| 69| 68| 67| 66| 65| 64| 63| 62| 61| 60| 59| 58| 57| 56| 55| 54| 53| 52| 51| 50| 49| 48| 47| 46| 45| 44| 43| 42| 41| 40| 39| 38| 37| 36| 35| 34| 33| 32| 31| 30| 29| 28| 27| 26| 25| 24| 23| 22| 21| 20| 19| 18| 17| 16| 15| 14| 13| 12| 11| 10| 9| 8| 7| 6| 5| 4| 3| 2| 1

3
2
1

0

Cycle Time (sec): 100
Avg Delay (sec/veh): 8.7

Street Name: Sutter Street
Approach: South Bound
Movement: L - T - R
Volume: 0 0 0 0 0 0 0 0 0 0 0 0

Min. Green: L - T - R
Capacity Analysis Module:
Voi/Sat: 0.15 0.15 0.15 0.18 0.18 0.18 0.28 0.28 0.28 0.16 0.16 0.16

Critical Moves:
Delay: 8.3 8.3 8.3 8.7 8.7 9.1 9.1 8.4 8.4 8.4
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 8.3 8.3 8.3 8.7 8.7 9.1 9.1 8.4 8.4 8.4

Queue = 0
Note: Queue reported is the number of cars per lane.

40
35
30
25
20
15
10
5
0

101| 100| 99| 98| 97| 96| 95| 94| 93| 92| 91| 90| 89| 88| 87| 86| 85| 84| 83| 82| 81| 80| 79| 78| 77| 76| 75| 74| 73| 72| 71| 70| 69| 68| 67| 66| 65| 64| 63| 62| 61| 60| 59| 58| 57| 56| 55| 54| 53| 52| 51| 50| 49| 48| 47| 46| 45| 44| 43| 42| 41| 40| 39| 38| 37| 36| 35| 34| 33| 32| 31| 30| 29| 28| 27| 26| 25| 24| 23| 22| 21| 20| 19| 18| 17| 16| 15| 14| 13| 12| 11| 10| 9| 8| 7| 6| 5| 4| 3| 2| 1

3
2
1

0

Cycle Time (sec): 100
Avg Delay (sec/veh): 8.7

Saturation Flow Module:
Base Vol: 7 46 19 24 71 38 4 85 12 33 152 47

Min. Flow: 1 1 1
Capacity Analysis Module:
Voi/Sat: 0.15 0.15 0.15 0.18 0.18 0.18 0.28 0.28 0.28 0.16 0.16 0.16

Critical Moves:
Delay: 8.3 8.3 8.3 8.7 8.7 9.1 9.1 8.4 8.4 8.4
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 8.3 8.3 8.3 8.7 8.7 9.1 9.1 8.4 8.4 8.4

Queue = 0
Note: Queue reported is the number of cars per lane.

40
35
30
25
20
15
10
5
0

101| 100| 99| 98| 97| 96| 95| 94| 93| 92| 91| 90| 89| 88| 87| 86| 85| 84| 83| 82| 81| 80| 79| 78| 77| 76| 75| 74| 73| 72| 71| 70| 69| 68| 67| 66| 65| 64| 63| 62| 61| 60| 59| 58| 57| 56| 55| 54| 53| 52| 51| 50| 49| 48| 47| 46| 45| 44| 43| 42| 41| 40| 39| 38| 37| 36| 35| 34| 33| 32| 31| 30| 29| 28| 27| 26| 25| 24| 23| 22| 21| 20| 19| 18| 17| 16| 15| 14| 13| 12| 11| 10| 9| 8| 7| 6| 5| 4| 3| 2| 1

3
2
1

0

Cycle Time (sec): 100
Avg Delay (sec/veh): 8.7

Saturation Flow Module:
Base Vol: 7 46 19 24 71 38 4 85 12 33 152 47

Min. Flow: 1 1 1
Capacity Analysis Module:
Voi/Sat: 0.15 0.15 0.15 0.18 0.18 0.18 0.28 0.28 0.28 0.16 0.16 0.16

Critical Moves:
Delay: 8.3 8.3 8.3 8.7 8.7 9.1 9.1 8.4 8.4 8.4
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 8.3 8.3 8.3 8.7 8.7 9.1 9.1 8.4 8.4 8.4

Queue = 0
Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #51: Divisadero/Sutter**

**Signal=Permit**

**Base+Add Vol:** 102  427  20

**Lanes:** 0 1 0  1 0

**Lost Time (sec):** 0 37

**Cycle Time (sec):** 60

**Critical V/C:** 0.586

**Avg Crit Del (sec/veh):** 13.8

**Avg Delay (sec/veh):** 13.8

**Street Name:** Divisadero Street  Sutter Street

**Approach:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>T</td>
<td>R</td>
<td>L</td>
<td>T</td>
</tr>
</tbody>
</table>

**Min. Green:** 31 31 31 31 31 31 20 20 20 20 20 20

**Y+R:** 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5

**Volume Module:**

- **Base Vol:** 128 556 61 20 427 102
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Init Vol:** 35 64 40 37 83 36
- **Add Vol:** 0 0 0 0 0 0 0 0 0 0 0 0
- **PasserVol:** 0 0 0 0 0 0 0 0 0 0 0 0
- **User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **PHF Volume:** 133 579 64 21 445 106
- **Reduct Vol:** 0 0 0 0 0 0 0 0 0 0 0 0
- **Reduced Vol:** 133 579 64 21 445 106
- **LOS:** B

**HCM2kAvgQ:** 6 6 6 6 4 2 2 3 3 3

**Note:** Queue reported is the number of cars per lane.

---

**Intersection #51: Divisadero/Sutter**

**Signal=Permit**

**Base+Add Vol:** 45 611 11

**Lanes:** 0 1 0  1 0

**Lost Time (sec):** 0 51

**Cycle Time (sec):** 60

**Critical V/C:** 0.554

**Avg Crit Del (sec/veh):** 14.2

**Avg Delay (sec/veh):** 13.9

**Street Name:** Divisadero Street  Sutter Street

**Approach:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>T</td>
<td>R</td>
<td>L</td>
<td>T</td>
</tr>
</tbody>
</table>

**Min. Green:** 31 31 31 31 31 31 20 20 20 20 20 20

**Y+R:** 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5

**Volume Module:**

- **Base Vol:** 30 556 52 11 611 45
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Init Vol:** 66 0 66 0 66 0 66 0 66 0 66 0
- **Add Vol:** 0 0 0 0 0 0 0 0 0 0 0 0
- **PasserVol:** 0 0 0 0 0 0 0 0 0 0 0 0
- **User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **PHF Volume:** 33 604 57 12 664 49
- **Reduct Vol:** 0 0 0 0 0 0 0 0 0 0 0 0
- **Reduced Vol:** 33 604 57 12 664 49
- **LOS:** B

**HCM2kAvgQ:** 4 4 4 4 4 4 4 4 4 4 4 4

**Note:** Queue reported is the number of cars per lane.
**Intersection #52: Sutter/Scott**

**2000 HCM 4-Way Stop (Future Volume Alternative)**

**2040 AM**

**Base+Add Vol: 37 192 39***

**Lanes:** 0 0 1! 0 0

**Signal=Stop/Rights=Include**

**Base+Add Lanes: Rights=Include Vol Cnt Date: n/a Rights=Include Lanes: Base+Add**

**29**

**Cycle Time (sec): 100**

**Loss Time (sec): 0**

**Critical V/C: 0.591**

**Avg Crit Del (sec/veh): 12.9**

**LOS:** B

**Note:** Queue reported is the number of cars per lane.

**Street Name:** Sutter Street

**Approach:**

**Volume Module:**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>37 192 39</td>
<td>1.00 1.00 1.00</td>
<td>43 291 37</td>
<td>1.00 1.00 1.00</td>
<td>0.92 0.92 0.92</td>
<td>47 316 29</td>
<td>0 0 0 0</td>
<td>0 0 0 0</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td>43 291 37</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
</tr>
</tbody>
</table>

**Saturation Flow Module:**

<table>
<thead>
<tr>
<th>Lanes:</th>
<th>Capacity Analysis Module:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.12 0.82 0.06 0.14 0.72 0.14 0.20 0.41 0.39 0.18 0.57 0.25</td>
<td>79 536 42 92 454 87 120 242 34 34 120 242 34</td>
</tr>
</tbody>
</table>

**Note:** Queue reported is the number of cars per lane.

**2040 PM**

**Base+Add Vol: 59 253 24***

**Lanes:** 0 0 1! 0 0

**Signal=Stop/Rights=Include**

**Base+Add Lanes: Rights=Include Vol Cnt Date: n/a Rights=Include Lanes: Base+Add**

**22**

**Cycle Time (sec): 100**

**Loss Time (sec): 0**

**Critical V/C: 0.582**

**Avg Crit Del (sec/veh): 13.2**

**LOS:** B

**Note:** Queue reported is the number of cars per lane.
Intersection #53: Pierce/Sutter

**Level Of Service Computation Report**

**2000 HCM 4-Way Stop (Future Volume Alternative)**

**Street Name:** Pierce Street, Sutter Street

**Approach:**
- North Bound
- South Bound
- East Bound
- West Bound

**Volume Module:**

<table>
<thead>
<tr>
<th>Base Vol:</th>
<th>16</th>
<th>20</th>
<th>35</th>
<th>11</th>
<th>32</th>
<th>24</th>
<th>12</th>
<th>88</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Adj:</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Initial Bas:</td>
<td>16</td>
<td>20</td>
<td>35</td>
<td>11</td>
<td>32</td>
<td>24</td>
<td>12</td>
<td>88</td>
<td>16</td>
</tr>
<tr>
<td>Added Vol:</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>PasserbyVol:</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Initial Fut:</td>
<td>16</td>
<td>20</td>
<td>35</td>
<td>11</td>
<td>32</td>
<td>24</td>
<td>12</td>
<td>88</td>
<td>16</td>
</tr>
<tr>
<td>User Adj:</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>PHF Adj:</td>
<td>0.88</td>
<td>0.88</td>
<td>0.88</td>
<td>0.88</td>
<td>0.88</td>
<td>0.88</td>
<td>0.88</td>
<td>0.88</td>
<td>0.88</td>
</tr>
<tr>
<td>PHF Volume:</td>
<td>28</td>
<td>23</td>
<td>40</td>
<td>13</td>
<td>36</td>
<td>27</td>
<td>24</td>
<td>100</td>
<td>18</td>
</tr>
<tr>
<td>Reduce Vol:</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Reduced Vol:</td>
<td>18</td>
<td>23</td>
<td>40</td>
<td>13</td>
<td>36</td>
<td>27</td>
<td>24</td>
<td>100</td>
<td>18</td>
</tr>
<tr>
<td>PCE Adj:</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>MILF Adj:</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Initial Bse:</td>
<td>16</td>
<td>20</td>
<td>35</td>
<td>11</td>
<td>32</td>
<td>24</td>
<td>12</td>
<td>88</td>
<td>16</td>
</tr>
</tbody>
</table>

**Saturation Flow Module:**

| Base Vol: | 7 | 24 | 6 | 14 | 28 | 34 | 14 | 110 | 19 | 24 | 214 | 32 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bas: | 7 | 24 | 6 | 14 | 28 | 34 | 14 | 110 | 19 | 24 | 214 | 32 |
| Added Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PasserbyVol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Initial Fut: | 7 | 24 | 6 | 14 | 28 | 34 | 14 | 110 | 19 | 24 | 214 | 32 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 |
| PHF Volume: | 8 | 29 | 7 | 17 | 33 | 40 | 17 | 131 | 23 | 29 | 255 | 38 |
| Reduce Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 8 | 29 | 7 | 17 | 33 | 40 | 17 | 131 | 23 | 29 | 255 | 38 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MILF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 7 | 24 | 6 | 14 | 28 | 34 | 14 | 110 | 19 | 24 | 214 | 32 |

**Capacity Analysis Module:**

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<th>0.10</th>
<th>0.10</th>
<th>0.10</th>
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<th>0.17</th>
<th>0.17</th>
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<td>****</td>
<td>****</td>
<td>****</td>
<td>****</td>
<td>****</td>
<td>****</td>
<td>****</td>
<td>****</td>
<td>****</td>
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<tr>
<td>Delay/Veh:</td>
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<td>7.9</td>
<td>7.9</td>
<td>7.9</td>
<td>7.9</td>
<td>7.9</td>
<td>8.2</td>
<td>8.2</td>
<td>8.2</td>
<td>8.4</td>
<td>8.4</td>
<td>8.4</td>
</tr>
<tr>
<td>Delay Adj:</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
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<td>1.00</td>
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</tr>
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<td>AdjDel/Veh:</td>
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<td>7.9</td>
<td>7.9</td>
<td>7.9</td>
<td>7.9</td>
<td>7.9</td>
<td>8.2</td>
<td>8.2</td>
<td>8.2</td>
<td>8.4</td>
<td>8.4</td>
<td>8.4</td>
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<tr>
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<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
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<td>8.2</td>
<td>8.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Delay Adj:</td>
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<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
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</tr>
<tr>
<td>ApprAdjDel:</td>
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<td>7.9</td>
<td>8.2</td>
<td>8.4</td>
<td></td>
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<td></td>
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<tr>
<td>LOS by Appr:</td>
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<td>A</td>
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<td>A</td>
<td>A</td>
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<tr>
<td>AllAvgVol:</td>
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<td>0.1</td>
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Note: Queue reported is the number of cars per lane.
### Traffic Analysis Report

**Intersection #54: Broderick/Post**

#### 2040 AM

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<td>0</td>
<td>318</td>
<td>1!</td>
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<td>31</td>
<td>0</td>
<td>318</td>
<td>1!</td>
<td></td>
</tr>
</tbody>
</table>

- **Street Name:** Broderick Street
- **Approach:** North Bound, South Bound, East Bound, West Bound

#### Critical V/C: 0.522

- **Average Critical Delay (sec/veh):** 16.2
- **Average Delay (sec/veh):** 14.7
- **LOS:** B

#### Street Name:** Broderick Street
- **Approach:** North Bound, South Bound, East Bound, West Bound

#### Critical V/C: 0.336

- **Average Critical Delay (sec/veh):** 12.9
- **Average Delay (sec/veh):** 12.3
- **LOS:** B

---

### Traffic Analysis Report

**Intersection #54: Broderick/Post**

#### 2040 PM

<table>
<thead>
<tr>
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<td>15</td>
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<td>13</td>
<td>0</td>
<td>135</td>
<td>1!</td>
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</tr>
</tbody>
</table>

- **Street Name:** Broderick Street
- **Approach:** North Bound, South Bound, East Bound, West Bound

#### Critical V/C: 0.522

- **Average Critical Delay (sec/veh):** 16.2
- **Average Delay (sec/veh):** 14.7
- **LOS:** B

#### Street Name:** Broderick Street
- **Approach:** North Bound, South Bound, East Bound, West Bound

#### Critical V/C: 0.336

- **Average Critical Delay (sec/veh):** 12.9
- **Average Delay (sec/veh):** 12.3
- **LOS:** B

---

### Traffic Analysis Report

**Intersection #54: Broderick/Post**

#### Capacity Analysis Module

- **Vol/Sat:** 0.10 0.10 0.10 0.14 0.14 0.14 0.32 0.32 0.32 0.16 0.16 0.16
- **Critical Moves:** ****

#### Green/Cycle:
- **Vol/Sat:** 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40
- **Cycle:** 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40
- **Volume/Cap:** 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40

#### Uniform Delay:
- **Vol/Sat:** 11.9 11.9 11.9 12.6 12.6 12.6 11.7 11.7 11.7 9.5 9.5 9.5
- **Cycle:** 11.9 11.9 11.9 12.6 12.6 12.6 11.7 11.7 11.7 9.5 9.5 9.5

#### LOS by Move:
- **Vol/Sat:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
- **Cycle:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

#### Capacity Analysis Module

- **Vol/Sat:** 0.16 0.16 0.16 0.11 0.11 0.11 0.14 0.14 0.14 0.13 0.13 0.13
- **Critical Moves:** ****

#### Green/Cycle:
- **Vol/Sat:** 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40
- **Cycle:** 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40
- **Volume/Cap:** 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40

#### Uniform Delay:
- **Vol/Sat:** 12.9 12.9 12.9 12.9 12.9 12.9 12.9 12.9 12.9 9.3 9.3 9.3
- **Cycle:** 12.9 12.9 12.9 12.9 12.9 12.9 12.9 12.9 12.9 9.3 9.3 9.3

#### LOS by Move:
- **Vol/Sat:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
- **Cycle:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

### Notes

- Queue reported is the number of cars per lane.
**Level Of Service Computation Report**

**2000 HCM Operations (Future Volume Alternative)**

**2040 AM**

**Intersection #56: Scott/Post**

- Signal=Permit/Rights=Include
- Base+Add Vol: 30 214 39
- Lanes: 0 0 1!
- Critical V/C: 0.777
- Avg Crit Del (sec/veh): 25.1
- LGD: 57
- LOS: C

**Cycle Time (sec): 60**

**Loss Time (sec): 7**

**Cycle Efficiency:**

- Critical V/C: 0.777
- Avg Crit Del (sec/veh): 25.1
- LGD: 57
- LOS: C

**Volume Module:**

- Base Vol: 47 298 39
- Growth Adj: 1.00 1.00 1.00
- Delay Adj: 1.00 1.00 1.00
- Delay/Veh: 31.6
- User DelAdj: 1.00 1.00 1.00
- LOS by Move: B

**HCM2kAvgQ:** 10

**Note:** Queue reported is the number of cars per lane.

---

**2040 PM**

**Intersection #56: Scott/Post**

- Signal=Permit/Rights=Include
- Base+Add Vol: 67 263 29
- Lanes: 0 0 1!
- Critical V/C: 0.571
- Avg Crit Del (sec/veh): 17.9
- LGD: 57
- LOS: B

**Cycle Time (sec): 60**

**Loss Time (sec): 7**

**Cycle Efficiency:**

- Critical V/C: 0.571
- Avg Crit Del (sec/veh): 17.9
- LGD: 57
- LOS: B

**Volume Module:**

- Base Vol: 32 215 55
- Growth Adj: 1.00 1.00 1.00
- Delay Adj: 1.00 1.00 1.00
- Delay/Veh: 19.1
- User DelAdj: 1.00 1.00 1.00
- LOS by Move: B

**HCM2kAvgQ:** 5

**Note:** Queue reported is the number of cars per lane.

---

**Street Name:** Scott Street

**Approach:**

- North Bound
- South Bound
- East Bound
- West Bound

**Movement:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
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<tbody>
<tr>
<td>Min. Green</td>
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<td>24</td>
<td>24</td>
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<tr>
<td>Base Vol</td>
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<td>39</td>
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<tr>
<td>Growth Adj</td>
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<td>1.00</td>
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<tr>
<td>Delay Adj</td>
<td>1.00</td>
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<td>1.00</td>
</tr>
<tr>
<td>Delay/Veh</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>User DelAdj</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOS</td>
<td>C</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Saturation Flow Module:**

- Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
- Adj/Lane: 0.68 0.68 0.68 0.68 0.68 0.68 0.68 0.68 0.68 0.68 0.68 0.68
- Lanes: 0.11 0.11 0.11 0.11 0.11 0.11 0.11 0.11 0.11 0.11 0.11 0.11
- Final Sat: 145 921 229 176 967 136 125 1052 170 236 786 247

**Capacity Analysis Module:**

- Vol/Sat: 0.34 0.34 0.34 0.23 0.23 0.23 0.35 0.35 0.35 0.35 0.09 0.09
- Crit Moves: ****
- Green/Cycle: 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40
- Volume/Cap: 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84
- Uniform Del: 16.3 16.3 16.3 16.3 16.3 16.3 16.3 16.3 16.3 16.3 16.3 16.3
- IncrementDel: 15.3 15.3 15.3 15.3 15.3 15.3 15.3 15.3 15.3 15.3 15.3 15.3
- InitQueuDel: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
- Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- Delay/Veh: 31.6 31.6 31.6 31.6 31.6 31.6 31.6 31.6 31.6 31.6 31.6 31.6
- User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- AdjDel/Veh: 31.6 31.6 31.6 31.6 31.6 31.6 31.6 31.6 31.6 31.6 31.6 31.6
- LGD by Move: C C C B B B B A A A
- HCM2kAvgQ: 10

---

**Street Name:** Scott Street

**Approach:**

- North Bound
- South Bound
- East Bound
- West Bound

**Movement:**

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<th>T</th>
<th>R</th>
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<tr>
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<tr>
<td>LOS</td>
<td>B</td>
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</tbody>
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**Saturation Flow Module:**

- Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
- Adj/Lane: 0.68 0.68 0.68 0.68 0.68 0.68 0.68 0.68 0.68 0.68 0.68 0.68
- Lanes: 0.11 0.11 0.11 0.11 0.11 0.11 0.11 0.11 0.11 0.11 0.11 0.11
- Final Sat: 138 925 237 107 970 247 54 1055 255 247 855 160

**Capacity Analysis Module:**

- Vol/Sat: 0.24 0.24 0.24 0.28 0.28 0.28 0.23 0.23 0.23 0.15 0.15 0.15
- Crit Moves: ****
- Green/Cycle: 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40
- Volume/Cap: 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84
- IncrementDel: 4.9 4.9 4.9 4.9 4.9 4.9 4.9 4.9 4.9 4.9 4.9 4.9
- InitQueuDel: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
- Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- LGD by Move: B B B C C C C B B B B
- HCM2kAvgQ: 5

---

**Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

**2000 HCM Unsignalized (Future Volume Alternative)**

#### 2040 AM

**Intersection #57: Pierce/Post**

**Signal=Stop/Rights=Include**

**Base+Add Vol:** 27 0 34

**Lanes:** 0 0 1!

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.081

**Avg Crit Del (sec/veh):** 1.5

**Loss Time (sec):** 0

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.088

**Avg Crit Del (sec/veh):** 1.5

**Street Name: Pierce Street**

**Approach: North Bound South Bound East Bound West Bound**

**Volume Module: Base Vol:** 0 0 0 34 0 27 33 434 0 0 89 37

**Initial Bse:** 0 0 0 34 0 27 33 434 0 0 89 37

**Added Vol:** 0 0 0 0 0 0 0 0 0 0 0 0

**PasserByVol:** 0 0 0 0 0 0 0 0 0 0 0 0

**User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**PHF Adj:** 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96

**PHF Volume:** 0 0 0 35 0 28 34 452 0 0 93 39

**Reduc Vol:** 0 0 0 0 0 0 0 0 0 0 0 0

**Final Volume:** 0 0 0 35 0 28 34 452 0 0 93 39

**Critical Gap Module:**

**Critical Gap:** 6.4 6.5 6.2

**FollowUpTim:** 3.5 4.0 3.3

**Capacity Module:**

**Chnlct Vol:** 633 633 112

**Potent Cap:** 447 447 1466

**Move Cap.:** 439 390 1476

**Volume/Cap:**

**Level Of Service Module:**

**Control Del1:**

**LOS by Move:**

**Movement:** L T R L T R L T R L T R

**Shared LOS:**

**ApproachLOS:**

**Note:** Queue reported is the number of cars per lane.

### 2040 PM

**Intersection #57: Pierce/Post**

**Signal=Stop/Rights=Include**

**Base+Add Vol:** 27 0 34

**Lanes:** 0 0 1!

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.088

**Avg Crit Del (sec/veh):** 1.5

**Loss Time (sec):** 0

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.088

**Avg Crit Del (sec/veh):** 1.5

**Street Name: Pierce Street**

**Approach: North Bound South Bound East Bound West Bound**

**Volume Module: Base Vol:** 0 0 0 34 0 27 33 434 0 0 89 37

**Initial Bse:** 0 0 0 34 0 27 33 434 0 0 89 37

**Added Vol:** 0 0 0 0 0 0 0 0 0 0 0 0

**PasserByVol:** 0 0 0 0 0 0 0 0 0 0 0 0

**User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**PHF Adj:** 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92

**PHF Volume:** 0 0 0 37 0 29 36 472 0 0 97 40

**Reduc Vol:** 0 0 0 0 0 0 0 0 0 0 0 0

**Final Volume:** 0 0 0 37 0 29 36 472 0 0 97 40

**Critical Gap Module:**

**Critical Gap:** 6.4 6.5 6.2

**FollowUpTim:** 3.5 4.0 3.3

**Capacity Module:**

**Chnlct Vol:** 660 660 117

**Potent Cap:** 428 428 1467

**Move Cap.:** 420 373 1467

**Volume/Cap:**

**Level Of Service Module:**

**Control Del1:**

**LOS by Move:**

**Movement:** L T R L T R L T R L T R

**Shared LOS:**

**ApproachLOS:**

**Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

**2000 HCM Unsignalized (Future Volume Alternative)**

#### 2040 AM

**Intersection #58: Broderick / Geary**

- Signal=Stop/Rights=Include
- Base+Add Vol: 65 0 0
- Lanes: 1 0 0 0 0
- Cycle Time (sec): 100
- Loss Time (sec): 0
- Critical V/C: 0.127
- Avg Crit Del (sec/veh): 0.4
- Avg Delay (sec/veh): 0.4
- LOS: B

**Street Name:** Broderick Street, Geary Blvd

**Approach:**

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<th>Movement</th>
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<th>East Bound</th>
<th>West Bound</th>
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<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
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</table>

**Volume Module:**

- Base Vol: 0 0 0 0 65 0 1306 0 0 799 26
- Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- Initial Base: 0 0 0 0 65 0 1306 0 0 799 26
- Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
- PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
- Initial Put: 0 0 0 0 65 0 1306 0 0 799 26
- User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- PHF Adj: 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92
- PHF Volume: 0 0 0 0 71 1 1420 0 0 868 28
- Reduce Vol: 0 0 0 0 0 0 0 0 0 0 0 0
- Final Volume: 0 0 0 0 71 1 1420 0 0 868 28

**Critical Gap Module:**

- Critical Gp: 6.9
- FollowUpTim: 3.3

**Capacity Module:**

- Chnlct Vol: 448
- Potent Cap: 558
- Move Cap: 558
- Volume/Cap: 0.13

**Level Of Service Module:**

- Control Del: 0.4
- LOS by Move: L - T - R
- Shrd ConDel: 12.4
- Shared LOS: B

**Approach Del:** 12.4
**Approach LOS:** B

*Note: Queue reported is the number of cars per lane.*

#### 2040 PM

**Intersection #58: Broderick / Geary**

- Signal=Stop/Rights=Include
- Base+Add Vol: 43 0 0
- Lanes: 1 0 0 0 0
- Cycle Time (sec): 100
- Loss Time (sec): 0
- Critical V/C: 0.129
- Avg Crit Del (sec/veh): 0.3
- Avg Delay (sec/veh): 0.3
- LOS: C

**Street Name:** Broderick Street, Geary Blvd

**Approach:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
</tr>
</tbody>
</table>

**Volume Module:**

- Base Vol: 0 0 0 0 43 0 771 0 0 1244 108
- Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- Initial Base: 0 0 0 0 43 0 771 0 0 1244 108
- Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
- PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
- Initial Put: 0 0 0 0 43 0 771 0 0 1244 108
- User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- PHF Adj: 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92
- PHF Volume: 0 0 0 0 43 0 771 0 0 838 47
- Reduce Vol: 0 0 0 0 0 0 0 0 0 0 0 0
- Final Volume: 0 0 0 0 43 0 771 0 0 838 47

**Critical Gap Module:**

- Critical Gp: 6.9
- FollowUpTim: 3.3

**Capacity Module:**

- Chnlct Vol: 735
- Potent Cap: 362
- Move Cap: 362
- Volume/Cap: 0.13

**Level Of Service Module:**

- Control Del: 0.4
- LOS by Move: L - T - R
- Shrd ConDel: 16.4
- Shared LOS: B

**Approach Del:** 16.4
**Approach LOS:** C

*Note: Queue reported is the number of cars per lane.*
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

#### 2040 AM

**Intersection #59: Divisadero/Geary**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 110  437  0

**Lanes:** 0 1 0  1 0

**Cycle Time (sec):** 90

**Loss Time (sec):** 12

**Critical V/C:** 1.043

**Avg Crit Del (sec/veh):** 68.3

**Avg Delay (sec/veh):** 48.8

Street Name: Divisadero Street

Approach: North Bound      South Bound       East Bound       West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>32</td>
<td>32</td>
<td>32</td>
</tr>
<tr>
<td>Y+R:</td>
<td>7.0 7.0 7.0 7.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Init Bas:</td>
<td>115 115 115 115</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Put:</td>
<td>107 107 107 107</td>
<td></td>
<td></td>
</tr>
<tr>
<td>User Adj:</td>
<td>1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHF Volume:</td>
<td>113 113 113 113</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduct Vol:</td>
<td>0 0 0 0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduced Vol:</td>
<td>113 113 113 113</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCE Adj:</td>
<td>1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHF Volume:</td>
<td>113 113 113 113</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FinalVolume:</td>
<td>113 113 113 113</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Saturation Flow Module:

| Sat/Lane: | 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 |
| Lanes: | 0.25 1.75 1.00 0.00 1.59 0.41 0.00 1.76 0.24 0.00 1.67 0.33 |
| Final Sat.: | 273 2191 1037 0 2199 553 0 2464 332 0 2335 447 |

**Capacity Analysis Module:**

| Vol/Sat: | 0.41 0.41 0.16 0.00 0.21 0.21 0.00 0.49 0.49 0.00 0.32 0.32 |
| Crit Moves: | **** | **** |
| Green/Cycle: | 0.36 0.36 0.36 0.00 0.36 0.36 0.00 0.51 0.51 0.00 0.51 0.51 |
| Uniform Del: | 29.0 29.0 22.3 0.2 23.6 23.6 0.0 21.2 21.2 0.0 15.8 15.8 |
| InqDel: | 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 |
| Delay Adj: | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| Delay/Veh: | 115.2 115 26.4 0.0 26.2 26.2 0.0 37.5 37.5 0.0 17.9 17.9 |
| User DelAdj: | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| LOS by Move: | F F F C C A C C A D D A B B |
| HCM2kAvgQ: | 25 25 25 0 25 25 0 25 25 0 10 10 |

---

**Level Of Service Computation Report**

#### 2040 PM

**Intersection #59: Divisadero/Geary**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 105  841  8

**Lanes:** 0 1 0  1 0

**Cycle Time (sec):** 90

**Loss Time (sec):** 12

**Critical V/C:** 0.940

**Avg Crit Del (sec/veh):** 88.0

**Avg Delay (sec/veh):** 36.8

Street Name: Divisadero Street

Approach: North Bound      South Bound       East Bound       West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>34</td>
<td>34</td>
<td>34</td>
</tr>
<tr>
<td>Y+R:</td>
<td>7.0 7.0 7.0 7.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Bas:</td>
<td>513 513 513 513</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Put:</td>
<td>107 107 107 107</td>
<td></td>
<td></td>
</tr>
<tr>
<td>User Adj:</td>
<td>1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHF Volume:</td>
<td>82 82 82 82</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduct Vol:</td>
<td>0 0 0 0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduced Vol:</td>
<td>82 82 82 82</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCE Adj:</td>
<td>1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHF Volume:</td>
<td>82 82 82 82</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FinalVolume:</td>
<td>82 82 82 82</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Saturation Flow Module:

| Sat/Lane: | 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 |
| Lanes: | 0.26 1.74 1.00 0.00 1.76 0.22 0.00 1.76 0.24 0.00 1.76 0.25 |
| Final Sat.: | 231 1538 1059 0 22 2435 293 0 2477 321 0 2449 350 |

**Capacity Analysis Module:**

| Vol/Sat: | 0.36 0.36 0.16 0.00 0.37 0.37 0.00 0.28 0.28 0.00 0.44 0.44 |
| Crit Moves: | **** | **** |
| Green/Cycle: | 0.38 0.38 0.38 0.38 0.38 0.38 0.00 0.49 0.49 0.00 0.49 0.49 |
| Volume/Cap: | 1.36 1.36 1.46 0.00 0.59 0.59 0.00 0.96 0.96 0.00 0.83 0.83 |
| Uniform Del: | 27.1 27.1 20.9 0.2 27.6 27.6 0.0 16.4 16.4 0.0 21.2 21.2 |
| InqDel: | 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 |
| Delay Adj: | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| Delay/Veh: | 50.8 50.8 24.3 0.0 51.4 51.4 0.0 31.7 31.7 0.0 10.6 10.6 |
| User DelAdj: | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| LOS by Move: | D D C D C D A B B A C C |
| HCM2kAvgQ: | 13 13 4 18 18 18 0 9 9 0 21 21 |

Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

**2040 AM**

**Intersection #60: Scott/Geary**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 64 170 48

**Lanes:** 0 0 1

**Cycle Time (sec):** 90

**Loss Time (sec):** 9

**Critical V/C:** 0.848

**Avg Crit Del (sec/veh):** 31.9

**Avg Delay (sec/veh):** 27.1

**Critical V/C:** 0.875

**Avg Crit Del (sec/veh):** 36.9

**Avg Delay (sec/veh):** 30.0

**Saturation Flow Module:**

<table>
<thead>
<tr>
<th>Street Name: Scott Street</th>
<th>Geary Blvd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approach</td>
<td>Movement</td>
</tr>
<tr>
<td>North Bound</td>
<td>L R R L</td>
</tr>
<tr>
<td>South Bound</td>
<td>L T R L</td>
</tr>
<tr>
<td>East Bound</td>
<td>L T R L</td>
</tr>
<tr>
<td>West Bound</td>
<td>L T R L</td>
</tr>
</tbody>
</table>

**Street Name:** Scott Street

**Approach:** North Bound

**Sat/Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

**Adj/Adjustment:** 0.65 0.65 0.65 0.65 0.65 0.65 0.65 0.65 0.65 0.65

**Capacity Analysis Module:**

**Vol/Sat:** 43 43 43 43 43 43 43 43 43 43

**Green/Cycle:** 0.44 0.44 0.44 0.44 0.44 0.44 0.44 0.44 0.44 0.44

**Capacity:** 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97

**User Del:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**User Del Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**LOS by Move:** C C C C C C C C C C

**HCMAvgQ:** 20 20 20 20 20 20 20 20 20 20

**Note:** Queue reported is the number of cars per lane.

---

### Level Of Service Computation Report

**2040 PM**

**Intersection #60: Scott/Geary**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 54 230 48

**Lanes:** 0 0 1

**Cycle Time (sec):** 90

**Loss Time (sec):** 9

**Critical V/C:** 0.875

**Avg Crit Del (sec/veh):** 36.9

**Avg Delay (sec/veh):** 30.0

**Saturation Flow Module:**

<table>
<thead>
<tr>
<th>Street Name: Scott Street</th>
<th>Geary Blvd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approach</td>
<td>Movement</td>
</tr>
<tr>
<td>North Bound</td>
<td>L R R L</td>
</tr>
<tr>
<td>South Bound</td>
<td>L T R L</td>
</tr>
<tr>
<td>East Bound</td>
<td>L T R L</td>
</tr>
<tr>
<td>West Bound</td>
<td>L T R L</td>
</tr>
</tbody>
</table>

**Street Name:** Scott Street

**Approach:** North Bound

**Sat/Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

**Adj/Adjustment:** 0.54 0.54 0.54 0.54 0.54 0.54 0.54 0.54 0.54 0.54

**Capacity Analysis Module:**

**Vol/Sat:** 46 46 46 46 46 46 46 46 46 46

**Green/Cycle:** 0.44 0.44 0.44 0.44 0.44 0.44 0.44 0.44 0.44 0.44

**Capacity:** 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97

**User Del:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**User Del Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**LOS by Move:** C C C C C C C C C C

**HCMAvgQ:** 21 21 21 21 21 21 21 21 21 21

**Note:** Queue reported is the number of cars per lane.
### Intersection #61: S Van Ness/13th Street

#### 2000 HCM Operations (Future Volume Alternative)

**Traffic Volume and Lane Configuration**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Bound</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Bound</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>East Bound</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>West Bound</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Volume Module**

- **Base Vol:** 46 1132 155
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00
- **InitVol:** 721 0 155
- **AddVol:** 0 0 0 0 0
- **PassByVol:** 0 0 0 0 0
- **User Adj:** 1.00 1.00 1.00 1.00 1.00
- **Critical V/C:** 1.226
- **HCM2kAvgQ:** 0 27

**Saturation Flow Module**

- **Sat/Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
- **Adjunct:** 0.72 0.72 0.72 0.72 0.72 0.72 0.72 0.72 0.72 0.72 0.72 0.72 0.72 0.72 0.72 0.72
- **Lanes:** 0 34 34 34 34 0 39 39 39 7 0 46
- **YrB:** 4.50 5.00 5.00 5.00 5.00 10.00 10.00 10.00 5.00 4.00 5.00

**Capacity Analysis Module**

- **Vol/Sat:** 0.00 0.42 0.42 0.51 0.51 0.51 0.00 0.28 0.51 0.07 0.26 0.26
- **Green/Cycle:** 0.00 0.38 0.38 0.38 0.38 0.00 0.43 0.43 0.08 0.51 0.51
- **Unsat:** 0.01 1.12 1.12 1.26 1.36 1.36 0.00 0.86 1.17 0.92 0.51 0.51
- **Uniform Del:** 0.00 0.28 0.00 0.28 0.28 0.28 0.00 0.20 25.5 41.2 14.5 14.5
- **IncrementDel:** 0.05 65.7 65.7 166.7 167 167 0.00 2.5 86.6 40.6 1.2 1.2
- **UnsatDelay:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
- **Delay Adj:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
- **Delay/Veh:** 0.00 0.93 0.93 1.19 1.97 1.97 0.00 0.22 112.1 118.1 15.8 15.8
- **User DelAdj:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
- **Critical Del:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
- **Loss Time:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
- **Avg Delay:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
- **LOS by Move:** A C C E E A D F F E E

**Note:** Queue reported is the number of cars per lane.
### 2000 HCM Operations (Future Volume Alternative)

#### 2040 AM

**Intersection #62: 13th St / Folsom**

Signal=Permit/Rights=Include

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th>Vol / Cycle Time (sec)</th>
<th>n/s</th>
<th>Signal=Protect</th>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th>Vol / Cycle Time (sec)</th>
<th>n/s</th>
</tr>
</thead>
<tbody>
<tr>
<td>269***</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

**Lanes**

<table>
<thead>
<tr>
<th>Street Name:</th>
<th>Folsom Street</th>
<th>13th Street</th>
</tr>
</thead>
</table>

**Approach:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>29</td>
<td>0</td>
<td>29</td>
<td>29</td>
<td>29</td>
<td>10</td>
<td>35</td>
<td>35</td>
<td>21</td>
</tr>
<tr>
<td>Y+R:</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>4.0</td>
</tr>
</tbody>
</table>

**Cycle Time (sec):** 75

**Loss Time (sec):** 11

**Critical V/C:** 0.945

**Avg Crit Del (sec/veh):** 45.7

**Avg Delay (sec/veh):** 34.0

**LOS:** C

---

#### 2040 PM

**Intersection #62: 13th St / Folsom**

Signal=Permit/Rights=Include

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th>Vol / Cycle Time (sec)</th>
<th>n/s</th>
<th>Signal=Protect</th>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th>Vol / Cycle Time (sec)</th>
<th>n/s</th>
</tr>
</thead>
<tbody>
<tr>
<td>269***</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

**Lanes**

<table>
<thead>
<tr>
<th>Street Name:</th>
<th>Folsom Street</th>
<th>13th Street</th>
</tr>
</thead>
</table>

**Approach:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>7</td>
<td>36</td>
<td>36</td>
<td>25</td>
</tr>
<tr>
<td>Y+R:</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>4.0</td>
</tr>
</tbody>
</table>

**Cycle Time (sec):** 75

**Loss Time (sec):** 11

**Critical V/C:** 1.211

**Avg Crit Del (sec/veh):** 129.2

**Avg Delay (sec/veh):** 91.8

**LOS:** F

---

### Capacity Analysis Module:

- **Vol/Sat:** 0.38, 0.38, 0.38, 0.38, 0.38, 0.38, 0.38, 0.38, 0.38, 0.38
- **Critt Mov:** ****
- **Green/Cycle:** 0.39, 0.39, 0.39, 0.39, 0.39, 0.39, 0.39, 0.39, 0.39, 0.39
- **Volume/Cap:** 0.97, 0.97, 0.97, 0.97, 0.97, 0.97, 0.97, 0.97, 0.97, 0.97
- **Uniform Del:** 22.6, 22.6, 22.6, 22.6, 22.6, 22.6, 22.6, 22.6, 22.6, 22.6
- **InitQueuDel:** 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0
- **Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Delay/Veh:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **HCM2kAvgQ:** 15 15 15 15 15 15 15 15 15 15
- **Note:** Queue reported is the number of cars per lane.
### Level of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

#### 2040 AM

**Intersection #63: 13th St / Harrison**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 195  425  75

**Lanes:** 0 1 0  1 0

**Cycle Time (sec):** 60

**Loss Time (sec):** 10

**Critical V/C:** 0.830

**Avg Crit Del (sec/veh):** 23.4

**Avg Delay (sec/veh):** 20.8

**L O S:** C

**Street Name:** Harrison Street  13th Street

**Approach:** North Bound  South Bound  East Bound  West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Init Bas Vol:</td>
<td>106 179 143 75 425 195</td>
<td>0 1441 73</td>
<td>29 729 68</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Growth Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
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<tr>
<td>Initial Put:</td>
<td>106 179 143 75 425 195</td>
<td>0 1441 73</td>
<td>29 729 68</td>
<td></td>
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<td></td>
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<tr>
<td>User Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
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<tr>
<td>PHE Volume:</td>
<td>112 198 0 73 208</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Reduce Vol:</td>
<td>0 0 0 0 0</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Reduced Vol:</td>
<td>112 188 151 79 447 205</td>
<td>0 1517 77</td>
<td>29 729 68</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>PCE Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
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<tr>
<td>MLC Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
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<tr>
<td>FinalVolume:</td>
<td>112 188 151 79 447 205</td>
<td>0 1517 77</td>
<td>29 729 68</td>
<td></td>
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</tr>
</tbody>
</table>

#### 2040 PM

**Intersection #63: 13th St / Harrison**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 458  756  60

**Lanes:** 0 1 0  1 0

**Cycle Time (sec):** 60

**Loss Time (sec):** 72

**Critical V/C:** 1.174

**Avg Crit Del (sec/veh):** 104.9

**Avg Delay (sec/veh):** 72.1

**L O S:** E

**Street Name:** Harrison Street  13th Street

**Approach:** North Bound  South Bound  East Bound  West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green:</td>
<td>27</td>
<td>27</td>
<td>27</td>
<td>27</td>
<td>27</td>
<td>27</td>
<td>23</td>
<td>23</td>
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<td>Init Bas Vol:</td>
<td>146 199 128 60 756 458</td>
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<td></td>
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<tr>
<td>Growth Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
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<tr>
<td>Initial Put:</td>
<td>146 199 128 60 756 458</td>
<td>0 920 129 127 1024 72</td>
<td></td>
<td></td>
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<tr>
<td>User Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
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<tr>
<td>PHE Volume:</td>
<td>151 205 133 62 779 472</td>
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<tr>
<td>Reduce Vol:</td>
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<td>Reduced Vol:</td>
<td>151 205 133 62 779 472</td>
<td>0 948 133 131 1056 74</td>
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<tr>
<td>PCE Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
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<tr>
<td>MLC Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>FinalVolume:</td>
<td>151 205 133 62 779 472</td>
<td>0 948 133 131 1056 74</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

### Capacity Analysis Module

**Vol/Sat:** 0.26 0.26 0.26 0.31 0.31 0.31 0.00 0.38 0.38 0.24 0.24 0.24

**Critt Moves:** ****

**Green/Cycle:** 0.42 0.42 0.42 0.42 0.42 0.42 0.42 0.42 0.42 0.42 0.42 0.42 0.42 0.42

**Volume/Cap:** 0.60 0.60 0.60 0.60 0.60 0.60 0.60 0.60 0.60 0.60 0.60 0.60 0.60 0.60

**Uniform Del:** 13.8 13.8 13.8 13.8 13.8 13.8 13.8 13.8 13.8 13.8 13.8 13.8 13.8 13.8

**InitQueueDel:** 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

**Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Delay/Vol:** 17.8 17.8 17.8 17.8 17.8 17.8 17.8 17.8 17.8 17.8 17.8 17.8 17.8 17.8

**User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**AdjDel/Vol:** 17.8 17.8 17.8 17.8 17.8 17.8 17.8 17.8 17.8 17.8 17.8 17.8 17.8 17.8

**Loss by Move:** B  B  B  C  C  C  A  C  B  B

**HCM2kAvgQ:** 5  5  5  6  6  6  13  13  13  5  5  5

**Note:** Queue reported is the number of cars per lane.
**Level Of Service Computation Report**

2000 HCM Operations (Future Volume Alternative)

### 2040 AM

**Intersection #64: 10th St / Bryant**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 0 0 0 0

**Lanes:** 0 0 0 0 0

**Cycle Time (sec):** 90

**Loss Time (sec):** 11

**Critical V/C:** 0.642

**Avg Crit Del (sec/veh):** 15.3

**Delay/Veh:** 0.0 34.2 34.2 0.0 0.0 0.0 9.9 9.9 0.0 0.0 0.0

**User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**LOS by Move:** A A A A A A A A A A A A

**HCM2kAvgQ:** 0 5 8 7 0

**Note:** Queue reported is the number of cars per lane.

### 2040 PM

**Intersection #64: 10th St / Bryant**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 0 0 0 0

**Lanes:** 0 0 0 0 0

**Cycle Time (sec):** 90

**Loss Time (sec):** 11

**Critical V/C:** 0.712

**Avg Crit Del (sec/veh):** 18.1

**Delay/Veh:** 0.0 37.6 37.6 0.0 0.0 0.0 10.9 10.9 0.0 0.0 0.0

**User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**LOS by Move:** A D D A A B B A A A A

**HCM2kAvgQ:** 0 8 7 0

**Note:** Queue reported is the number of cars per lane.
### Level of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

**Intersection #65: 14th St / S Van Ness**

**Signal=Permit/Rights=Include**

<table>
<thead>
<tr>
<th>Base+Add Vol Lanes</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>254</td>
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</table>

**Base+Add Lanes: Rights=Include Vol Cnt Date: n/a Rights=Include Lanes: Base+Add**

- **Cycle Time (sec):** 60
- **Loss Time (sec):** 9
- **Critical V/C:** 0.799
- **Avg Crit Del (sec/veh):** 28.2
- **Avg Delay (sec/veh):** 24.5

**Street Name:** S Van Ness, 14th Street

**Approach:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
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<tbody>
<tr>
<td></td>
<td>L</td>
<td>T</td>
<td>R</td>
<td>L</td>
</tr>
</tbody>
</table>

**Min. Green:**

- **0** 30 30 30 30 0 21 21 21 0 0 0
- **1** 0 0 0 0 0 0 0 0 0 0 0

**User DelAdj:**

- **1.00** 1.00 1.00 1.00 1.00 0.00 1.00 1.00 1.00 0.00 0.00 0.00

**LOS by Move:**

- **A**
- **B**
- **C**
- **D**

**HCM2kAvgQ:**

- **0**
- **7**
- **15**

**Note:** Queue reported is the number of cars per lane.

---

### Level of Service Computation Report

**2040 AM**

**Intersection #65: 14th St / S Van Ness**

**Signal=Permit**

<table>
<thead>
<tr>
<th>Base+Add Vol Lanes</th>
<th>L</th>
<th>T</th>
<th>R</th>
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<tbody>
<tr>
<td>0 1 0 1 0 1 0 1 0</td>
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</table>

**Base+Add Lanes: Rights=Include Vol Cnt Date: n/a Rights=Include Lanes: Base+Add**

- **Cycle Time (sec):** 60
- **Loss Time (sec):** 9
- **Critical V/C:** 1.158
- **Avg Crit Del (sec/veh):** 98.6
- **Avg Delay (sec/veh):** 76.0

**Street Name:** S Van Ness, 14th Street

**Approach:**

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<tr>
<th>Movement</th>
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<tbody>
<tr>
<td></td>
<td>L</td>
<td>T</td>
<td>R</td>
<td>L</td>
</tr>
</tbody>
</table>

**Min. Green:**

- **0** 35 35 35 35 0 16 16 16 0 0 0
- **1** 0 0 0 0 0 0 0 0 0 0 0 0

**User DelAdj:**

- **1.00** 1.00 1.00 1.00 1.00 0.00 1.00 1.00 1.00 0.00 0.00 0.00

**LOS by Move:**

- **A**
- **B**
- **C**
- **D**

**HCM2kAvgQ:**

- **0**
- **4**
- **26**

**Note:** Queue reported is the number of cars per lane.
### Intersection #66: 14th St./Folsom

#### 2000 HCM Operations (Future Volume Alternative)

**2040 AM**

**Street Name:**
- Folsom Street
- 14th Street

**Approach:**
- North Bound
- South Bound
- East Bound
- West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
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<tbody>
<tr>
<td>Min. Green</td>
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<td>22</td>
<td>22</td>
<td>22</td>
<td>22</td>
<td>21</td>
<td>21</td>
<td>7</td>
</tr>
<tr>
<td>YRt:</td>
<td>4.0</td>
<td>3.5</td>
<td>3.5</td>
<td>3.5</td>
<td>3.5</td>
<td>4.0</td>
<td>3.5</td>
<td>3.5</td>
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</tbody>
</table>

**Volume Module:**
- Base Vol: 0 641 51 17 199 0 359 243 71 71 0
- Growth Adj: 1.00 1.00 1.00 1.00 1.00 ...
- Delay Adj: 0.00 1.00 1.00 1.00 1.00 ...
- Delay/Veh: 0.0 19.8 19.8 13.6 13.6 ...
- User DelAdj: 1.00 1.00 1.00 1.00 1.00 ...
- LOS by Move: A B C D E

**HCM2kAvgQ:**
- 0 8 8 2 2 0 3 4 1 0 1

- Note: Queue reported is the number of cars per lane.

---

**2040 PM**

**Street Name:**
- Folsom Street
- 14th Street

**Approach:**
- North Bound
- South Bound
- East Bound
- West Bound

<table>
<thead>
<tr>
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<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
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<td>29</td>
<td>29</td>
<td>29</td>
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<td>24</td>
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<tr>
<td>YRt:</td>
<td>4.0</td>
<td>3.5</td>
<td>3.5</td>
<td>3.5</td>
<td>3.5</td>
<td>4.0</td>
<td>3.5</td>
<td>3.5</td>
</tr>
</tbody>
</table>

**Volume Module:**
- Base Vol: 0 586 69 6 506 0 262 212 129 98 74
- Growth Adj: 1.00 1.00 1.00 1.00 1.00 ...
- Delay Adj: 0.00 1.00 1.00 1.00 1.00 ...
- Delay/Veh: 0.0 12.0 12.0 11.0 11.0 ...
- User DelAdj: 1.00 1.00 1.00 1.00 1.00 ...
- LOS by Move: A B C D E

**HCM2kAvgQ:**
- 0 5 5 3 3 0 4 5 5 4 0 4

- Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM 4-Way Stop (Future Volume Alternative)

#### 2040 AM

**Intersection #67: 14th St / Harrison**

- **Signal=Stop/Rights=Include**
- **Base+Add Vol**: 71 430 12***
- **Lanes**: 0 1 0 1 0
- **Base+Add Lanes**: Rights=Include Vol Cnt Date: n/a Rights=Include Lanes: Base+Add
- **Cycle Time (sec)**: 100
- **Loss Time (sec)**: 0
- **Critical V/C**: 0.604
- **Avg Crit Del (sec/veh)**: 14.2
- **Avg Delay (sec/veh)**: 14.2
- **LOS**: B

#### 2040 PM

**Street Name**: Harrison Street 14th Street

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>0 0 0 0</td>
<td>0 0 0 0</td>
<td>0 0 0 0</td>
<td>0 0 0 0</td>
</tr>
</tbody>
</table>

**Volume Module**:
- **Base Vol**: 24 329 11 12 430 71 90 38 174 2 10 11
- **Growth Adj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **User Adj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **PHF Adj**: 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97
- **PHF Volume**: 25 339 81 12 443 73 93 39 179 2 10 11
- **Reduced Vol**: 0 0 0 0 0 0 0 0 0 0 0 0
- **PCE Adj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **MLF Adj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Saturation Flow Module**:
- **Adjustment**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Lanes**: 0.07 0.03 0.05 1.67 0.28 0.30 0.12 0.58 0.09 0.48 0.48
- **Final Sat.** 41 502 19 27 100 169 178 75 344 41 205 225

**Capacity Analysis Module**:
- **Vol/Sat**: 0.60 0.60 0.60 0.60 0.45 0.44 0.44 0.52 0.52 0.52 0.05 0.05 0.05
- **Crit Moves**: 0 0 0 0 0 0 0 0 0 0 0 0
- **Delay/veh**: 16.3 16.3 16.3 16.3 13.3 13.3 13.3 13.3 12.6 14.2 14.2 14.2
- **Delay Adj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **AdjDel/Veh**: 16.3 16.3 16.3 16.3 13.3 13.3 13.3 13.3 12.6 14.2 14.2 14.2
- **LOS by Move**: C C B B B B A A A
- **ApproachDel**: 16.3 13.0 14.2 9.7
- **Delay Adj**: 1.00 1.00 1.00 1.00
- **ApprAdjDel**: 16.3 13.0 14.2 9.7
- **LOS by Appr**: C A B A 0 0 0 0
- **AllMovAvgQ**: 0.3 0.3 0.8 0.7 0.9 0.9 0.9 0.9 0.0 0.0 0.0 0.0

Note: Queue reported is the number of cars per lane.

---

### Level Of Service Computation Report

#### 2000 HCM 4-Way Stop (Future Volume Alternative)

#### 2040 PM

**Intersection #67: 14th St / Harrison**

- **Signal=Stop/Rights=Include**
- **Base+Add Vol**: 117 826 57***
- **Lanes**: 0 1 0 1 0
- **Base+Add Lanes**: Rights=Include Vol Cnt Date: n/a Rights=Include Lanes: Base+Add
- **Cycle Time (sec)**: 100
- **Loss Time (sec)**: 0
- **Critical V/C**: 0.974
- **Avg Crit Del (sec/veh)**: 39.1
- **Avg Delay (sec/veh)**: 39.1
- **LOS**: E

#### Street Name:

- **Harrison Street 14th Street**

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>0 0 0 0</td>
<td>0 0 0 0</td>
<td>0 0 0 0</td>
<td>0 0 0 0</td>
</tr>
</tbody>
</table>

**Volume Module**:
- **Base Vol**: 30 305 25 57 826 117 78 64 148 37 22 78
- **Growth Adj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **User Adj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **PHF Adj**: 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96
- **PHF Volume**: 31 318 26 59 860 122 81 67 154 39 23 81
- **Reduced Vol**: 0 0 0 0 0 0 0 0 0 0 0 0
- **PCE Adj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **MLF Adj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Saturation Flow Module**:
- **Adjustment**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Lanes**: 0.08 0.07 0.07 0.11 0.16 0.23 0.27 0.22 0.51 0.27 0.16 0.57
- **Final Sat.** 44 460 27 61 75 117 133 263 122 72 256 256

**Capacity Analysis Module**:
- **Vol/Sat**: 0.71 0.71 0.71 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97
- **Crit Moves**: 0 0 0 0 0 0 0 0 0 0 0 0
- **Delay/veh**: 23.2 23.2 23.2 58.3 54.6 50.4 18.5 18.5 18.5 13.3 13.3 13.3
- **Delay Adj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **AdjDel/Veh**: 23.2 23.2 23.2 58.3 54.6 50.4 18.5 18.5 18.5 13.3 13.3 13.3
- **LOS by Move**: C C C C C C C C C C C C
- **ApproachDel**: 23.2 54.3 18.5 13.3
- **Delay Adj**: 1.00 1.00 1.00 1.00
- **ApprAdjDel**: 23.2 54.3 18.5 13.3
- **LOS by Appr**: C C C C C C C C C C C C
- **AllMovAvgQ**: 2.0 2.0 2.0 7.3 6.3 6.3 1.2 1.2 1.2 0.4 0.4 0.4

Note: Queue reported is the number of cars per lane.
### 2000 HCM Operations (Future Volume Alternative)

#### 2040 AM

**Intersection #68: 15th St / S Van Ness**

- **Signal**: Permit/Rights=Include
- **Base+Add Vol**: 59 442 20
- **Lanes**: 0 1 0 1 0
- **Cycle Time (sec)**: 60
- **Loss Time (sec)**: 9
- **Critical V/C**: 0.744
- **Avg Crit Del (sec/veh)**: 26.6
- **Avg Delay (sec/veh)**: 22.2
- **LOS**: C

**Street Name**: S Van Ness / 15th Street

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>0 29 29 29 29</td>
<td>0 22 0 22 22</td>
<td>0 22 0 22 22</td>
<td></td>
</tr>
<tr>
<td>YRt</td>
<td>4.0 4.5 4.5 4.5 4.5 4.0 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5</td>
<td></td>
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</tbody>
</table>

#### 2040 PM

**Intersection #68: 15th St / S Van Ness**

- **Signal**: Permit/Rights=Include
- **Base+Add Vol**: 279 1096 9
- **Lanes**: 0 1 0 1 0
- **Cycle Time (sec)**: 60
- **Loss Time (sec)**: 9
- **Critical V/C**: 1.133
- **Avg Crit Del (sec/veh)**: 84.7
- **Avg Delay (sec/veh)**: 69.0
- **LOS**: E

**Street Name**: S Van Ness / 15th Street

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>0 32 32 32 32</td>
<td>0 22 0 22 19 19 19</td>
<td>0 22 0 22 20 502</td>
<td></td>
</tr>
<tr>
<td>YRt</td>
<td>4.0 4.5 4.5 4.5 4.5 4.0 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Volume Module**:

**Base Vol**: 83 880 48 20 442 59 0 0 0 31 134 60

**Growth Adj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Delay Adj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Delay/Veh**: 28.5 28.5 28.5 28.5 28.5 28.5 28.5 28.5 28.5 28.5 28.5 28.5 28.5 28.5 28.5 28.5

**User DelAdj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**LOS by Move**: C C C C C C A A A A A A A A A A


---

**Saturation Flow Module**:

**Base Vol**: 110 670 36 9 1096 279 0 0 0 20 502 63

**Growth Adj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Delay Adj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Delay/Veh**: 31.2 31.2 31.2 31.2 31.2 31.2 31.2 31.2 31.2 31.2 31.2 31.2 31.2 31.2 31.2 31.2

**User DelAdj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**LOS by Move**: C C C C C C A A A A A A A A A A

**HCM2kAvgQ**: 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9

---

**Capacity Analysis Module**:

**Vol/Sat**: 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50

**Green/Cycle**: 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93

**Volume/Cap**: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95

**Uniform Del**: 14.5 14.5 14.5 14.5 14.5 14.5 14.5 14.5 14.5 14.5 14.5 14.5 14.5 14.5 14.5 14.5

**Critical Del**: 13.9 13.9 13.9 13.9 13.9 13.9 13.9 13.9 13.9 13.9 13.9 13.9 13.9 13.9 13.9 13.9

**InitQueuDel**: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

**Delay Adj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Delay/Veh**: 18.3 18.3 18.3 18.3 18.3 18.3 18.3 18.3 18.3 18.3 18.3 18.3 18.3 18.3 18.3 18.3

**User DelAdj**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**AdjDel/veh**: 8.5 8.5 8.5 8.5 8.5 8.5 8.5 8.5 8.5 8.5 8.5 8.5 8.5 8.5 8.5 8.5

**HCM2kAvgQ**: 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9

---

**Note**: Queue reported is the number of cars per lane.
## Level Of Service Computation Report

### 2000 HCM Operations (Future Volume Alternative)

### 2040 AM

**Intersection #69: 15th St / Folsom**

**Signal=Permit/Rights=Include**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lane</th>
<th>Vol/Cycle Time (sec)</th>
<th>n/a</th>
<th>League</th>
<th>Base+Add Vol</th>
<th>Lane</th>
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<tbody>
<tr>
<td>67</td>
<td>21</td>
<td></td>
<td></td>
<td>0</td>
<td></td>
<td>22</td>
</tr>
<tr>
<td>263</td>
<td>0</td>
<td></td>
<td></td>
<td>0</td>
<td></td>
<td>30</td>
</tr>
</tbody>
</table>

**Loss Time (sec):** 7

**Critical V/C:** 0.489

**Avg Crit Del (sec/veh):** 12.5

**Loss:** B

**Addresses:**

- **Base+Add Vol:** 67  263  8
- **Lanes:** 0 0 1!
- **Volume Module:**
  - **Base Vol:** 37 637 28
  - **Growth Adj:** 1.00 1.00 1.00
  - **Delay Adj:** 1.00 1.00 1.00
  - **Delay/Veh:** 6.0 6.0 6.0
  - **User Del:** 0.0 0.0 0.0
  - **InitQueuDel:** 0.0 0.0 0.0

**Cycle Time (sec):** 60

**Loss Time (sec):** 7

**Critical V/C:** 0.107

**Avg Crit Del (sec/veh):** 74.9

**Loss:** D

**Addresses:**

- **Base+Add Vol:** 140 582 28
- **Lanes:** 0 0 1!
- **Volume Module:**
  - **Base Vol:** 63 552 18
  - **Growth Adj:** 1.00 1.00 1.00
  - **Delay Adj:** 1.00 1.00 1.00
  - **Delay/Veh:** 3.5 3.5 3.5
  - **User Del:** 0.0 0.0 0.0
  - **InitQueuDel:** 0.0 0.0 0.0

### 15th Street

#### Movement

- **Min. Green:** 31 31 31 31 31 31 22 22 22 22 22 22
- **Y+R:** 3.5 3.5 3.5 3.5 3.5 3.5 3.5 3.5 3.5 3.5 3.5 3.5

#### Street Name:

- **Approach:**
  - North Bound
  - South Bound
  - East Bound
  - West Bound

#### Note:

- Queue reported is the number of cars per lane.

### 2040 PM

**Intersection #69: 15th St / Folsom**

**Signal=Permit/Rights=Include**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lane</th>
<th>Vol/Cycle Time (sec)</th>
<th>n/a</th>
<th>League</th>
<th>Base+Add Vol</th>
<th>Lane</th>
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<tbody>
<tr>
<td>140</td>
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<td>0</td>
<td></td>
<td>22</td>
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<td>582</td>
<td>0</td>
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<td></td>
<td>0</td>
<td></td>
<td>30</td>
</tr>
</tbody>
</table>

**Loss Time (sec):** 48

**Critical V/C:** 1.077

**Avg Crit Del (sec/veh):** 74.9

**Loss:** D

**Addresses:**

- **Base+Add Vol:** 63 552 18
- **Lanes:** 0 0 1!
- **Volume Module:**
  - **Base Vol:** 63 552 18
  - **Growth Adj:** 1.00 1.00 1.00
  - **Delay Adj:** 1.00 1.00 1.00
  - **Delay/Veh:** 5.0 5.0 5.0
  - **User Del:** 0.0 0.0 0.0
  - **InitQueuDel:** 0.0 0.0 0.0

**Cycle Time (sec):** 60

**Loss Time (sec):** 48

**Critical V/C:** 0.107

**Avg Crit Del (sec/veh):** 74.9

**Loss:** D

**Addresses:**

- **Base+Add Vol:** 63 552 18
- **Lanes:** 0 0 1!
- **Volume Module:**
  - **Base Vol:** 63 552 18
  - **Growth Adj:** 1.00 1.00 1.00
  - **Delay Adj:** 1.00 1.00 1.00
  - **Delay/Veh:** 1.0 1.0 1.0
  - **User Del:** 0.0 0.0 0.0
  - **InitQueuDel:** 0.0 0.0 0.0

### Street Name:

- **Approach:**
  - North Bound
  - South Bound
  - East Bound
  - West Bound

#### Note:

- Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM 4-Way Stop (Future Volume Alternative)

**Intersection #70: 15th St / Harrison**

**Signal=Stop/Rights=Include**

<table>
<thead>
<tr>
<th>Lanes</th>
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<th>1</th>
<th>0</th>
<th>1</th>
<th>0</th>
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</thead>
<tbody>
<tr>
<td>Base+Add Vol</td>
<td>88</td>
<td>411</td>
<td>13***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vol Cnt Date</td>
<td>n/a</td>
<td>11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Critical V/C</td>
<td>0.041</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avg Crit Del (sec/veh)</td>
<td>12.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aug Delay (sec/veh)</td>
<td>12.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOS</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cycle Time (sec)</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss Time (sec)</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Street Name:** Harrison Street  
**15th Street**

**Approach:**  
- **North Bound**: L - T - R  
- **South Bound**: L - T - R  
- **East Bound**: L - T - R  
- **West Bound**: L - T - R

**Min. Green:** 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0

**Volume Module:**

- **Base Vol:** 90 366 17 13 411 88 20 5 29 7 7 9
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **PHF Adj:** 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98
- **PHF Volume:** 92 373 17 13 419 90 20 5 30 7 7 9
- **Reduc Vol:** 0 0 0 0 0 0 0 0 0 0 0 0
- **Reduced Vol:** 92 373 17 13 419 90 20 5 30 7 7 9
- **PCE Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **MLF Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Final Volume:**

- **North Bound**: 92 373 17 13 419 90 20 5 30 7 7 9
- **South Bound**: 92 373 17 13 419 90 20 5 30 7 7 9

**Saturation Flow Module:**

- **Adjustment:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Lanes:** 0.19 0.77 0.04 0.05 1.61 0.34 0.37 0.09 0.54 0.30 0.30 0.40

**Capacity Analysis Module:**

- **Crit Moves:** **** **** **** 0.38 0.37 0.36 0.10 0.10 0.10 0.04 0.04 0.04
- **Delay/Veh:** 15.6 15.6 15.6 15.6 15.6 15.6 8.10 10.10 10.92 9.26 9.26 9.26
- **Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **AppDelayAdj:** 15.6 15.6 15.6 15.6 15.6 15.6 8.10 9.26 9.26 9.26 9.26 9.26
- **LOS by Apg:** C C C C C C C C C C C C
- **AllAvgCp:** 1.6 1.6 0.6 0.5 0.5 0.1 0.1 0.0 0.0 0.0 0.0 0.0

Note: Queue reported is the number of cars per lane.

---

### Level Of Service Computation Report

#### 2000 HCM 4-Way Stop (Future Volume Alternative)

**Intersection #70: 15th St / Harrison**

**Signal=Stop/Rights=Include**

<table>
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<tr>
<th>Lanes</th>
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<th>1</th>
<th>0</th>
<th>1</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base+Add Vol</td>
<td>241</td>
<td>796</td>
<td>12***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vol Cnt Date</td>
<td>n/a</td>
<td>11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Critical V/C</td>
<td>0.068</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avg Crit Del (sec/veh)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aug Delay (sec/veh)</td>
<td>21.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOS</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cycle Time (sec)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss Time (sec)</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Street Name:** Harrison Street  
**15th Street**

**Approach:**  
- **North Bound**: L - T - R  
- **South Bound**: L - T - R  
- **East Bound**: L - T - R  
- **West Bound**: L - T - R

**Min. Green:** 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0

**Volume Module:**

- **Base Vol:** 143 273 6 12 796 241 36 1 25 4 13 11
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **PHF Adj:** 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94
- **PHF Volume:** 152 290 6 13 847 256 38 1 27 6 14 12
- **Reduc Vol:** 0 0 0 0 0 0 0 0 0 0 0 0
- **Reduced Vol:** 152 290 6 13 847 256 38 1 27 6 14 12
- **PCE Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **MLF Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Final Volume:**

- **North Bound**: 152 290 6 13 847 256 38 1 27 6 14 12

**Saturation Flow Module:**

- **Adjustment:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Lanes:** 0.34 0.65 0.01 0.02 1.52 0.46 0.58 0.02 0.40 0.14 0.47 0.39

**Capacity Analysis Module:**

- **Crit Moves:** **** **** **** 0.81 0.79 0.76 0.12 0.12 0.12 0.06 0.06 0.06
- **Delay/Veh:** 17.1 17.1 17.1 17.1 17.1 17.1 25.9 24.2 21.0 10.2 10.2 10.2 9.8 9.8 9.8
- **Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **AppDelayAdj:** 17.1 17.1 17.1 17.1 17.1 17.1 25.9 24.2 21.0 10.2 10.2 10.2 9.8 9.8 9.8
- **LOS by Apg:** C C C C C C B B A A A A
- **AllAvgCp:** 3.5 2.7 2.7 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1

Note: Queue reported is the number of cars per lane.
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)

**Intersection #71: 16th St/Mission**

- **Signal=Permit/Rights=Include**
- **Base+Add Vol:** 37 237 2
- **Lanes:** 0 1 0 1 0
- **Cycle Time (sec):** 60
- **Loss Time (sec):** 9
- **Critical V/C:** 0.743
- **Avg Crit Del (sec/veh):** 41.0
- **Avg Delay (sec/veh):** 30.2
- **Cycle Time (sec):** 60
- **Loss Time (sec):** 9
- **Critical V/C:** 0.582
- **Avg Crit Del (sec/veh):** 315 482
- **Avg Delay (sec/veh):** 16.9

**Street Name:** Mission Street 16th Street

**Approach:** North Bound South Bound East Bound West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>0</td>
<td>24</td>
<td>0</td>
<td>24</td>
<td>0</td>
<td>24</td>
<td>0</td>
</tr>
<tr>
<td>YRt:</td>
<td>4.5 4.0 4.5 4.5 4.0 4.5 4.0 4.5 4.5 4.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Volume Module:**
- **Base Vol:** 0 516 78 2 237 37 17 482 42 5 371 70
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **PHF Volume:** 0 532 80 2 244 38 18 497 43 5 382 72

**Cycle Time:** 60
**Loss Time:** 9
**Critical V/C:** 0.743
**Avg Crit Del (sec/veh):** 41.0
**Avg Delay (sec/veh):** 30.2

---

**Intersection #71: 16th St/Mission**

- **Signal=Permit/Rights=Include**
- **Base+Add Vol:** 51 401 1
- **Lanes:** 0 1 0 1 0
- **Cycle Time (sec):** 60
- **Loss Time (sec):** 68
- **Critical V/C:** 0.582
- **Avg Crit Del (sec/veh):** 68 315
- **Avg Delay (sec/veh):** 15.4

**Street Name:** Mission Street 16th Street

**Approach:** North Bound South Bound East Bound West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>0</td>
<td>25</td>
<td>0</td>
<td>25</td>
<td>0</td>
<td>25</td>
<td>0</td>
</tr>
<tr>
<td>YRt:</td>
<td>4.5 4.0 4.5 4.5 4.0 4.5 4.0 4.5 4.0 4.0</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Volume Module:**
- **Base Vol:** 1 385 95 1 401 51 2 315 68 14 515 68
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **PHF Volume:** 1 405 100 1 422 54 2 332 72 15 542 72

**Cycle Time:** 60
**Loss Time:** 68
**Critical V/C:** 0.582
**Avg Crit Del (sec/veh):** 68 315
**Avg Delay (sec/veh):** 15.4

---

**Capacity Analysis Module:**

**Vol/Sat:** 0.02 0.22 0.11 0.11 0.11 0.41 0.41 0.41 0.17 0.17 0.17
**Crit Moves:**

**Green/Cycle:** 0.00 0.46 0.46 0.46 0.46 0.46 0.39 0.39 0.39 0.39 0.39 0.39
**Volume/Cap:** 0.00 0.46 0.46 0.46 0.46 0.46 0.46 0.46 0.46 0.46 0.46 0.46
**Uniform Del:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
**InitQueuDel:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

**Capacity Analysis Module:**

**Vol/Sat:** 0.02 0.19 0.19 0.18 0.18 0.18 0.30 0.30 0.30 0.24 0.24 0.24
**Crit Moves:**

**Green/Cycle:** 0.02 0.42 0.42 0.42 0.42 0.42 0.43 0.43 0.43 0.43 0.43 0.43
**Volume/Cap:** 0.02 0.42 0.42 0.42 0.42 0.42 0.42 0.42 0.42 0.42 0.42 0.42
**Uniform Del:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
**InitQueuDel:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

---

Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

#### 2040 AM

**Intersection #72: 16th St / S Van Ness**

- **Signal**: Permit
- **Rights**: Include
- **Base+Add Vol**: 44 323 121
- **Lanes**: 0 1 0 1 0
- **Cycle Time (sec)**: 60
- **Loss Time (sec)**: 8
- **Critical V/C**: 1.041
- **vg Crit Del (sec/veh)**: 62.8
- **vg Delay (sec/veh)**: 46.2
- **LOS**: D
- **Street Name**: S Van Ness

#### 2040 PM

**Intersection #72: 16th St / S Van Ness**

- **Signal**: Permit
- **Rights**: Include
- **Base+Add Vol**: 42 987 90
- **Lanes**: 0 1 0 1 0
- **Cycle Time (sec)**: 60
- **Loss Time (sec)**: 8
- **Critical V/C**: 0.940
- **vg Crit Del (sec/veh)**: 49.0
- **vg Delay (sec/veh)**: 33.9
- **LOS**: C
- **Street Name**: S Van Ness

### Volume Module

**Base Vol**: 74 913 164 121 323

- **Growth Adj**: 1.00 1.00 1.00 1.00 1.00
- **Delay Adj**: 1.00 1.00 1.00 1.00 1.00
- **User Del Adj**: 1.00 1.00 1.00 1.00 1.00
- **LOS by Move**: C C C B B

**Cycle Time (sec)**: 60

### Capacity Analysis Module

- **Vol/Sat**: 24.7 47.4 0.47 0.30 0.30 0.30 0.43 0.43 0.17 0.17 0.17
- **Crit Move**: ****
- **Green/Cycle**: 0.37 0.37 0.29 0.39 0.48 0.18 0.18 0.29 0.48 0.18
- **User Del**: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

### Note

- **Queue reported is the number of cars per lane.**

---

### Level Of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

#### 2040 AM

**Intersection #72: 16th St / S Van Ness**

- **Signal**: Permit
- **Rights**: Include
- **Base+Add Vol**: 74 913 164 121 323
- **Lanes**: 0 1 0 1 0
- **Cycle Time (sec)**: 60
- **Loss Time (sec)**: 8
- **Critical V/C**: 1.041
- **vg Crit Del (sec/veh)**: 62.8
- **vg Delay (sec/veh)**: 46.2
- **LOS**: D
- **Street Name**: S Van Ness

#### 2040 PM

**Intersection #72: 16th St / S Van Ness**

- **Signal**: Permit
- **Rights**: Include
- **Base+Add Vol**: 53 682 69
- **Lanes**: 0 1 0 1 0
- **Cycle Time (sec)**: 60
- **Loss Time (sec)**: 8
- **Critical V/C**: 0.940
- **vg Crit Del (sec/veh)**: 49.0
- **vg Delay (sec/veh)**: 33.9
- **LOS**: C
- **Street Name**: S Van Ness

### Volume Module

- **Base Vol**: 53 682 69 90 987
- **Growth Adj**: 1.00 1.00 1.00 1.00 1.00
- **Delay Adj**: 1.00 1.00 1.00 1.00 1.00
- **User Del Adj**: 1.00 1.00 1.00 1.00 1.00
- **LOS by Move**: B B B B B

### Note

- **Queue reported is the number of cars per lane.**
### Level Of Service Computation Report
#### 2000 HCM Operations (Future Volume Alternative)
##### 2040 AM

**Intersection #73: 16th St / Folsom**

- **Signal=Permit/Rights=Include**
- **Base+Add Vol: 29  244     35**
- **Lanes: 0 1 0  0 1**
- **Cycle Time (sec): 60**
- **Loss Time (sec): 10**

#### Critical V/C: 0.959
#### Avg Crit Del (sec/veh): 58.7
#### Avg Delay (sec/veh): 42.6

**Street Name:** Folsom Street

**Approach:** North Bound  South Bound  East Bound  West Bound

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<tr>
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<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
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<td>1.00 1.00</td>
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<td>65</td>
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**Saturation Flow Module:**

| Approach | North Bound  South Bound  East Bound  West Bound |
|----------|---|---|---|---|
| Vol | 24 | 24 | 24 | 24 |
| Growth Adj: | 1.00 1.00 | 1.00 1.00 | 1.00 1.00 | 1.00 1.00 |
| Added Adj: | 0 | 0 | 0 | 0 |
| Passerby Adj: | 0 | 0 | 0 | 0 |
| User Adj: | 1.00 1.00 | 1.00 1.00 | 1.00 1.00 | 1.00 1.00 |
| Model Vol: | 33 479 | 39 | 43 539 | 61 | 65 313 | 43 | 67 414 | 86 |

**Street Name:** Folsom Street

**Approach:** North Bound  South Bound  East Bound  West Bound

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</tr>
</tbody>
</table>

**Saturation Flow Module:**

| Approach | North Bound  South Bound  East Bound  West Bound |
|----------|---|---|---|---|
| Vol | 24 | 24 | 24 | 24 |
| Growth Adj: | 1.00 1.00 | 1.00 1.00 | 1.00 1.00 | 1.00 1.00 |
| Added Adj: | 0 | 0 | 0 | 0 |
| Passerby Adj: | 0 | 0 | 0 | 0 |
| User Adj: | 1.00 1.00 | 1.00 1.00 | 1.00 1.00 | 1.00 1.00 |
| Model Vol: | 33 479 | 39 | 43 539 | 61 | 65 313 | 43 | 67 414 | 86 |
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)

Intersection #74: 16th St / Harrison

Signal=Permit/Rights=Include
Base+Add Vol: 29  337     88
Lanes: 0 1 0  1 0
Cycle Time (sec): 60
Loss Time (sec): 10
Critical V/C: 0.803
Avg Crit Del (sec/veh): 51.6
Avg Delay (sec/veh): 36.5

Street Name:         Harrison Street                     16th Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:   19   19    19    19    19    19    19    19    19    19    19    19
Y+R:  5.0  5.0  5.0  5.0  5.0  5.0  5.0  5.0  5.0  5.0  5.0  5.0
User DelAdj:  1.00 1.00  1.00 1.00  1.00 1.00  1.00 1.00  1.00 1.00  1.00 1.00

Volume Module:
Base Vol:      36  348    68    93  355  31  45  645  53  640  652  111
Growth Adj:  1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Add Vol:       0  0  0  0  0  0  0  0  0  0  0  0
PasserByVol:   0  0  0  0  0  0  0  0  0  0  0  0
User Adj:       1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Critical V/C: 0.969
Avg Crit Del (sec/veh): 46.4
Avg Delay (sec/veh): 45.7

Street Name:         Harrison Street                     16th Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:   22   22    22    22    22    22    22    22    22    22    22    22
Y+R:  5.0  5.0  5.0  5.0  5.0  5.0  5.0  5.0  5.0  5.0  5.0  5.0
User DelAdj:  1.00 1.00  1.00 1.00  1.00 1.00  1.00 1.00  1.00 1.00  1.00 1.00

Volume Module:
Base Vol:      40  307    62    98  641  84  32  357  32  62  641  60
Growth Adj:  1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Add Vol:       0  0  0  0  0  0  0  0  0  0  0  0
PasserByVol:   0  0  0  0  0  0  0  0  0  0  0  0
User Adj:       1.00 1.00  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Critical V/C: 0.803
Avg Crit Del (sec/veh): 51.6
Avg Delay (sec/veh): 36.5

HCM2kAvgQ:     21   21    20     6    7     7     5    5     5     4    4     4
Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #75: 16th St / Bryant**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 41 99 48

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<th>Lanes</th>
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</tr>
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<td>73</td>
<td>41</td>
</tr>
<tr>
<td>41</td>
<td>27</td>
</tr>
</tbody>
</table>

- **Critical V/C:** 0.930
- **Avg Crit Del (sec/veh):** 38.7
- **Avg Delay (sec/veh):** 28.4

**Cycle Time (sec):** 50

**Loss Time (sec):** 10

**Delay Adj:** 1.00

- **Delay/Veh:** 64.8

**Critical V/C:** 0.930

**Avg Crit Del (sec/veh):** 38.7

**Avg Delay (sec/veh):** 28.4

**Base Vol:** 44

**Growth Adj:** 1.00

**Delay Adj:** 1.00

**Delay/Veh:** 64.8

**Critical V/C:** 0.930

**Avg Crit Del (sec/veh):** 38.7

**Avg Delay (sec/veh):** 28.4

**Saturation Flow Module:**

- **Sat/Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
- **Adj/Speed:** 60 60 60 60 60 60 60 60 60 60 60 60
- **Lanes:** 8 8 8 8 8 8 8 8 8 8 8 8

- **FinalVolume:** 45 365

- **0 0 1! 0 0**

- **Cycle Time (sec):** 50

- **Loss Time (sec):** 10

- **Delay Adj:** 1.00

- **Delay/Veh:** 64.8

- **Critical V/C:** 0.930

- **Avg Crit Del (sec/veh):** 38.7

- **Avg Delay (sec/veh):** 28.4

- **Base Vol:** 50

- **Growth Adj:** 1.00

- **Delay Adj:** 1.00

- **Delay/Veh:** 92.3

- **Critical V/C:** 0.945

- **Avg Crit Del (sec/veh):** 49.5

- **Avg Delay (sec/veh):** 49.7

**Saturation Flow Module:**

- **Sat/Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
- **Adj/Speed:** 60 60 60 60 60 60 60 60 60 60 60 60
- **Lanes:** 8 8 8 8 8 8 8 8 8 8 8 8

- **FinalVolume:** 53 378

- **0 0 1! 0 0**

- **Cycle Time (sec):** 50

- **Loss Time (sec):** 10

- **Delay Adj:** 1.00

- **Delay/Veh:** 92.3

- **Critical V/C:** 0.945

- **Avg Crit Del (sec/veh):** 49.5

- **Avg Delay (sec/veh):** 49.7

**Capacity Analysis Module:**

- **Vol/Sat:** 0.41

- **Critt Move:** 0.19 0.19 0.19 0.33 0.33 0.33 0.33 0.19 0.19 0.19

- **Green/Cycle:** 0.40

- **Volume/Cap:** 0.03

- **Uniform Del:** 15.0 15.0 15.0 15.0 15.0 15.0 15.0 15.0 15.0 15.0 15.0 15.0

- **InQueueDel:** 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

- **Delay Adj:** 1.00

- **Delay/Veh:** 12.6 12.6

- **User Del/Adj:** 1.00

- **Delay Adj:** 1.00

- **Delay/Veh:** 13.2 13.2

**LOS by Move:** E E E E B B B C C B B B

**HCM AvgQ:** 16 16 15 2 2 2 6 7 6 4 4 2

Note: Queue reported is the number of cars per lane.

### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #75: 16th St / Bryant**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 64 258 103

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- **Critical V/C:** 0.945

**Avg Crit Del (sec/veh):** 49.5

**Avg Delay (sec/veh):** 49.7

**Cycle Time (sec):** 50

**Loss Time (sec):** 10

**Delay Adj:** 1.00

- **Delay/Veh:** 92.3

- **Critical V/C:** 0.945

- **Avg Crit Del (sec/veh):** 49.5

- **Avg Delay (sec/veh):** 49.7

**Base Vol:** 50

**Growth Adj:** 1.00

**Delay Adj:** 1.00

- **Delay/Veh:** 92.3

- **Critical V/C:** 0.945

- **Avg Crit Del (sec/veh):** 49.5

- **Avg Delay (sec/veh):** 49.7

**Saturation Flow Module:**

- **Sat/Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
- **Adj/Speed:** 60 60 60 60 60 60 60 60 60 60 60 60
- **Lanes:** 8 8 8 8 8 8 8 8 8 8 8 8

- **FinalVolume:** 53 378

- **0 0 1! 0 0**

- **Cycle Time (sec):** 50

- **Loss Time (sec):** 10

- **Delay Adj:** 1.00

- **Delay/Veh:** 92.3

- **Critical V/C:** 0.945

- **Avg Crit Del (sec/veh):** 49.5

- **Avg Delay (sec/veh):** 49.7

**Capacity Analysis Module:**

- **Vol/Sat:** 0.41

- **Critt Move:** 0.19 0.19 0.19 0.33 0.33 0.33 0.33 0.19 0.19 0.19

- **Green/Cycle:** 0.40

- **Volume/Cap:** 0.03

- **Uniform Del:** 15.0 15.0 15.0 15.0 15.0 15.0 15.0 15.0 15.0 15.0 15.0 15.0

- **InQueueDel:** 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

- **Delay Adj:** 1.00

- **Delay/Veh:** 12.6 12.6

- **User Del/Adj:** 1.00

- **Delay Adj:** 1.00

- **Delay/Veh:** 13.2 13.2

**LOS by Move:** F F F F F B B B C

**HCM AvgQ:** 20 20 15 15 15 4 4 7 7 4

Note: Queue reported is the number of cars per lane.
### 2000 HCM Operations (Future Volume Alternative)

#### 2040 AM

**Intersection #440: Mariposa/I-280SB**

- **Signal=Permit/Rights=Include**
- **Base+Add Vol:** 0 0 0 0 0
- **Lanes:** 0 0 0 0 0
- **Cycle Time (sec):** 90
- **Loss Time (sec):** 7
- **Critical V/C:** 0.34
- **Avg Crit Del (sec/veh):** 0.8
- **Loss Time (sec):** 1
- **Avg Del (sec/veh):** 8.4
- **LOS:** A

**Street Name:** I-280 Southbound Ramp

**Approach:** North Bound  South Bound  East Bound  West Bound

| Movement | L | T | R | L | T | R | L | T | R | L | T | R | L | T | R | L | T | R | L | T | R | L | T | R |
| Min. Green: | 0 0 0 0 0 0 0 31 31 31 55 88 0 |
| Reduct Vol: | 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 |
| Delay Adj: | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| Delay/Veh: | 0.0 0.0 0.0 0.0 0.0 0.0 0.0 25.2 25.2 25.2 25.2 25.2 25.2 25.2 25.2 25.2 25.2 25.2 25.2 25.2 25.2 |
| User Del Adj: | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| LOS by Move: | A A A A A A A A |
| HCM2kAvgQ: | 0 0 0 0 0 0 0 6 3 3 3 5 0 |

**Note:** Queue reported in number of cars per lane.

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### 2000 HCM Operations (Future Volume Alternative)

#### 2040 PM

**Intersection #440: Mariposa/I-280SB**

- **Signal=Permit/Rights=Include**
- **Base+Add Vol:** 0 0 0 0 0
- **Lanes:** 0 0 0 0 0
- **Cycle Time (sec):** 90
- **Loss Time (sec):** 7
- **Critical V/C:** 0.458
- **Avg Crit Del (sec/veh):** 0.6
- **Loss Time (sec):** 1
- **Avg Del (sec/veh):** 8.4
- **LOS:** B

**Street Name:** I-280 Southbound Ramp

**Approach:** North Bound  South Bound  East Bound  West Bound

| Movement | L | T | R | L | T | R | L | T | R | L | T | R | L | T | R | L | T | R | L | T | R | L | T | R | L | T | R |
| Min. Green: | 0 0 0 0 0 0 0 31 31 31 55 88 0 |
| Reduct Vol: | 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 |
| Delay Adj: | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| Delay/Veh: | 0.0 0.0 0.0 0.0 0.0 0.0 0.0 26.4 26.4 26.4 26.4 26.4 26.4 26.4 26.4 26.4 26.4 26.4 26.4 26.4 26.4 |
| User Del Adj: | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| LOS by Move: | A A A A A A A A |
| HCM2kAvgQ: | 0 0 0 0 0 0 0 8 8 8 8 14 3 0 |

**Note:** Queue reported in number of cars per lane.
Year 2040 Plus LRDP (Mission Bay Variant; 4-Lane 16th Street; Mission Bay Only)
### Level Of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

#### Intersection #24: King/3rd

**Signal=Split/Rights=Include**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th>Sig/Prtner/RightIndx</th>
</tr>
</thead>
<tbody>
<tr>
<td>714</td>
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</table>

<table>
<thead>
<tr>
<th>Sig/Prtner/RightIndx</th>
<th>Cycle Time (sec)</th>
<th>Loss Time (sec)</th>
<th>Critical V/C</th>
<th>Avg Crit Del (sec/veh)</th>
<th>Veh Del (sec/veh)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>115</td>
<td>3</td>
<td>0.873</td>
<td>59.5</td>
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<table>
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<th>Avg Delay (sec)</th>
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<tbody>
<tr>
<td>54.4</td>
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#### Intersection #24: King/3rd

**Signal=Protect**

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<table>
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<th>Loss Time (sec)</th>
<th>Critical V/C</th>
<th>Avg Crit Del (sec/veh)</th>
<th>Veh Del (sec/veh)</th>
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<tr>
<td></td>
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<table>
<thead>
<tr>
<th>Avg Delay (sec)</th>
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<tbody>
<tr>
<td>75.6</td>
<td>E</td>
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<table>
<thead>
<tr>
<th>Street Name:</th>
<th>3rd Street</th>
<th>King Street</th>
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<table>
<thead>
<tr>
<th>Movement:</th>
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<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
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<tbody>
<tr>
<td>Min. Green:</td>
<td>34 34 34 34 34 34 34 34 34 34</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Critical V/C:</td>
<td>0.870</td>
<td>0.870</td>
<td>0.870</td>
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<tr>
<td>Avg Del (sec/veh):</td>
<td>59.5</td>
<td>59.5</td>
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<tr>
<td>Veh Del (sec/veh):</td>
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**Capacity Analysis Module:**

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<th>0.30</th>
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**Saturation Flow Module:**

- **Sat/Lane:**
  - North Bound: 1900
  - South Bound: 1900
  - East Bound: 1900
  - West Bound: 1900

<table>
<thead>
<tr>
<th>Movement:</th>
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<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
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</tr>
</thead>
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<tr>
<td>Min. Green:</td>
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**Capacity Analysis Module:**

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<th>0.21</th>
<th>0.29</th>
<th>0.29</th>
<th>0.13</th>
<th>0.33</th>
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</table>

**Saturation Flow Module:**

- **Sat/Lane:**
  - North Bound: 1900
  - South Bound: 1900
  - East Bound: 1900
  - West Bound: 1900

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<tbody>
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<td>Avg Del (sec/veh):</td>
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**Saturation Flow Module:**

- **Sat/Lane:**
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- **Sat/Lane:**
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<td>LOS:</td>
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</tbody>
</table>

Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

**Intersection #25: King/4th**

**Signal=Permit/Rights=Include**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
</tr>
</thead>
<tbody>
<tr>
<td>245</td>
<td>4</td>
</tr>
</tbody>
</table>

**Vol Cnt Date:** n/a  
**Cycle Time (sec):** 115

**Initial Setup:**
- **Base Vol:** 245
- **Growth Adj:** 1.00
- **User Adj:**
  - **Critical V/C:** 0.912
  - **User DelAdj:** 1.00

**Loss Time (sec):** 0

**Critical V/C:**
- **Loss Time (sec):** 19
- **Cycle Time (sec):** 110

**Street Name:**
- **4th Street**
- **King Street**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>E</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>E</th>
<th>T</th>
<th>R</th>
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<tbody>
<tr>
<td>YRt:</td>
<td>6.0 6.0 6.0 6.0 6.0 6.0 7.0 7.0 7.0 7.0 7.0 7.0</td>
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<td>LOS:</td>
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</tbody>
</table>

**Summary:**
- **Base+Add Vol:** 245
- **Vol Cnt Date:** n/a
- **Cycle Time (sec):** 115
- **Initial Setup:**
  - **Base Vol:** 245
  - **Growth Adj:** 1.00
  - **User Adj:**
    - **Critical V/C:** 0.912
    - **User DelAdj:** 1.00
  - **Loss Time (sec):** 0
  - **Critical V/C:**
    - **Loss Time (sec):** 19
    - **Cycle Time (sec):** 110

**Street Name:**
- **4th Street**
- **King Street**

<table>
<thead>
<tr>
<th>Movement</th>
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<th>T</th>
<th>R</th>
<th>L</th>
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<th>T</th>
<th>R</th>
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<tbody>
<tr>
<td>YRt:</td>
<td>6.0 6.0 6.0 6.0 6.0 6.0 7.0 7.0 7.0 7.0 7.0 7.0</td>
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<tr>
<td>LOS:</td>
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### Level Of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

**Intersection #25: King/4th**

**Signal=Permit/Rights=Overlap**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
</tr>
</thead>
<tbody>
<tr>
<td>928</td>
<td>4</td>
</tr>
</tbody>
</table>

**Vol Cnt Date:** n/a  
**Cycle Time (sec):** 115

**Initial Setup:**
- **Base Vol:** 928
- **Growth Adj:** 1.00
- **User Adj:**
  - **Critical V/C:** 1.030
  - **User DelAdj:** 1.00

**Loss Time (sec):** 0

**Critical V/C:**
- **Loss Time (sec):** 19
- **Cycle Time (sec):** 110

**Street Name:**
- **4th Street**
- **King Street**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>E</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>E</th>
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<th>R</th>
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<tbody>
<tr>
<td>YRt:</td>
<td>6.0 6.0 6.0 6.0 6.0 6.0 7.0 7.0 7.0 7.0 7.0 7.0</td>
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<td>LOS:</td>
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**Summary:**
- **Base+Add Vol:** 928
- **Vol Cnt Date:** n/a
- **Cycle Time (sec):** 115
- **Initial Setup:**
  - **Base Vol:** 928
  - **Growth Adj:** 1.00
  - **User Adj:**
    - **Critical V/C:** 1.030
    - **User DelAdj:** 1.00
  - **Loss Time (sec):** 0
  - **Critical V/C:**
    - **Loss Time (sec):** 19
    - **Cycle Time (sec):** 110

**Street Name:**
- **4th Street**
- **King Street**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>E</th>
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<td>LOS:</td>
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</table>
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)

Intersection #26: 7th St/Brannan

Signal=Permit
Rights=Include

Base+Add Vol: 0  0     0
Lanes: 0 0 0  0 0

Cycle Time (sec): 60
Loss Time (sec): 8

Critical V/C: 0.740
Avg Crit Del (sec/veh): 46.7

User DelAdj: 1.00 1.00  1.00  1.00 1.00  ...

LOS by Move:    C    C     B     A    A     A     B    B     D     A    A     A

HCM2kAvgQ:     12   12     2     0    0    0     2   10    25     3    3     3

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)

Intersection #26: 7th St/Brannan

Signal=Permit
Rights=Include

Base+Add Vol: 0  0     0
Lanes: 0 0 0  0 0

Cycle Time (sec): 60
Loss Time (sec): 8

Critical V/C: 1.210
Avg Crit Del (sec/veh): 123.6

User DelAdj: 1.00 1.00  1.00  1.00 1.00  ...

LOS by Move:    F    F     B     A    A     A     F    C     C     B    B     B

HCM2kAvgQ:     35   35     3     0    0    0     5   13    13     5    5     5

Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

#### Intersection #27: Channel/3rd

**Signal=Protect/Rights=Include**

- **Base+Add Vol:** 35 398 97
- **Lanes:** 0 1 1 0 1

**Cycle Time (sec):** 100

**Loss Time (sec):**

- **Critical V/C:** 0.902
- **vg Crit Del (sec/veh):** 60.2

**vg Delay (sec/veh):** 52.3

**LOS:** D

---

**Street Name:** 3rd Street

**Approach:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>T</td>
<td>R</td>
<td>L</td>
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<table>
<thead>
<tr>
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<td>5</td>
</tr>
<tr>
<td>58</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>204</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>

**Cycle Vol:**

<table>
<thead>
<tr>
<th>Street Name</th>
<th>3rd Street</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vol:</strong></td>
<td>35 398 97</td>
</tr>
<tr>
<td><strong>Growth Adj:</strong></td>
<td>1.00 1.00 1.00</td>
</tr>
<tr>
<td><strong>Delay Adj:</strong></td>
<td>1.00 1.00 1.00</td>
</tr>
<tr>
<td><strong>Delay/Veh:</strong></td>
<td>32.3 61.9 61.9</td>
</tr>
</tbody>
</table>

**LOS by Move:**

- C
- E
- E

---

#### Intersection #27: Channel/3rd

**Signal=Permit**

- **Base+Add Vol:** 23 411 58
- **Lanes:** 0 1 1 0 1

**Cycle Time (sec):** 100

**Loss Time (sec):**

- **Critical V/C:** 0.813
- **vg Crit Del (sec/veh):** 60.6

**vg Delay (sec/veh):** 50.8

**LOS:** D

---

**Street Name:** 3rd Street

**Approach:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>T</td>
<td>R</td>
<td>L</td>
<td>T</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vol Cnt</th>
<th>Date</th>
<th>Rights=Include</th>
</tr>
</thead>
<tbody>
<tr>
<td>56</td>
<td>1</td>
<td>77</td>
</tr>
<tr>
<td>98</td>
<td>1</td>
<td>77</td>
</tr>
<tr>
<td>192***</td>
<td>1</td>
<td>77</td>
</tr>
</tbody>
</table>

**Cycle Vol:**

<table>
<thead>
<tr>
<th>Street Name</th>
<th>3rd Street</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vol:</strong></td>
<td>23 411 58</td>
</tr>
<tr>
<td><strong>Growth Adj:</strong></td>
<td>1.00 1.00 1.00</td>
</tr>
<tr>
<td><strong>Delay Adj:</strong></td>
<td>1.00 1.00 1.00</td>
</tr>
<tr>
<td><strong>Delay/Veh:</strong></td>
<td>32.6 64.0 64.0</td>
</tr>
</tbody>
</table>

**LOS by Move:**

- C
- C
- C

---

### Capacity Analysis Module

| Vol/Sat | 0.03 0.53 0.53 0.07 0.15 0.15 0.18 0.18 0.16 0.00 0.00 0.00 |
|---------|----------------|--------------------|
| **Crit Moves:** | **** | **** |
| **Green/Cycle:** | 0.22 0.50 0.50 0.10 0.38 0.38 0.29 0.25 0.25 0.25 0.25 0.25 |
| **Volume/Cap:** | 0.12 0.65 0.65 0.50 0.49 0.39 0.70 0.70 0.70 0.70 0.70 0.70 |
| **Uniform Del:** | 31.3 25.0 43.4 22.6 22.6 34.1 34.1 33.3 28.3 28.3 28.3 |
| **Base Vol:** | 20 1424 68 |
| **Growth Adj:** | 1.20 2.90 2.90 4.50 0.80 0.80 1.10 1.10 1.10 1.10 |
| **Delay Adj:** | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| **LOS by Move:** | C E |
| **Queue Del:** | 0.30 0.29 0.29 0.29 0.29 0.29 0.29 0.29 0.29 |

**Note:** Queue reported is the number of cars per lane.
### Intersection #28: Channel 4th

#### 2000 HCM Operations (Future Volume Alternative)

**Street Name:** 4th Street  
**Approach:** North Bound  
**Channel:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
</table>

**Volume Module:**

- **Base Vol:** 16 114 29 273 266 183
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00
- **InitVol:** 16 114 29 273 266 183
- **User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00
- **MLP Adj:** 1.00 1.00 1.00 1.00 1.00 1.00
- **FinalVolume:** 19 134 34 321 313 215

**Saturation Flow Module:**

- **Sat/Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
- **Adjustment:** 0.22 0.46 0.46 0.46 0.46 0.46 0.46 0.46 0.46
- **Lanes:** 1.00 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80
- **Final Sat.:** 410 1002 255 1539 901 620 161 1163 85 531 1062 1377

**Capacity Analysis Module:**

- **Vol/Sat:** 0.05 0.13 0.13 0.21 0.35 0.35 0.12 0.12 0.12 0.03 0.03 0.07
- **Crt Moves:** ****  ****  ****  ****  ****  ****  ****  ****  ****  ****  ****  ****
- **Green/Cycle:** 0.33 0.33 0.33 0.22 0.65 0.55 0.14 0.14 0.14 0.14 0.14 0.14
- **Volume/Cap:** 0.14 0.14 0.14 0.14 0.14 0.14 0.14 0.14 0.14 0.14 0.14 0.14
- **Uniform Del:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
- **InitQueuelDel:** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
- **Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Delay/Veh:** 173.19 19.6 63.2 137.7 137.7 66.9 21.2 21.2 25.1 25.1 30.5
- **User Del(Adj):** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **AdjVol/veh:** 17.3 19.6 19.6 63.2 137.7 137.7 66.9 21.2 21.2 25.1 25.1 30.5

**LOS by Move:**

- **B:** B  B  B  E  B  B  E  C  C  C  C  C
- **C:** 3  3  3  3  3  3  1  1  1  1  1  1

**Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #29: Mission Rock/3rd**

- **Signal=Protect/Rights=Include**
- **Base+Add Vol:** 24, 513, 64***
- **Lanes:** 0, 1, 1, 0, 1

**Signal=Permit**

<table>
<thead>
<tr>
<th>Cycle Time (sec)</th>
<th>Loss Time (sec)</th>
<th>Critical V/C</th>
<th>Avg Del (sec/veh)</th>
<th>Avg Delay (sec/veh)</th>
<th>LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>15</td>
<td>0.785</td>
<td>54.9</td>
<td>0</td>
<td>O</td>
</tr>
</tbody>
</table>

**Base+Add Lanes:** Rights=Include Vol Cnt Date: n/a Rights=Include Lanes: Base+Add

- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0
- **Critical V/C:** 0.785
- **Avg Del (sec/veh):** 54.9
- **Avg Delay (sec/veh):** 47.4
- **LOS:** O

### Level Of Service Computation Report

#### 2040 Var S2B AM

**Intersection #29: Mission Rock/3rd**

- **Signal=Protect/Rights=Include**
- **Base+Add Vol:** 23, 0

**Signal=Permit**

<table>
<thead>
<tr>
<th>Cycle Time (sec)</th>
<th>Loss Time (sec)</th>
<th>Critical V/C</th>
<th>Avg Del (sec/veh)</th>
<th>Avg Delay (sec/veh)</th>
<th>LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0.685</td>
<td>50.0</td>
<td>0</td>
<td>D</td>
</tr>
</tbody>
</table>

**Base+Add Lanes:** Rights=Include Vol Cnt Date: n/a Rights=Include Lanes: Base+Add

- **Cycle Time (sec):** 0
- **Loss Time (sec):** 0
- **Critical V/C:** 0.685
- **Avg Del (sec/veh):** 50.0
- **Avg Delay (sec/veh):** 42.4
- **LOS:** D

### Street Name:

**3rd Street**

- **Mission Rock**

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>T</td>
<td>R</td>
<td>L</td>
<td>T</td>
</tr>
</tbody>
</table>

**Vol:** 26 1614 30 64 513 24 23 18 66 35 14 47

**Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**InitQueuDel:** 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

**User Del Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**LOS by Move:** C D D D D C C C C C C C C

**HCM2kAvgQ:** 1 3 8 4 12

**Note:** Queue reported is the number of cars per lane.

---

### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #29: Mission Rock/3rd**

- **Signal=Protect/Rights=Include**
- **Base+Add Vol:** 4, 615, 13***

**Signal=Permit**

<table>
<thead>
<tr>
<th>Cycle Time (sec)</th>
<th>Loss Time (sec)</th>
<th>Critical V/C</th>
<th>Avg Del (sec/veh)</th>
<th>Avg Delay (sec/veh)</th>
<th>LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0.895</td>
<td>50.0</td>
<td>0</td>
<td>D</td>
</tr>
</tbody>
</table>

**Base+Add Lanes:** Rights=Include Vol Cnt Date: n/a Rights=Include Lanes: Base+Add

- **Cycle Time (sec):** 0
- **Loss Time (sec):** 0
- **Critical V/C:** 0.895
- **Avg Del (sec/veh):** 50.0
- **Avg Delay (sec/veh):** 42.4
- **LOS:** D

### Street Name:

**3rd Street**

- **Mission Rock**

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>T</td>
<td>R</td>
<td>L</td>
<td>T</td>
</tr>
</tbody>
</table>

**Vol:** 67 1432 8 13 615 4 69 4 103 176 68 51

**Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**InitQueuDel:** 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

**User Del Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**LOS by Move:** E D C C C C C C C C C C

**HCM2kAvgQ:** 3 3 3 3 3 3 3 3 3 3 3 3 3

**Note:** Queue reported is the number of cars per lane.
### Traffic Flow Module: 1900 - Mission Bay North

**Intersection #30: Mission Bay North/3rd**

**Signal=Protect/Rights=Include**

<table>
<thead>
<tr>
<th>Lane</th>
<th>Base Vol</th>
<th>Add Vol</th>
<th>Total Vol</th>
<th>Add Lanes</th>
<th>Vol Cnt Date</th>
<th>Time of Day</th>
<th>Critical V/C</th>
<th>Avg Crit Del (sec)</th>
<th>Avg Delay (sec)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left</td>
<td>53 1641</td>
<td>0</td>
<td>53 1641</td>
<td>0</td>
<td>n/a</td>
<td>PM</td>
<td>0.643</td>
<td>28.9</td>
<td>27.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Right</td>
<td>87 1523</td>
<td>0</td>
<td>87 1523</td>
<td>0</td>
<td>n/a</td>
<td>AM</td>
<td>0.662</td>
<td>38.0</td>
<td>38.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Street Name:** 3rd Street

**Approach:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>T</td>
<td>R</td>
<td>L</td>
<td>R</td>
<td>L</td>
</tr>
<tr>
<td>Min. Green</td>
<td>14 57 57 15 38 38</td>
<td>0 0 0</td>
<td>33 33 33</td>
<td></td>
</tr>
<tr>
<td>Cycle Time (sec)</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Loss Time (sec)</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Critical V/C</td>
<td>0.643</td>
<td>0.662</td>
<td>0.662</td>
<td>0.643</td>
</tr>
<tr>
<td>Avg Del (sec)</td>
<td>28.9</td>
<td>38.0</td>
<td>38.0</td>
<td>27.4</td>
</tr>
</tbody>
</table>

**Volume Module:**

- Base Vol: 87 1523
- Growth Adj: 1.00
- Delay Adj: 1.00

**LOS:** C

**HCM2kAvgQ:** 2

Note: Queue reported is the number of cars per lane.
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)

Intersection #31: Mission Bay South/3rd
Signal=Protect/Rights=Include

Base+Add Vol: 0 1677 79 23 507

Lanes: 0 0 2 0 1

Cycle Time (sec): 100

Loss Time (sec): 10

Critical V/C: 0.592

Avg Crit Del (sec/veh): 48.8

Delay Adj: 0.00 1.00 1.00 1.00 1.00 0.00 1.00 1.00

Delay/Veh: 0.0 40.6 40.6 37.6 11.6 0.0 23.7 23.7

User DelAdj: 1.00 1.00 1.00 1.00 1.00 0.00 1.00 1.00

LOS by Move: A D D B A C C C A A

HCM2kAvgQ: 0 28 28 0 1 3 0 0

Note: Queue reported is the number of cars per lane.

Street Name: 3rd Street Mission Bay South
Approach: North Bound South Bound East Bound West Bound
Movement: L T R L T R L T R L T R

Volume Module:
Base Vol: 0 1677 79 23 507
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Added Vol: 0 0 0 0 0 0 0 0 0 0 0
PassByVol: 0 0 0 0 0 0 0 0 0 0 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

LOS: D

---

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)

Intersection #31: Mission Bay South/3rd
Signal=Protect/Rights=Include

Base+Add Vol: 0 1514 114 7 1007

Lanes: 0 0 2 1 0

Cycle Time (sec): 100

Loss Time (sec): 10

Critical V/C: 0.464

Avg Crit Del (sec/veh): 16.5

Delay Adj: 0.00 1.00 1.00 1.00 1.00 0.00 1.00 1.00

Delay/Veh: 0.0 45.8 45.8 35.9 15.6 0.0 25.3 25.3

User DelAdj: 1.00 1.00 1.00 1.00 1.00 0.00 1.00 1.00

LOS by Move: A D D B A C C C A A

HCM2kAvgQ: 0 24 24 0 1 2 1 0 0

Note: Queue reported is the number of cars per lane.
## Level of Service Computation Report

### FHWA Roundabout (Future Volume Alternative)

### 2040 Var S2B AM

**Intersection #32: Mission Bay/Owens**

<table>
<thead>
<tr>
<th>Base+Add Vol Lanes:</th>
<th>0 0 1 0 0</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vol Cnt Date</strong></td>
<td>21 180 8</td>
</tr>
<tr>
<td><strong>Cycle Time (sec)</strong></td>
<td>100</td>
</tr>
<tr>
<td><strong>Loss Time (sec)</strong></td>
<td>0</td>
</tr>
</tbody>
</table>

**Street Name:** Mission Bay

**Approach:** North Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Vol:</td>
<td>114 10 25 8 180 21 87 178 345 26 134 7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Growth Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Base:</td>
<td>114 10 25 8 180 21 87 178 345 26 134 7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Added Vol:</td>
<td>0 0 0 0 0 0 0 0 0 0 0 0 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Put:</td>
<td>114 10 25 8 180 21 87 178 345 26 134 7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>User Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Critical V/C:</strong></td>
<td>0.815</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cycle Time (sec):</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss Time (sec):</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Critical V/C Delay:</strong></td>
<td>11.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Avg Delay:</strong></td>
<td>11.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Avg Del (sec/veh):</strong></td>
<td>11.1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Street Name:** Owens Street

**Approach:** South Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Vol:</td>
<td>114 10 25 8 180 21 87 178 345 26 134 7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Growth Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Base:</td>
<td>114 10 25 8 180 21 87 178 345 26 134 7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Added Vol:</td>
<td>0 0 0 0 0 0 0 0 0 0 0 0 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Put:</td>
<td>114 10 25 8 180 21 87 178 345 26 134 7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>User Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Critical V/C:</strong></td>
<td>0.618</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cycle Time (sec):</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss Time (sec):</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Critical V/C Delay:</strong></td>
<td>6.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Avg Delay:</strong></td>
<td>6.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Avg Del (sec/veh):</strong></td>
<td>6.8</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 2040 Var S2B PM

**Intersection #32: Mission Bay/Owens**

<table>
<thead>
<tr>
<th>Base+Add Vol Lanes:</th>
<th>0 0 1 0 0</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vol Cnt Date</strong></td>
<td>0 40 0</td>
</tr>
<tr>
<td><strong>Cycle Time (sec)</strong></td>
<td>100</td>
</tr>
<tr>
<td><strong>Loss Time (sec)</strong></td>
<td>10</td>
</tr>
</tbody>
</table>

**Street Name:** Mission Bay

**Approach:** North Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Vol:</td>
<td>551 40 30 0 40 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Growth Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Base:</td>
<td>551 40 30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Added Vol:</td>
<td>0 0 0 0 0 0 0 0 0 0 0 0 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Put:</td>
<td>551 40 30 0 40 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>User Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Critical V/C:</strong></td>
<td>0.592</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cycle Time (sec):</td>
<td>100</td>
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</tr>
<tr>
<td>Loss Time (sec):</td>
<td>0</td>
<td></td>
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<tr>
<td><strong>Critical V/C Delay:</strong></td>
<td>3.8</td>
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<tr>
<td><strong>Avg Delay:</strong></td>
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<tr>
<td><strong>Avg Del (sec/veh):</strong></td>
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**Street Name:** Owens Street

**Approach:** South Bound

<table>
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<tr>
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<tr>
<td>Base Vol:</td>
<td>551 40 30 0 40 0</td>
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<tr>
<td>Growth Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
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<tr>
<td>Initial Base:</td>
<td>551 40 30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Added Vol:</td>
<td>0 0 0 0 0 0 0 0 0 0 0 0 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Put:</td>
<td>551 40 30 0 40 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>User Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
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<tr>
<td><strong>Critical V/C:</strong></td>
<td>0.592</td>
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<tr>
<td>Cycle Time (sec):</td>
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<tr>
<td>Loss Time (sec):</td>
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<tr>
<td><strong>Critical V/C Delay:</strong></td>
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<td></td>
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<tr>
<td><strong>Avg Delay:</strong></td>
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<tr>
<td><strong>Avg Del (sec/veh):</strong></td>
<td>3.8</td>
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</table>
Intersection #33: Mission Bay/7th

Signal=Protect

Base+Add Vol: 0 270*** 864
Lanes: 0 0 2 0 1

Critical V/C: 0.345

User DelAdj: 1.00 1.00 1.00 1.00 1.00

LOS: D

Saturation Flow Module:

Sat/Lane: 1900 1900 1900 1900 1900
Adjustment: 1.00 1.00 1.00 1.00 1.00
Lanes: 0.00 0.00 2.00
Final Sat.: 0.00 0.00 1377

Capacity Analysis Module:

Vol/Sat: 0.00 0.29 0.05 0.21 0.17 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.12 0.00

Note: Queue reported is the number of cars per lane.

Street Name: 7th Street
Approach: North Bound South Bound East Bound West Bound

Movement: L  T  R  L  T  R  L  T  R  L  T  R

Min. Green: 0  36  32  14  57  32  32  32  32  32  32  32

Cycle Time (sec): 100

Loss Time (sec): 14

Critical V/C: 0.345

Avg Crit Del (sec/veh): 20.1

Avg Delay (sec/veh): 38.3

FinalVolume: 0 864 72 313 270 313 270 270 270 186 460

HCM2kAvgQ: 0 16 2 14 0 0 0 0 5 8

Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

#### Intersection #34: 16th/3rd

**Street Name:**
- North Bound: 3rd Street
- South Bound: 16th Street
- East Bound: 3rd Street
- West Bound: 16th Street

**Approach:**
- Movement: L - T - R
- L - T - R
- L - T - R
- L - T - R

**Movement:**
- **Min. Green:** 19 50 50 9 36 36 28 28 28 28 28 28
- **Y/R:** 6.0 5.0 5.0 5.0 5.0 5.0 5.5 5.5 5.5 5.5 5.5 5.5

**Volume Module:**
- **Base Vol:** 440 449 58 97 261 203 180 245 192 27 117 83
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Critical V/C:** 0.922
- **Avg Crit Del (sec/veh):** 62.2
- **Avg Delay (sec/veh):** 49.4
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **LOS:** D

**Saturation Flow Module:**
- **Sat/Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
- **Adjument:** 0.79 0.43 0.31 0.31 0.31 0.31 0.31 0.31 0.31 0.31 0.31 0.31
- **Lanes:** 2.00 1.92 0.08 1.00 1.13 0.87 1.00 1.12 0.88 1.00 1.00 1.00
- **Final Sat.:** 2987 2943 118 1539 1618 1258 901 1151 1185 609 1236 1236

**Capacity Analysis Module:**
- **Vol/Sat:** 0.15 0.21 0.51 0.07 0.17 0.17 0.21 0.17 0.17 0.05 0.09 0.11
- **Green/Cycle:** 0.20 0.49 0.49 0.49 0.38 0.38 0.27 0.27 0.27 0.27 0.27 0.27
- **Volume/Cap:** 0.71 0.65 1.05 0.78 0.48 0.46 0.76 0.62 0.17 0.38 0.39
- **User DelAdj:** 1.00 1.00 1.00 0.99 0.99 0.99 0.99 0.99 0.99 0.99 0.99 0.99
- **Del/QueueDel:** 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
- **LOS by Move:** D E R E E C D D C C C

Note: Queue reported is the number of cars per lane.

---

### Level Of Service Computation Report

#### 2040 Var S2B AM

**Street Name:**
- North Bound: 3rd Street
- South Bound: 16th Street
- East Bound: 3rd Street
- West Bound: 16th Street

**Approach:**
- Movement: L - T - R
- L - T - R
- L - T - R
- L - T - R

**Movement:**
- **Min. Green:** 14 50 50 9 41 41 5 6 6 5 6 6
- **Y/R:** 6.0 5.0 5.0 5.0 5.0 5.0 5.5 5.5 5.5 5.5 5.5 5.5

**Volume Module:**
- **Base Vol:** 322 1091 7 65 923 216 193 127 353 26 267 117
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Critical V/C:** 0.968
- **Avg Crit Del (sec/veh):** 60.3
- **Avg Delay (sec/veh):** 47.3
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **LOS by Move:** E C C C F D F C E E C C

Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

#### 2040 Var S2B AM

**Intersection #35: 16th/4th**

- **Signal=Permit/Rights=Include**
- **Base+Add Vol:** 110 65*** 23
- **Lanes:** 0 1 0 0 1
- **Cycle Time (sec):** 90
- **Loss Time (sec):** 15
- **Critical V/C:** 0.690
- **Avg Crit Del (sec/veh):** 57.2
- **Loss Time (sec):** 15
- **Avg Delay (sec):** 43.3

#### 2040 Var S2B PM

**Intersection #35: 16th/4th**

- **Signal=Permit/Rights=Include**
- **Base+Add Vol:** 228 34*** 88
- **Lanes:** 0 1 0 0 1
- **Cycle Time (sec):** 90
- **Loss Time (sec):** 15
- **Critical V/C:** 0.530
- **Avg Crit Del (sec/veh):** 35.1
- **Loss Time (sec):** 15
- **Avg Delay (sec):** 30.7

### Street Name: 4th Street

#### Approach

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
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<tr>
<td>Y+R</td>
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<td>5</td>
<td>5</td>
<td>5</td>
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<tr>
<td>Street Name</td>
<td>4th Street</td>
<td>4th Street</td>
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<td></td>
</tr>
</tbody>
</table>

| Movement | L T L T L T |
|----------|-------------|-------------|
| Min. Green | 20 | 20 | 20 | 20 | 20 | 20 |
| Y+R | 5 | 5 | 5 | 5 | 5 | 5 |

### Street Name: 16th Street

#### Approach

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
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</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Y+R</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Street Name</td>
<td>16th Street</td>
<td>16th Street</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Movement | L T L T L T |
|----------|-------------|-------------|
| Min. Green | 20 | 20 | 20 | 20 | 20 | 20 |
| Y+R | 5 | 5 | 5 | 5 | 5 | 5 |

### Capacity Analysis Module

<table>
<thead>
<tr>
<th>Volume Module:</th>
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</thead>
<tbody>
<tr>
<td>Base Vol: 100 86 85 23 65 110 292 509 77 54 550 156</td>
</tr>
<tr>
<td>Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
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### Capacity Analysis Module

<table>
<thead>
<tr>
<th>Volume Module:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Vol: 49 54 77 88 34 228 127 509 14 52 767 77</td>
</tr>
<tr>
<td>Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
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</tbody>
</table>

### Note

- Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #36: 16th/Owens**

**Signal=Permit/Rights=Include**

**Base+Add Vol:**

<table>
<thead>
<tr>
<th>Lane</th>
<th>Vol</th>
<th>Cycle Time (sec)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>75</td>
<td>232</td>
</tr>
<tr>
<td>T</td>
<td>21</td>
<td>180</td>
</tr>
<tr>
<td>R</td>
<td>21</td>
<td>180</td>
</tr>
</tbody>
</table>

**Base+Add Lanes:**

<table>
<thead>
<tr>
<th>Lane</th>
<th>Rights=Include Vol Cnt Date</th>
<th>Rights=Include Lanes Base+Add</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>137</td>
<td>n/a</td>
</tr>
</tbody>
</table>

**Cycle Time (sec):** 60

**Loss Time (sec):** 0

**Critical V/C:** 0.758

**Avg Crit Del (sec/veh):** 45.6

**Avg Delay (sec/veh):** 37.2

**LOS:** D

**Street Name:** Owens St, 16th St

<table>
<thead>
<tr>
<th>Approach</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
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</thead>
<tbody>
<tr>
<td>Movement</td>
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<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
</tr>
</tbody>
</table>

#### Traffic Flow Module

**Sat/Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

**Adjustment:** 0.45 0.78 0.78 0.78 0.78 0.78 0.78 0.78 0.78 0.78

**Lanes:** 1.00 1.44 0.56 0.47 1.53 1.00 1.00 1.54 0.46 1.00 1.43 0.57

**Final Sat.:** 664 2122 826 550 1796 1377 1539 2148 641 1539 2103 843

### Level Of Service Computation Report

#### 2040 Var S2B PM

**Intersection #36: 16th/Owens**

**Signal=Permit/Rights=Include**

**Base+Add Vol:**

<table>
<thead>
<tr>
<th>Lane</th>
<th>Vol</th>
<th>Cycle Time (sec)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
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<td>358</td>
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<tr>
<td>T</td>
<td>69</td>
<td>137</td>
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<tr>
<td>R</td>
<td>92</td>
<td>137</td>
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</table>

**Base+Add Lanes:**

<table>
<thead>
<tr>
<th>Lane</th>
<th>Rights=Include Vol Cnt Date</th>
<th>Rights=Include Lanes Base+Add</th>
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</thead>
<tbody>
<tr>
<td>L</td>
<td>138</td>
<td>n/a</td>
</tr>
</tbody>
</table>

**Cycle Time (sec):** 60

**Loss Time (sec):** 1

**Critical V/C:** 0.724

**Avg Crit Del (sec/veh):** 36.7

**Avg Delay (sec/veh):** 25.4

**LOS:** C

**Street Name:** Owens St, 16th St

<table>
<thead>
<tr>
<th>Approach</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
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<tbody>
<tr>
<td>Movement</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
</tr>
</tbody>
</table>

#### Traffic Flow Module

**Sat/Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

**Adjustment:** 0.30 0.76 0.76 0.76 0.76 0.76 0.76 0.76 0.76 0.76 0.76 0.76

**Lanes:** 1.00 1.14 0.86 0.66 1.34 1.00 1.00 1.17 0.83 1.00 1.79 0.21

**Final Sat.:** 564 1645 1236 704 1430 1377 1539 1584 1124 1539 2714 316

### Traffic Capacity Module

**Vol/Sat:** 0.26 0.11 0.11 0.24 0.24 0.15 0.09 0.24 0.24 0.05 0.31 0.31

**Crit Moves:** ****

**Green/Cycle:** 0.36 0.36 0.36 0.36 0.36 0.36 0.36 0.36 0.36 0.36 0.36 0.36

**Volume/Cap:** 0.72 0.31 0.31 0.31 0.31 0.31 0.31 0.31 0.31 0.31 0.31 0.31

**Capacity Module:**

<table>
<thead>
<tr>
<th>Lane</th>
<th>Vol</th>
<th>Cycle Time (sec)</th>
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</thead>
<tbody>
<tr>
<td>L</td>
<td>75</td>
<td>232</td>
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<tr>
<td>T</td>
<td>21</td>
<td>180</td>
</tr>
<tr>
<td>R</td>
<td>21</td>
<td>180</td>
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</table>

**LOS by Move:**

<table>
<thead>
<tr>
<th>Lane</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
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</tr>
<tr>
<td>B</td>
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</tr>
<tr>
<td>B</td>
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<tr>
<td>F</td>
<td>6</td>
<td>6</td>
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</tr>
</tbody>
</table>

**Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #37: 16th/7th**

**Signal=Split/Rights=Include**

**Base+Add Vol:** 47 78 295

**Lanes:** 0 1 0 0 1

**Cycle Time (sec):** 110

**Loss Time (sec):** 14

**Critical V/C:** 0.944

**Avg Crit Del (sec/veh):** 67.7

**Avg Delay (sec/veh):** 55.4

**LOS:** E

<table>
<thead>
<tr>
<th>Movement</th>
<th>T</th>
<th>L</th>
<th>E</th>
<th>R</th>
<th>T</th>
<th>L</th>
<th>E</th>
<th>R</th>
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<tbody>
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<td>36</td>
<td>36</td>
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<tr>
<td>Added Vol</td>
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<tr>
<td>Reduced Vol</td>
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<tr>
<td>Reduced Vol</td>
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</table>

Note: Queue reported is the number of cars per lane.

---

**Intersection #37: 16th/7th**

**Signal=Permit**

**Base+Add Vol:** 131 90 187

**Lanes:** 0 1 0 0 1

**Cycle Time (sec):** 110

**Loss Time (sec):** 14

**Critical V/C:** 0.730

**Avg Crit Del (sec/veh):** 54.6

**Avg Delay (sec/veh):** 46.6

**LOS:** D

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Note: Queue reported is the number of cars per lane.
Intersection #38: 16th St/Rhode Island

2000 HCM Operations (Future Volume Alternative)

Street Name: Rhode Island Street

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

---

Min. Green:

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Note: Queue reported is the number of cars per lane.
### Intersection #39: 16th/Vermont

#### 2000 HCM Operations (Future Volume Alternative)

**Volume Module**

- **Base Vol:**
  - Vermont: 219
  - 16th: 204
- **Growth Adj:**
  - 1.00
- **Delay Adj:**
  - 1.00
- **Delay/Veh:**
  - 17.1
- **User DelAdj:**
  - 1.00

**Saturation Flow Module**

- **Sat/Lane:**
  - 1900
- **Adjustment:**
  - 0.59

**Capacity Analysis Module**

- **Vol/Sat:**
  - 0.15
- **Crit Moves:**
  - ****

---

**Level Of Service Computation Report**

**Intersection #39: 16th/Vermont**

**Signal=Permit**

**Base+Add Vol:**

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<tr>
<td>T</td>
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**Cycle Time:**

- 60 sec

**Loss Time:**

- n/a

**Critical V/C:**

- 0.79

**Critical Del (sec/veh):**

- 19.4

**Critical Del (sec):**

- 14.4

**Avg Del (sec/veh):**

- 34.8

**Avg Del (sec):**

- 71.0

**Loss Del:**

- C

---

**Volume Module**

- **Base Vol:**
  - Vermont: 219
  - 16th: 204
- **Growth Adj:**
  - 1.00
- **Delay Adj:**
  - 1.00
- **Delay/Veh:**
  - 17.1
- **User DelAdj:**
  - 1.00

**Saturation Flow Module**

- **Sat/Lane:**
  - 1900
- **Adjustment:**
  - 0.59

**Capacity Analysis Module**

- **Vol/Sat:**
  - 0.15
- **Crit Moves:**
  - ****

---

**Level Of Service Computation Report**

**Intersection #39: 16th/Vermont**

**Signal=Permit**

**Base+Add Vol:**

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</table>

**Cycle Time:**

- 60 sec

**Loss Time:**

- 10 sec

**Critical V/C:**

- 0.79

**Critical Del (sec/veh):**

- 19.4

**Critical Del (sec):**

- 14.4

**Loss Del:**

- C

---

**Volume Module**

- **Base Vol:**
  - Vermont: 219
  - 16th: 204
- **Growth Adj:**
  - 1.00
- **Delay Adj:**
  - 1.00
- **Delay/Veh:**
  - 17.1
- **User DelAdj:**
  - 1.00

**Saturation Flow Module**

- **Sat/Lane:**
  - 1900
- **Adjustment:**
  - 0.59

**Capacity Analysis Module**

- **Vol/Sat:**
  - 0.15
- **Crit Moves:**
  - ****

---

**Level Of Service Computation Report**

**Intersection #39: 16th/Vermont**

**Signal=Permit**

**Base+Add Vol:**

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**Cycle Time:**

- 60 sec

**Loss Time:**

- 10 sec

**Critical V/C:**

- 0.79

**Critical Del (sec/veh):**

- 19.4

**Critical Del (sec):**

- 14.4

**Loss Del:**

- C

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**Volume Module**

- **Base Vol:**
  - Vermont: 219
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- **Growth Adj:**
  - 1.00
- **Delay Adj:**
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- **Delay/Veh:**
  - 17.1
- **User DelAdj:**
  - 1.00

**Saturation Flow Module**

- **Sat/Lane:**
  - 1900
- **Adjustment:**
  - 0.59

**Capacity Analysis Module**

- **Vol/Sat:**
  - 0.15
- **Crit Moves:**
  - ****
### Intersection #40: 16th/Potrero

#### 2000 HCM Operations (Future Volume Alternative)

**Signal=Permit/Rights=Include**

<table>
<thead>
<tr>
<th>Lane</th>
<th>% Traffic</th>
<th>% Traffic</th>
<th>% Traffic</th>
<th>% Traffic</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
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<tr>
<td>0</td>
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</tr>
<tr>
<td>1</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

| Cycle Time (sec) | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 |

| Loss Time (sec) | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |

| Critical V/C | 1.134 |

| Avg Crit Del (sec/veh) | 75.6 |

| Avg Delay (sec/veh) | 48.9 |

#### Traffic Volume

<table>
<thead>
<tr>
<th>Lanes</th>
<th>Traffic</th>
<th>Traffic</th>
<th>Traffic</th>
</tr>
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<tr>
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<td>941</td>
<td>172***</td>
</tr>
<tr>
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<td>540</td>
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<tr>
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<td>540</td>
<td>42</td>
</tr>
<tr>
<td>1</td>
<td>57</td>
<td>540</td>
<td>42</td>
</tr>
</tbody>
</table>

| LOS   | D       |

| Average Delay (sec/veh) | 75.6 |

| Average Critical Delay (sec/veh) | 75.6 |

| LOS by Move | C    |

### Street Name: Potrero Ave

#### Approach: North Bound

- **Volume Module:**
  - Base Vol: 114 941 172 460 78
  - Growth Adj: 1.00 1.00 1.00 1.00 1.00
  - Delay Adj: 1.00 1.00 1.00 1.00 1.00
  - Delay/Veh: 21.6 57.8 57.8 281.6 20.6
  - User DelAdj: 1.00 1.00 1.00 1.00 1.00
  - LOS by Move: C

- **Saturation Flow Module:**
  - Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900
  - Adjustment: 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50
  - Lanes: 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
  - Final Volume: 114 941 172 460 78

### Approach: South Bound

- **Volume Module:**
  - Base Vol: 49 42 57 540 42
  - Growth Adj: 2.2 6.4 6.4 6.4 2.3
  - Delay Adj: 1.00 1.00 1.00 1.00 1.00
  - Delay/Veh: 21.6 21.6 21.6 21.6 21.6
  - User DelAdj: 1.00 1.00 1.00 1.00 1.00
  - LOS by Move: E

- **Saturation Flow Module:**
  - Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900
  - Adjustment: 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50
  - Lanes: 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
  - Final Volume: 49 42 57 540 42

### Approach: East Bound

- **Volume Module:**
  - Base Vol: 49 42 57 540 42
  - Growth Adj: 1.00 1.00 1.00 1.00 1.00
  - Delay Adj: 1.00 1.00 1.00 1.00 1.00
  - Delay/Veh: 21.6 21.6 21.6 21.6 21.6
  - User DelAdj: 1.00 1.00 1.00 1.00 1.00
  - LOS by Move: F

- **Saturation Flow Module:**
  - Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900
  - Adjustment: 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50
  - Lanes: 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
  - Final Volume: 49 42 57 540 42

### Approach: West Bound

- **Volume Module:**
  - Base Vol: 49 42 57 540 42
  - Growth Adj: 1.00 1.00 1.00 1.00 1.00
  - Delay Adj: 1.00 1.00 1.00 1.00 1.00
  - Delay/Veh: 21.6 21.6 21.6 21.6 21.6
  - User DelAdj: 1.00 1.00 1.00 1.00 1.00
  - LOS by Move: F

- **Saturation Flow Module:**
  - Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900
  - Adjustment: 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50
  - Lanes: 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
  - Final Volume: 49 42 57 540 42

---

**Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

#### 2040 Var S2B AM

**Intersection #42: Mariposa/4th**

<table>
<thead>
<tr>
<th>Signal=Permit/Rights=Include</th>
<th>Base+Add Vol Lanes</th>
<th>Vol/Cap Date</th>
<th>Cycle Time (sec)</th>
<th>n/a</th>
<th>Signal=Permit/Rights=Include</th>
<th>Loss Time (sec)</th>
<th>Base+Add Lanes</th>
<th>Rights=Include Vol Cnt Date: n/a</th>
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<td></td>
<td>15</td>
<td>66</td>
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</tr>
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</table>

**Base+Add Lanes:** Rights=Include

- 0 1 0 0 1

**Cycle Time (sec):** 60

**Loss Time (sec):** 15

**Critical V/C:** 0.569

**Avg Crit Del (sec/veh):** 24.6

**Avg Delay (sec/veh):** 25.4

**Street Name:** 4th Street, Mariposa Street

**Approach:**
- North Bound
- South Bound
- East Bound
- West Bound

**Movement:**

<table>
<thead>
<tr>
<th>Min. Green</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
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<td>15</td>
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<td>15</td>
<td>30</td>
<td>15</td>
</tr>
</tbody>
</table>

**Volume Module:**

- Base Vol: 68
- Growth Adj: 1.00
- Delay Adj: 1.00
- Delay/Veh: 54.2

**User DelAdj:** 1.00

**LOS:** C

**HCM2kAvgQ:** 5

**Note:** Queue reported is the number of cars per lane.

---

#### 2040 Var S2B PM

**Intersection #42: Mariposa/4th**

<table>
<thead>
<tr>
<th>Signal=Permit/Rights=Include</th>
<th>Base+Add Vol Lanes</th>
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<th>Loss Time (sec)</th>
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<td>1</td>
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</table>

**Base+Add Lanes:** Rights=Include

- 0 0 1 0 0

**Cycle Time (sec):** 60

**Loss Time (sec):** 15

**Critical V/C:** 0.597

**Avg Crit Del (sec/veh):** 26.1

**Avg Delay (sec/veh):** 25.8

**Street Name:** 4th Street, Mariposa Street

**Approach:**
- North Bound
- South Bound
- East Bound
- West Bound

**Movement:**

<table>
<thead>
<tr>
<th>Min. Green</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
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<td>30</td>
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<td>15</td>
<td>30</td>
<td>15</td>
<td>30</td>
<td>15</td>
</tr>
</tbody>
</table>

**Volume Module:**

- Base Vol: 41
- Growth Adj: 1.00
- Delay Adj: 1.00
- Delay/Veh: 33.3

**User DelAdj:** 1.00

**LOS:** C

**HCM2kAvgQ:** 1

**Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #43: Mariposa/I-280NB**

**Signal=Split/Rights=Include**

**Base+Add Vol: 162*** 0 0 0 0 0**

**Lanes:** 2 0 0 0 0

**Cycle Time (sec): 90**

**Loss Time (sec): 7**

**Critical V/C:** 1.011

**Loss Time (sec): 7**

**Critical V/C:** 0.862

**Effective Green Time:** 109

**Effective Yellow Time:** 109

**User DelAdj:** 1.00 1.00 1.00 1.00 1.00

**Critical V/C:** 1.011

**Delay/Veh:** 47.3 44.4 44.4 0.0 0.0

**User DelAdj:** 1.00 1.00 1.00 1.00 1.00

**LOS by Move:** B B B B B

**HCM2kAvgQ:** 18 7 4 4 4

**Note:** Queue reported is the number of cars per lane.

---

**Intersection #43: Mariposa/I-280NB**

**Signal=Split/Rights=Include**

**Base+Add Vol: 609*** 0 0 0 0 0**

**Lanes:** 2 0 0 0 0

**Cycle Time (sec): 90**

**Loss Time (sec): 12**

**Critical V/C:** 0.862

**Effective Green Time:** 109

**Effective Yellow Time:** 109

**User DelAdj:** 1.00 1.00 1.00 1.00 1.00

**Critical V/C:** 0.862

**Delay/Veh:** 42.8 27.6 27.6 0.0 0.0

**User DelAdj:** 1.00 1.00 1.00 1.00 1.00

**LOS by Move:** D C B D A D C C A A D

**HCM2kAvgQ:** 18 7 4 4 4

**Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

**Intersection #440: Mariposa/I-280SB**

**Signal=Permit/Rights=Include**

**Base+Add Vol: 0  0     0**

**Lanes: 0 0 0  0 0**

**Cycle Time (sec): 90**

**Loss Time (sec): 7**

**Critical V/C: 0.535**

**Avg Crit Del (sec/veh): 0.8**

**Avg Delay (sec/veh): 8.4**

**LOS: A**

**Street Name:** I-280 Southbound Ramp, Mariposa Street

**Approach:** North Bound, South Bound, East Bound, West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
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<tbody>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>31</td>
<td>31</td>
<td>31</td>
<td>55</td>
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<tr>
<td>Y+R:</td>
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<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
</tr>
</tbody>
</table>

**Volume Module:**

| Base Vol: | 0 | 0 | 0 | 0 | 0 | 263 | 150 | 417 | 904 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Base: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Added Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PasserByVol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Initial Put: | 0 | 0 | 0 | 0 | 0 | 263 | 150 | 417 | 904 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| PHF Volume: | 0 | 0 | 0 | 0 | 0 | 274 | 156 | 434 | 942 |
| Reduced Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 0 | 0 | 0 | 0 | 274 | 156 | 434 | 942 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial QueueDel: | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Delay Adj: | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Delay/Veh: | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 25.2 | 23.2 | 9.1 | 3.0 |
| Final Volume: | 0 | 0 | 0 | 0 | 0 | 274 | 156 | 434 | 942 |

**Saturation Flow Module:**

| Sat/Lane: | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lanes: | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Final Sat.: | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.797 | 1797 | 3502 | 1900 |

**Capacity Analysis Module:**

| Vol/Sat: | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.15 |
| Crit Moves: | 0.09 | 0.12 | 0.50 | 0.00 |
| Green/Cycle: | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.33 | 0.33 | 0.39 | 0.38 |
| Uniform Del: | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.24 | 23.1 | 9.0 |
| IncrementDel: | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.4 | 0.1 | 0.3 |
| Initial QueueDel: | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delay Adj: | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Delay/Veh: | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 20.5 | 23.2 | 9.1 | 3.0 |
| User DelayAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Capacity Analysis Module:**

| Vol/Sat: | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.18 |
| Crit Moves: | 0.00 | 0.18 | 0.41 | 0.42 | 0.00 |
| Green/Cycle: | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.33 | 0.33 | 0.39 | 0.38 |
| Uniform Del: | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.05 | 0.05 | 0.05 | 0.05 |
| IncrementDel: | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Initial QueueDel: | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Delay Adj: | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Delay/Veh: | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| User DelayAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Note:** Queue reported is the number of cars per lane.
Year 2040 Plus LRDP (2-Lane 16th Street; Mission Bay and Mission Center Only)
### Intersection #24: King/3rd

<table>
<thead>
<tr>
<th>Approach</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
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<td>Movement</td>
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<td>R</td>
<td>L</td>
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<td>25</td>
<td>25</td>
<td>0</td>
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<td>Yr/Bc</td>
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<td>7.0</td>
<td>7.0</td>
<td>4.0</td>
</tr>
</tbody>
</table>
| Traffic Volume:
  - Base Vol: 65 1244 459 0 0 0 714 847 36 437 914 982
  - Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
| Peak Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
| User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
| PSF Volume: 81 1519 478 0 0 0 914 825 48 374 937 966
| Reduce Vol: 0 0 0 0 0 0 0 0 0 0 0 0
| Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
| Delay/Veh: 34.3 34.3 34.3 0.0 0.0 0.0 184.7 43.2 43.2 89.5 85.1 85.1
| User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
| LOS by Move: C C C A A F E D C C
| HCM2kAvgQ: 12 12 12 0 0 0 19 14 14 11 26 26

Note: Queue reported is the number of cars per lane.
## Level Of Service Computation Report

### 2000 HCM Operations (Future Volume Alternative)

#### 2040 AM (2-lane 16th)

**Intersection #25: King/4th**

- **Signal**: Permit/Rights=Include
- **Base+Add Vol**: 245 765*** 73
- **Lanes**: 1 1 1 0 1
- **Cycle Time (sec)**: 110
- **Loss Time (sec)**: 19
- **Critical V/C**: 0.907
- **Critical Del (sec/veh)**: 51.4
- **Delay (sec/veh)**: 51.5

#### 2040 PM (2-lane 16th)

**Intersection #25: King/4th**

- **Signal**: Permit/Rights=Overlap
- **Base+Add Vol**: 592 609*** 47
- **Lanes**: 1 1 1 0 1
- **Cycle Time (sec)**: 110
- **Loss Time (sec)**: 23
- **Critical V/C**: 1.060
- **Critical Del (sec/veh)**: 95.7
- **Delay (sec/veh)**: 90.1

---

### Street Name: 4th Street  King Street

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<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
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<td>39</td>
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<td>39</td>
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<tr>
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<tr>
<td><strong>Growth Adj</strong>:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
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<tr>
<td><strong>Lanes</strong>:</td>
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<tr>
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<tr>
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<tr>
<td><strong>Lanes</strong>:</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Base Vol</strong>:</td>
<td>8 250 110 48 628 610</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Growth Adj</strong>:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Adj/Lane</strong>:</td>
<td>0.83 0.84 0.40 0.40 0.77 0.77 0.80 0.80</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lanes</strong>:</td>
<td>0 1 0 0 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Capacity Analysis Module

- **Vol/Sat**: 0.17 0.17 0.10 0.07 0.31 0.31 0.23 0.38 0.38 0.02 0.33 0.33
- **Capacity Module**: 0.35 0.35 0.19 0.10 0.07 0.24 0.87 0.77 0.89 0.76 0.76 0.98

---

### HCM Avg/Q

- **HCM Avg/Q**: 7.0 7.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0

Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

**2040 AM (2-lane 16th)**

**Intersection #26: 7th St/Brannan**

**Base+Add Vol: 0  0     0**

**Lanes: 0 0 0  0 0**

**Cycle Time (sec): 60**

**Loss Time (sec): 8**

**Critical V/C: 0.749**

**Avg Crit Del (sec/veh): 51.2**

**Avg Delay (sec/veh): 27.1**

**L O S : C**

**Volume Module:**

**InitVol: 0**

**Growth Adj: 1.00 1.00  1.00 1.00 1.00**

**Delay Adj: 1.00 1.00  1.00 1.00 1.00**

**Delay/Veh: 26.5 26.5  16.1 0.0 0.0**

**User DelAdj: 1.00 1.00  1.00 1.00 1.00**

**HitQueuil: 0.0 0.0  0.0 0.0 0.0**

**LOS by Move: C**

**HCM2kAvgQ: 11   11     3     0    0**

**Note: Queue reported is the number of cars per lane.**

---

**2040 PM (2-lane 16th)**

**Intersection #26: 7th St/Brannan**

**Base+Add Vol: 0  0     0**

**Lanes: 0 0 0  0 0**

**Cycle Time (sec): 60**

**Loss Time (sec): 8**

**Critical V/C: 1.208**

**Avg Crit Del (sec/veh): 123.1**

**Avg Delay (sec/veh): 65.6**

**L O S : E**

**Volume Module:**

**InitVol: 0**

**Growth Adj: 1.00 1.00  1.00 1.00 1.00**

**Delay Adj: 1.00 1.00  1.00 1.00 1.00**

**Delay/Veh: 26.5 26.5  16.1 0.0 0.0**

**User DelAdj: 1.00 1.00  1.00 1.00 1.00**

**HitQueuil: 0.0 0.0  0.0 0.0 0.0**

**LOS by Move: F**

**HCM2kAvgQ: 35   35     5     0    0**

**Note: Queue reported is the number of cars per lane.**
### 2000 HCM Operations (Future Volume Alternative)

**Intersection #27: Channel/3rd**

**Signal=Protect/Rights=Include**

**Base+Add Vol:** 35 396 97***

**Lanes:** 0 1 1 0 1

**Cycle Time (sec):** 100

**Loss Time (sec):** 15

**Critical V/C:** 0.905

**Critical Del (sec/veh):** 60.0

**Avg Del (sec/veh):** 52.2

**Street Name:**
- 3rd Street
- Channel Street

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td></td>
</tr>
</tbody>
</table>

**Volume Module:**
- Base Vol: 39 1467 97
- Added Vol: 0
- User Adj: 1.00
- PCH Volume: 41 1544 185
- Reduced Vol: 41 1544 185
- Final Volume: 41 1544 185

**Capacity Analysis Module:**
- Vol/Sat: 0.03 0.52 0.07 0.15 0.18 0.18 0.16 0.00 0.00
- Crit Moves: ****

**Saturation Flow Module:**
- Lanes: 39

**L O S:**
- D

---

### 2040 AM (2-lane 16th)

**Intersection #27: Channel/3rd**

**Signal=Protect/Rights=Include**

**Base+Add Vol:** 23 410 58***

**Lanes:** 0 1 1 0 1

**Cycle Time (sec):** 100

**Loss Time (sec):** 15

**Critical V/C:** 0.833

**Critical Del (sec/veh):** 60.1

**Avg Del (sec/veh):** 50.5

**Street Name:**
- 3rd Street
- Channel Street

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
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</thead>
<tbody>
<tr>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td></td>
</tr>
</tbody>
</table>

**Volume Module:**
- Base Vol: 20 1419 106
- Added Vol: 0
- User Adj: 1.00
- PCH Volume: 21 1494 112
- Reduced Vol: 21 1494 112
- Final Volume: 21 1494 112

**Capacity Analysis Module:**
- Vol/Sat: 0.01 0.50 0.04 0.15 0.15 0.12 0.12 0.16 0.05
- Crit Moves: ****

**Saturation Flow Module:**
- Lanes: 39

**L O S:**
- D

---

### Notes:
- Queue reported is the number of cars per lane.
### Level Of Service Computation Report
#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #28: Channel/4th**

**Signal=Protect/Rights=Include**

**Base+Add Vol:** 183 266 263

**Lanes:** 0 1 0 0 1

**Cycle Time:** 64 sec

**Loss Time:** 9 7 4 10

**Critical V/C:** 0.58

**Avg Crit Del:** 27.9 sec/veh

**Avg Delay:** 25.1 sec/veh

**Street Name:** 4th Street, Channel Street

**Approach:**
- **North Bound:**
  - **L:**
    - **T:**
      - **R:**
        - **L:**
          - **T:**
            - **R:**
              - **L:**

- **South Bound:**
  - **L:**
    - **T:**
      - **R:**
        - **L:**
          - **T:**
            - **R:**
              - **L:**

- **East Bound:**
  - **L:**
    - **T:**
      - **R:**
        - **L:**
          - **T:**
            - **R:**
              - **L:**

- **West Bound:**
  - **L:**
    - **T:**
      - **R:**
        - **L:**
          - **T:**
            - **R:**
              - **L:**

**Volume Module:**

- **Base Vol:** 16 114 29 263 266 183
- **Growth Adj:** 1.00
- **Delay Adj:** 1.00
- **Delay/Veh:** 17.5 19.7 19.7 56.8

**Initialization:**

- **Min. Green:** 0 21 21 14 35 35 0 9 19 0 0 10 0
- **Y+R:** 4.0 5.0 5.0 5.0 5.0 5.0 4.0 9.0 19.0 10 0

**Capacity Analysis Module:**

- **Vol/Sat:** 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33
- **Crit Moves:**
  - 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33
- **User DelAdj:**
  - 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
- **User DelAdj:**
  - 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
- **User DelAdj:**
  - 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
- **User DelAdj:**
  - 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

**Note:** Queue reported is the number of cars per lane.

---

### Level Of Service Computation Report
#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #28: Channel/4th**

**Signal=Protect/Rights=Include**

**Base+Add Vol:** 43 317 297

**Lanes:** 0 1 0 0 1

**Cycle Time:** 64 sec

**Loss Time:** 0 0

**Critical V/C:** 0.63

**Avg Crit Del:** 41.6 sec/veh

**Avg Delay:** 29.9 sec/veh

**Street Name:** 4th Street, Channel Street

**Approach:**
- **North Bound:**
  - **L:**
    - **T:**
      - **R:**
        - **L:**
          - **T:**
            - **R:**
              - **L:**

- **South Bound:**
  - **L:**
    - **T:**
      - **R:**
        - **L:**
          - **T:**
            - **R:**
              - **L:**

- **East Bound:**
  - **L:**
    - **T:**
      - **R:**
        - **L:**
          - **T:**
            - **R:**
              - **L:**

- **West Bound:**
  - **L:**
    - **T:**
      - **R:**
        - **L:**
          - **T:**
            - **R:**
              - **L:**

**Volume Module:**

- **Base Vol:** 18 259 24 297 317 43
- **Growth Adj:** 1.00
- **Delay Adj:** 1.00
- **Delay/Veh:** 16.1 28.7

**Initialization:**

- **Min. Green:** 21 21 21 14 35 35 20 8 10 8 36 38
- **Y+R:** 4.0 5.0 5.0 5.0 5.0 5.0 4.0 9.0 19.0 10 0

**Capacity Analysis Module:**

- **Vol/Sat:** 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33
- **Crit Moves:**
  - 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33
- **User DelAdj:**
  - 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
- **User DelAdj:**
  - 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
- **User DelAdj:**
  - 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
- **User DelAdj:**
  - 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

**Note:** Queue reported is the number of cars per lane.
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)

Intersection #29: Mission Rock/3rd
Signal=Protect/Rights=Include

Base+Add Vol: 24  503     64***
Lanes: 0 1 1  0 1

Critical V/C: 0.767
Avg Crit Del (sec/veh): 54.6

Cycle Time (sec): 100
Loss Time (sec): 15

Base+Add Lanes: Rights=Include Vol Cnt Date: n/a Rights=Include Lanes: Base+Add

Volume Module:
Base Vol: 26 1612    30    64  503    24    23   18    66    35   14    47
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00 1.00  1.00
Add Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
User Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00 1.00  1.00
PHF Volume: 27 1697 32 67 529 25 24 19 69 37 15 49
Reduce Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Put: 27 1697 32 67 529 25 24 19 69 37 15 49

Cycle Time (sec): 100
Loss Time (sec): 15

Critical V/C: 0.911
Avg Crit Del (sec/veh): 50.4

Base+Add Vol: 4  613    13***
Lanes: 0 1 1  0 1

Volume Module:
Base Vol: 67 1426 8 13 613 4 69 4 103 176 68 51
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00 1.00  1.00
Add Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
User Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00 1.00  1.00
PHF Volume: 71 1501 8 14 645 4 73 4 108 175 72 54
Reduce Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Put: 71 1501 8 14 645 4 73 4 108 175 72 54

Street Name: 3rd Street
Approach: North Bound  South Bound  East Bound  West Bound

Min. Green: 18  50  50  5  37  37  30  30  30  30  30  30
Cycle Time (sec): 100
Mean QueuDel (sec/veh): 54.6
Cycle Time (sec): 100
Mean QueuDel (sec/veh): 50.4

Min. Green: 9  47  47  5  43  43  33  33  33  33  33  33
Cycle Time (sec): 100
Mean QueuDel (sec/veh): 54.6
Cycle Time (sec): 100
Mean QueuDel (sec/veh): 50.4

Saturation Flow Module:
Sat./Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

Saturation Flow Module:
Sat./Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

Capacity Analysis Module:
Vol./Sat: 0.0 0.0  0.0  0.0 0.0  0.0  0.0 0.0  0.0 0.0  0.0
Crit Move: **** ****

Capacity Analysis Module:
Vol./Sat: 0.0 0.0  0.0  0.0 0.0  0.0  0.0 0.0  0.0 0.0  0.0
Crit Move: **** ****

Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

### 2040 AM (2-lane 16th)

**Intersection #30: Mission Bay North/3rd**

**Signal=Protect/Rights=Include**

- **Base+Add Vol:** 26 497
- **Lanes:** 0 1 2
- **Critical V/C:** 0.681
- **Avg Crit Del (sec/vehicle):** 43.2
- **Loss Time (sec):** 10
- **Cycle Time (sec):** 100
- **Critical V/C:** 0.661
- **Avg Delay (sec/vehicle):** 37.6
- **User Del Adj:** 1.00
- **LOS:** D

**Street Name:** Mission Bay North

**Approach:**
- **North Bound:**
  - **Volume Module:**
    - **Base Vol:** 53 1638
    - **Growth Adj:** 1.00
    - **Delay Adj:** 1.00
    - **Delay/Veh:** 39.6
  - **User Adj:** 1.00
  - **Reduced Vol:** 57 1759
  - **Final Volume:** 57 1759

**Street Name:** 3rd Street

**Approach:**
- **South Bound:**
  - **Volume Module:**
    - **Base Vol:** 53 1638
    - **Growth Adj:** 1.00
    - **Delay Adj:** 1.00
    - **Delay/Veh:** 42.9
  - **User Adj:** 1.00
  - **Reduced Vol:** 57 1759
  - **Final Volume:** 57 1759

### 2040 PM (2-lane 16th)

**Intersection #30: Mission Bay North/3rd**

**Signal=Permit**

- **Base+Add Vol:** 8 976
- **Lanes:** 0 1 2
- **Critical V/C:** 0.641
- **Avg Crit Del (sec/vehicle):** 28.5
- **Loss Time (sec):** 10
- **Cycle Time (sec):** 100
- **Critical V/C:** 0.631
- **Avg Delay (sec/vehicle):** 27.2
- **User Del Adj:** 1.00
- **LOS:** C

**Street Name:** Mission Bay North

**Approach:**
- **North Bound:**
  - **Volume Module:**
    - **Base Vol:** 87 1517
    - **Growth Adj:** 1.00
    - **Delay Adj:** 1.00
    - **Delay/Veh:** 23.6
  - **User Adj:** 1.00
  - **Reduced Vol:** 93 1614
  - **Final Volume:** 93 1614

**Street Name:** 3rd Street

**Approach:**
- **South Bound:**
  - **Volume Module:**
    - **Base Vol:** 87 1517
    - **Growth Adj:** 1.00
    - **Delay Adj:** 1.00
    - **Delay/Veh:** 24.4
  - **User Adj:** 1.00
  - **Reduced Vol:** 93 1614
  - **Final Volume:** 93 1614

**Saturation Flow Module:

**Sat/Lane:**
- **Volume Module:**
  - **Sat/Lane:**
    - **Adjointment:** 0.81 0.81 1.00 1.00 0.77 0.77 1.00 1.00 0.78 0.80 0.82
    - **Lanes:** 1.00 2.00 0.00 0.00 2.85 0.15 0.00 0.00 0.69 0.31 1.80
    - **Final Sat.:** 1539 3079 0 0 4714 218 0 0 1022 465 1184

### Capacity Analysis Module:

**Vol/Sat:**
- **Critt Moves:**
  - **Green/Cycle:** 0.15 0.57 0.00 0.00 0.00 0.00 0.00 0.42 0.42 0.42 0.42
  - **Uniform Del:** 37.2 21.5 0.00 0.00 0.00 0.00 0.00 0.19 19.5 0.00 0.00
  - **InqDel:** 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
  - **Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
  - **Loss By Move:**
    - **LOS by Move:**
      - **LOS by Move:**
        - **LOS by Move:**
          - **LOS by Move:**
            - **LOS by Move:**
              - **LOS by Move:**

**Note:** Queue reported is the number of cars per lane.
**Intersection #31: Mission Bay South/3rd**

**2000 HCM Operations (Future Volume Alternative)**

**2040 AM (2-lane 16th)**

<table>
<thead>
<tr>
<th>Street Name:</th>
<th>Mission Bay South</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approach</td>
<td>North Bound</td>
</tr>
<tr>
<td></td>
<td>South Bound</td>
</tr>
<tr>
<td></td>
<td>East Bound</td>
</tr>
<tr>
<td></td>
<td>West Bound</td>
</tr>
<tr>
<td>Movement</td>
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<tr>
<td>--------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Min. Green</td>
<td>34 34 34 15 57 57</td>
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<tr>
<td></td>
<td>33 33 33 0 0 0</td>
</tr>
<tr>
<td>YRt:</td>
<td>8.0 8.0 8.0 5.0 5.0 5.0 5.0 5.0 5.0 4.0 4.0 4.0</td>
</tr>
<tr>
<td>Cycle Time</td>
<td>100</td>
</tr>
<tr>
<td>Loss Time</td>
<td>10</td>
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<tr>
<td>Critical V/C</td>
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<tr>
<td>Avg Del (sec):</td>
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<tr>
<td>LOS</td>
<td>D</td>
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<td>LOS by Move</td>
<td>A</td>
</tr>
<tr>
<td>LOS by Move</td>
<td>D</td>
</tr>
<tr>
<td>LOS by Move</td>
<td>A</td>
</tr>
<tr>
<td>LOS by Move</td>
<td>A</td>
</tr>
<tr>
<td>LOS by Move</td>
<td>A</td>
</tr>
<tr>
<td>Capacity Analysis Module:</td>
<td></td>
</tr>
<tr>
<td>Vol/Sat:</td>
<td>0.00 0.42 0.42 0.02 0.17 0.00 0.04 0.04 0.10 0.00 0.00 0.00</td>
</tr>
<tr>
<td>Crit Moves:</td>
<td>****</td>
</tr>
<tr>
<td>Green/Cycle:</td>
<td>0.00 0.42 0.42 0.15 0.57 0.00 0.33 0.33 0.33 0.00 0.00 0.00</td>
</tr>
<tr>
<td>Volume/Cap:</td>
<td>0.00 1.00 1.00 0.18 0.30 0.00 0.19 0.31 0.30 0.00 0.00 0.00</td>
</tr>
<tr>
<td>Uniform Del:</td>
<td>0.00 29.0 29.0 36.7 11.1 0.00 23.3 23.3 24.9 0.00 0.00 0.00</td>
</tr>
<tr>
<td>Increment Del:</td>
<td>0.00 20.5 20.5 0.9 0.4 0.0 0.4 0.4 2.0 0.0 0.0 0.0</td>
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<tr>
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<td>0.00 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0</td>
</tr>
<tr>
<td>Delay Adj:</td>
<td>0.00 0.00 1.00 1.00 1.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00</td>
</tr>
<tr>
<td>Delay Ven:</td>
<td>0.00 49.5 49.5 37.6 11.6 0.0 23.7 23.7 26.9 0.0 0.0 0.0</td>
</tr>
<tr>
<td>User Del Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00 0.00 0.00</td>
</tr>
<tr>
<td>HCM Avg Q:</td>
<td>0.00 28.28 0.00</td>
</tr>
</tbody>
</table>
| Note: Queue reported is the number of cars per lane.

---

**Intersection #31: Mission Bay South/3rd**

**2000 HCM Operations (Future Volume Alternative)**

**2040 PM (2-lane 16th)**

<table>
<thead>
<tr>
<th>Street Name:</th>
<th>Mission Bay South</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approach</td>
<td>North Bound</td>
</tr>
<tr>
<td></td>
<td>South Bound</td>
</tr>
<tr>
<td></td>
<td>East Bound</td>
</tr>
<tr>
<td></td>
<td>West Bound</td>
</tr>
<tr>
<td>Movement</td>
<td>L  T  R</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Min. Green</td>
<td>34 34 34 15 57 57</td>
</tr>
<tr>
<td></td>
<td>33 33 33 0 0 0</td>
</tr>
<tr>
<td>YRt:</td>
<td>8.0 8.0 8.0 5.0 5.0 5.0 5.0 5.0 5.0 4.0 4.0 4.0</td>
</tr>
<tr>
<td>Cycle Time</td>
<td>100</td>
</tr>
<tr>
<td>Loss Time</td>
<td>10</td>
</tr>
<tr>
<td>Critical V/C</td>
<td>0.487</td>
</tr>
<tr>
<td>Avg Del (sec):</td>
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<tr>
<td>LOS</td>
<td>C</td>
</tr>
<tr>
<td>LOS by Move</td>
<td>A</td>
</tr>
<tr>
<td>LOS by Move</td>
<td>D</td>
</tr>
<tr>
<td>LOS by Move</td>
<td>C</td>
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<tr>
<td>LOS by Move</td>
<td>A</td>
</tr>
<tr>
<td>LOS by Move</td>
<td>A</td>
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<tr>
<td>Capacity Analysis Module:</td>
<td></td>
</tr>
<tr>
<td>Vol/Sat:</td>
<td>0.00 0.39 0.39 0.00 0.34 0.00 0.08 0.08 0.04 0.00 0.00 0.00</td>
</tr>
<tr>
<td>Crit Moves:</td>
<td>****</td>
</tr>
<tr>
<td>Green/Cycle:</td>
<td>0.00 0.41 0.41 0.16 0.57 0.00 0.33 0.33 0.33 0.00 0.00 0.00</td>
</tr>
<tr>
<td>Volume/Cap:</td>
<td>0.00 0.95 0.95 0.18 0.30 0.00 0.19 0.31 0.30 0.00 0.00 0.00</td>
</tr>
<tr>
<td>Uniform Del:</td>
<td>0.00 28.4 28.4 35.6 14.1 0.0 24.3 24.3 23.4 0.0 0.0 0.0</td>
</tr>
<tr>
<td>Increment Del:</td>
<td>0.00 11.9 11.9 0.2 1.5 0.0 1.2 1.2 1.2 0.6 0.0 0.0</td>
</tr>
<tr>
<td>InitQueuel:</td>
<td>0.00 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0</td>
</tr>
<tr>
<td>Delay Adj:</td>
<td>0.00 0.00 1.00 1.00 1.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00</td>
</tr>
<tr>
<td>Delay Ven:</td>
<td>0.00 40.3 40.3 35.8 15.6 0.0 25.9 25.9 24.0 0.0 0.0 0.0</td>
</tr>
<tr>
<td>User Del Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00 0.00 0.00</td>
</tr>
<tr>
<td>HCM Avg Q:</td>
<td>0.00 24 24 0.00 12 0.00 0.00 0.00 0.00 0.00 0.00 0.00</td>
</tr>
</tbody>
</table>
| Note: Queue reported is the number of cars per lane.

---
### Intersection #32: Mission Bay/Owens

**FHWA Roundabout (Future Volume Alternative)**

**2040 AM (2-lane 16th)**

**Intersection #32: Mission Bay/Owens**

**Signal=Yield/Rights=Include**

**Base+Add Vol:** 21  180    8

**Lanes:** 0 0 1  0 0

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.815

**Avg Crit Del (sec/veh):** 11.1

**Critical Del:**

<table>
<thead>
<tr>
<th>LOS</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lanes:</td>
<td>1 0 1 0 0</td>
</tr>
</tbody>
</table>

**Base+Add Lanes:** Rights=Include

<table>
<thead>
<tr>
<th>Vol Cnt Date</th>
<th>Rights=Include Lanes:</th>
<th>Base+Add</th>
</tr>
</thead>
<tbody>
<tr>
<td>n/a</td>
<td>Rights=Include</td>
<td></td>
</tr>
</tbody>
</table>

| Cycle Time (sec): | 0 |

**Loss Time (sec):** 0

**Critical V/C:** 0.618

**Avg Crit Del (sec/veh):** 6.8

**Critical Del:**

<table>
<thead>
<tr>
<th>LOS</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lanes:</td>
<td>1 0 1 0 0</td>
</tr>
</tbody>
</table>

**Base+Add Vol:** 0  40    0

**Lanes:** 0 0 1  0 0

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.618

**Avg Crit Del (sec/veh):** 6.8

**Critical Del:**

<table>
<thead>
<tr>
<th>LOS</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lanes:</td>
<td>1 0 1 0 0</td>
</tr>
</tbody>
</table>

**Base+Add Lanes:** Rights=Include

<table>
<thead>
<tr>
<th>Vol Cnt Date</th>
<th>Rights=Include Lanes:</th>
<th>Base+Add</th>
</tr>
</thead>
<tbody>
<tr>
<td>n/a</td>
<td>Rights=Include</td>
<td></td>
</tr>
</tbody>
</table>

| Cycle Time (sec): | 0 |

**Loss Time (sec):** 0

**Critical V/C:** 0.618

**Avg Crit Del (sec/veh):** 6.8

**Critical Del:**

<table>
<thead>
<tr>
<th>LOS</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lanes:</td>
<td>1 0 1 0 0</td>
</tr>
</tbody>
</table>

**Base+Add Vol:** 0  40    0

**Lanes:** 0 0 1  0 0

**Cycle Time (sec):** 100

**Loss Time (sec):** 0

**Critical V/C:** 0.618

**Avg Crit Del (sec/veh):** 6.8

**Critical Del:**

<table>
<thead>
<tr>
<th>LOS</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lanes:</td>
<td>1 0 1 0 0</td>
</tr>
</tbody>
</table>
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #33: Mission Bay/7th**

- **Signal=Protect/Rights=Include**
- **Base+Add Vol:** 0 549 388
- **Lanes:** 0 0 1 0 1

**Street Name:**
- **Street Name:** 7th Street, Mission Bay
- **Approach:**
  - **North Bound:**
    - **Volume Module:**
      - **Base Vol:** 0 734
      - **Growth Adj:** 1.00
      - **Delay Adj:** 0.00
      - **Delay/Veh:** 0.0
      - **User DelAdj:** 1.00
      - **LOS:** D
      - **HCM2kAvgQ:** 0 12
  - **South Bound:**
    - **Volume Module:**
      - **Base Vol:** 0 268
      - **Growth Adj:** 1.00
      - **Delay Adj:** 0.00
      - **Delay/Veh:** 0.0
      - **User DelAdj:** 1.00
      - **LOS:** D
      - **HCM2kAvgQ:** 0 20

**Critical V/C:** 0.631

**Avg Crit Del (sec/veh):** 53.0

**Avg Delay (sec/veh):** 39.2

**Cycle Time (sec):** 100

**Critical V/C:** 0.547

**Avg Crit Del (sec/veh):** 59.3

**Avg Delay (sec/veh):** 52.9

**Cycle Time (sec):** 461

**Volume Module:**
- **Base Vol:** 0 968
- **Growth Adj:** 1.00
- **Delay Adj:** 0.00
- **Delay/Veh:** 0.0
- **User DelAdj:** 1.00
- **LOS:** D
- **HCM2kAvgQ:** 0 20

**Critical V/C:** 0.453

**Avg Crit Del (sec/veh):** 40.6

**Avg Delay (sec/veh):** 35.0

**Cycle Time (sec):** 404

**Volume Module:**
- **Base Vol:** 0 476
- **Growth Adj:** 1.00
- **Delay Adj:** 0.00
- **Delay/Veh:** 0.0
- **User DelAdj:** 1.00
- **LOS:** D
- **HCM2kAvgQ:** 0 12
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

#### 2040 AM (2-lane 16th)

**Intersection #34: 16th/3rd**

**Signal=Protect/Rights=Include**

**Base+Add Vol:**

- **Highway A:** 143
- **Highway B:** 269
- **Highway C:** 88

**Lanes:**

- **Highway A:** 0
- **Highway B:** 1
- **Highway C:** 1
- **Highway D:** 0
- **Highway E:** 1

**Cycle Time (sec):** 100

**Loss Time (sec):** 15

**Critical V/C:** 0.891

**Avg Crit Del (sec/veh):** 69.6

**Avg Delay (sec/veh):** 53.9

**LOS:** D

#### Street Name: 3rd Street

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Bound</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>South Bound</td>
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</tr>
<tr>
<td>East Bound</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>West Bound</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Street Name: 16th Street

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Bound</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>East Bound</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>West Bound</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Volume Module

**Base Vol:**

- **Highway A:** 439
- **Highway B:** 1509
- **Highway C:** 45
- **Highway D:** 88
- **Highway E:** 269
- **Highway F:** 143
- **Highway G:** 150
- **Highway H:** 224
- **Highway I:** 160

**Init Vol:**

- **Highway A:** 1509
- **Highway B:** 439
- **Highway C:** 143
- **Highway D:** 150
- **Highway E:** 224
- **Highway F:** 160

**Added Vol:**

- **Highway A:** 0
- **Highway B:** 0
- **Highway C:** 0
- **Highway D:** 0
- **Highway E:** 0

**PasserBYVol:**

- **Highway A:** 0
- **Highway B:** 0
- **Highway C:** 0
- **Highway D:** 0
- **Highway E:** 0

**User Adj:**

- **Highway A:** 1.00
- **Highway B:** 1.00
- **Highway C:** 1.00
- **Highway D:** 1.00
- **Highway E:** 1.00

**PHF Vol:**

- **Highway A:** 4561569
- **Highway B:** 47
- **Highway C:** 91
- **Highway D:** 28
- **Highway E:** 149

**Reduc Vol:**

- **Highway A:** 0
- **Highway B:** 0
- **Highway C:** 0
- **Highway D:** 0
- **Highway E:** 0

**Reduced Vol:**

- **Highway A:** 4561569
- **Highway B:** 47
- **Highway C:** 91
- **Highway D:** 28
- **Highway E:** 149

**Loss Time (sec):** 15

**Critical V/C:** 0.942

**Avg Crit Del (sec/veh):** 59.5

**Avg Delay (sec/veh):** 46.2

**LOS:** D

### Capacity Analysis Module

<table>
<thead>
<tr>
<th>Vol/Sat</th>
<th>0.15</th>
<th>0.33</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green/Cycle</td>
<td>0.20</td>
<td>0.49</td>
</tr>
<tr>
<td>Volume/Cap</td>
<td>0.76</td>
<td>1.07</td>
</tr>
<tr>
<td>Uniform Del:</td>
<td>38.5</td>
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<tr>
<td>Increment Del:</td>
<td>90.46</td>
<td>61.21</td>
</tr>
<tr>
<td>InterQDel:</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Delay Adj:</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Delay/Veh:</td>
<td>47.6</td>
<td>72.1</td>
</tr>
<tr>
<td>User DelAdj:</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>AdjDel/Veh:</td>
<td>47.6</td>
<td>72.1</td>
</tr>
</tbody>
</table>

**LOS by Move:**

- **Highway A:** E
- **Highway B:** E
- **Highway C:** E
- **Highway D:** E
- **Highway E:** E

**LOS by Module:**

- **Highway A:** E
- **Highway B:** E
- **Highway C:** E
- **Highway D:** E
- **Highway E:** E

**Note:** Queue reported is the number of cars per lane.

### Level Of Service Computation Report

#### 2040 PM (2-lane 16th)

**Intersection #34: 16th/3rd**

**Signal=Protect/Rights=Include**

**Base+Add Vol:**

- **Highway A:** 216
- **Highway B:** 933
- **Highway C:** 63

**Lanes:**

- **Highway A:** 0
- **Highway B:** 1
- **Highway C:** 1
- **Highway D:** 0
- **Highway E:** 1

**Cycle Time (sec):** 100

**Loss Time (sec):** 15

**Critical V/C:** 0.942

**Avg Crit Del (sec/veh):** 59.5

**Avg Delay (sec/veh):** 46.2

**LOS:** D

#### Street Name: 3rd Street

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Bound</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Bound</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>East Bound</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>West Bound</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Street Name: 16th Street

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Bound</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Bound</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>East Bound</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>West Bound</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Volume Module

**Base Vol:**

- **Highway A:** 3101090
- **Highway B:** 63933
- **Highway C:** 193

**Init Vol:**

- **Highway A:** 1090
- **Highway B:** 310
- **Highway C:** 193

**Added Vol:**

- **Highway A:** 0
- **Highway B:** 0
- **Highway C:** 0

**PasserBYVol:**

- **Highway A:** 0
- **Highway B:** 0
- **Highway C:** 0

**User Adj:**

- **Highway A:** 1.00
- **Highway B:** 1.00
- **Highway C:** 1.00

**PHF Vol:**

- **Highway A:** 3331172
- **Highway B:** 681003
- **Highway C:** 208132

**Reduc Vol:**

- **Highway A:** 0
- **Highway B:** 0
- **Highway C:** 0

**Reduced Vol:**

- **Highway A:** 3331172
- **Highway B:** 681003
- **Highway C:** 208132

**Loss Time (sec):** 15

**Critical V/C:** 0.942

**Avg Crit Del (sec/veh):** 59.5

**Avg Delay (sec/veh):** 46.2

**LOS:** D

### Capacity Analysis Module

<table>
<thead>
<tr>
<th>Vol/Sat</th>
<th>0.11</th>
<th>0.38</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green/Cycle</td>
<td>0.14</td>
<td>0.50</td>
</tr>
<tr>
<td>Volume/Cap</td>
<td>0.80</td>
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</tr>
<tr>
<td>Uniform Del:</td>
<td>41.6</td>
<td>20.3</td>
</tr>
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<td>Increment Del:</td>
<td>146.4</td>
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<tr>
<td>InterQDel:</td>
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</tr>
<tr>
<td>Delay Adj:</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Delay/Veh:</td>
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</tr>
<tr>
<td>User DelAdj:</td>
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<td>1.00</td>
</tr>
<tr>
<td>AdjDel/Veh:</td>
<td>56.2</td>
<td>24.0</td>
</tr>
</tbody>
</table>

**LOS by Move:**

- **Highway A:** E
- **Highway B:** E
- **Highway C:** E
- **Highway D:** E
- **Highway E:** E

**LOS by Module:**

- **Highway A:** E
- **Highway B:** E
- **Highway C:** E
- **Highway D:** E
- **Highway E:** E

**Note:** Queue reported is the number of cars per lane.
### Intersection #35: 16th/4th

**2000 HCM Operations (Future Volume Alternative)**

#### 2040 AM (2-lane 16th)

**Intersection #35: 16th/4th**

**Signal=Permit/Rights=Include**

- Base+Add Vol: 100  55***  23
- Lanes: 0 1 0

**Street Name:**

<table>
<thead>
<tr>
<th>Street Name</th>
<th>4th Street</th>
<th>16th Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approach</td>
<td>North Bound</td>
<td>South Bound</td>
</tr>
<tr>
<td>Movement</td>
<td>L  T  R</td>
<td>L  T  R</td>
</tr>
</tbody>
</table>

| Min. Green | 20  | 20  | 15  | 50 |
| Add Vol:   | 0   | 0   | 0   | 0  |
| Red Vol:   | 0   | 0   | 0   | 0  |

**Cycle Time (sec): 90**

**Critical V/C: 0.905**

- Avg Crit Del (sec/veh): 77.4
- Loss Time (sec): 15
- LOS: F

**Street Name:**

<table>
<thead>
<tr>
<th>Street Name</th>
<th>4th Street</th>
<th>16th Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approach</td>
<td>North Bound</td>
<td>South Bound</td>
</tr>
<tr>
<td>Movement</td>
<td>L  T  R</td>
<td>L  T  R</td>
</tr>
</tbody>
</table>

| Min. Green | 20  | 20  | 15  | 50 |
| Add Vol:   | 0   | 0   | 0   | 0  |
| Red Vol:   | 0   | 0   | 0   | 0  |

**Cycle Time (sec): 90**

**Critical V/C: 0.751**

- Avg Crit Del (sec/veh): 53.3
- Loss Time (sec): 15
- LOS: D

**Street Name:**

<table>
<thead>
<tr>
<th>Street Name</th>
<th>4th Street</th>
<th>16th Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approach</td>
<td>North Bound</td>
<td>South Bound</td>
</tr>
<tr>
<td>Movement</td>
<td>L  T  R</td>
<td>L  T  R</td>
</tr>
</tbody>
</table>

| Min. Green | 20  | 20  | 15  | 50 |
| Add Vol:   | 0   | 0   | 0   | 0  |
| Red Vol:   | 0   | 0   | 0   | 0  |

**Cycle Time (sec): 90**

**Critical V/C: 0.754**

- Avg Crit Del (sec/veh): 77.4
- Loss Time (sec): 15
- LOS: D

**Street Name:**

<table>
<thead>
<tr>
<th>Street Name</th>
<th>4th Street</th>
<th>16th Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approach</td>
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</tr>
</tbody>
</table>

| Min. Green | 20  | 20  | 15  | 50 |
| Add Vol:   | 0   | 0   | 0   | 0  |
| Red Vol:   | 0   | 0   | 0   | 0  |

**Cycle Time (sec): 90**

**Critical V/C: 0.751**

- Avg Crit Del (sec/veh): 53.3
- Loss Time (sec): 15
- LOS: D

**Street Name:**

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<td>L  T  R</td>
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</tr>
</tbody>
</table>

| Min. Green | 20  | 20  | 15  | 50 |
| Add Vol:   | 0   | 0   | 0   | 0  |
| Red Vol:   | 0   | 0   | 0   | 0  |

**Cycle Time (sec): 90**

**Critical V/C: 0.754**

- Avg Crit Del (sec/veh): 77.4
- Loss Time (sec): 15
- LOS: D

**Street Name:**

<table>
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</tr>
</tbody>
</table>

| Min. Green | 20  | 20  | 15  | 50 |
| Add Vol:   | 0   | 0   | 0   | 0  |
| Red Vol:   | 0   | 0   | 0   | 0  |

**Cycle Time (sec): 90**

**Critical V/C: 0.751**

- Avg Crit Del (sec/veh): 53.3
- Loss Time (sec): 15
- LOS: D

**Street Name:**

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</tbody>
</table>

| Min. Green | 20  | 20  | 15  | 50 |
| Add Vol:   | 0   | 0   | 0   | 0  |
| Red Vol:   | 0   | 0   | 0   | 0  |

**Cycle Time (sec): 90**

**Critical V/C: 0.754**

- Avg Crit Del (sec/veh): 77.4
- Loss Time (sec): 15
- LOS: D

**Street Name:**

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</tr>
<tr>
<td>Movement</td>
<td>L  T  R</td>
<td>L  T  R</td>
</tr>
</tbody>
</table>

| Min. Green | 20  | 20  | 15  | 50 |
| Add Vol:   | 0   | 0   | 0   | 0  |
| Red Vol:   | 0   | 0   | 0   | 0  |

**Cycle Time (sec): 90**

**Critical V/C: 0.751**

- Avg Crit Del (sec/veh): 53.3
- Loss Time (sec): 15
- LOS: D

**Street Name:**

<table>
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<th>16th Street</th>
</tr>
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</tr>
<tr>
<td>Movement</td>
<td>L  T  R</td>
<td>L  T  R</td>
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</table>

| Min. Green | 20  | 20  | 15  | 50 |
| Add Vol:   | 0   | 0   | 0   | 0  |
| Red Vol:   | 0   | 0   | 0   | 0  |

**Cycle Time (sec): 90**

**Critical V/C: 0.754**

- Avg Crit Del (sec/veh): 77.4
- Loss Time (sec): 15
- LOS: D

**Street Name:**

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<th>16th Street</th>
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<tr>
<td>Movement</td>
<td>L  T  R</td>
<td>L  T  R</td>
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</table>

| Min. Green | 20  | 20  | 15  | 50 |
| Add Vol:   | 0   | 0   | 0   | 0  |
| Red Vol:   | 0   | 0   | 0   | 0  |

**Cycle Time (sec): 90**

**Critical V/C: 0.751**

- Avg Crit Del (sec/veh): 53.3
- Loss Time (sec): 15
- LOS: D
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)

Intersection #36: 16th/Owens

Signal=Permit/Rights=Include
Base+Add Vol: 75 232 61
Lanes: 1 0 1 1 0
Cycle Time (sec): 60
Loss Time (sec): 10

SB: 0
Critical V/C: 0.6
Aug Crit Del (sec/veh): 123.8

Cycle Time (sec): 60
Loss Time (sec): 10

SB: 0
Critical V/C: 0.6
Aug Crit Del (sec/veh): 123.8

Street Name: Owens St  16th St
Approach: North Bound  South Bound  East Bound  West Bound
Movement: T R L T R L T R L T R
Min. Green: 20 20 20 20 20 20 10 25 25 5 18 18
Y+R: 6.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0
LOS: F

Cycle Time (sec): 60
Loss Time (sec): 92

SB: 0
Critical V/C: 0.6
Aug Crit Del (sec/veh): 123.8

Cycle Time (sec): 60
Loss Time (sec): 92

SB: 0
Critical V/C: 0.6
Aug Crit Del (sec/veh): 123.8

Saturation Flow Module:

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.44 0.78 0.76 0.64 0.66 0.67 0.61 0.81 0.72 0.71 0.81 0.80
Lanes: 1.00 1.44 0.56 0.42 1.58 1.00 1.00 0.75 0.25 1.00 0.68 0.32
Final Sat.: 836 2127 809 508 1930 1274 1549 1017 344 1355 1055 482

Capacity Analysis Module:

Vol/Sat: 0.34 0.18 0.61 0.13 0.13 0.06 0.21 0.61 0.61 0.09 0.39 0.39
Critt Moves: **** **** ****
Green/Cycle: 0.33 0.33 0.33 0.33 0.33 0.17 0.42 0.42 0.08 0.33 0.33
Volume/Cap: 0.43 0.53 0.53 0.53 0.38 0.38 0.19 1.21 0.46 1.46 0.17 0.21
Uniform Del: 15.6 16.2 16.2 15.3 15.3 14.2 24.8 17.5 17.5 27.5 20.2 20.2
IncrementDel: 4.9 2.0 2.0 1.3 1.3 1.0 122.9 218 217.9 98.4 111 110.9
InitQueudel: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Delay: 205 18.2 18.2 16.6 16.6 15.2 147.7 235 235.4 125.9 131 131.1
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjVol/Veh: 20.5 18.2 18.2 16.6 16.6 15.2 147.7 235 235.4 125.9 131 131.1

LOS by Move: C B B B B F F F F
HCMAvgQ: 2 5 5 3 3 13 47 46 4 23 23

Note: Queue reported is the number of cars per lane.

Sat/Lane: 138 173 129 162 329 187 137 314 234 66 731 92
Adjustment: 0.25 0.76 0.76 0.64 0.66 0.67 0.61 0.81 0.72 0.71 0.81 0.80
Lanes: 1.00 1.10 0.90 0.67 1.33 1.00 1.00 0.57 0.43 1.00 0.89 0.11
Final Sat.: 459 1591 1186 686 1393 1115 1539 750 559 1539 1414 178

Capacity Analysis Module:

Vol/Sat: 0.31 0.11 0.25 0.25 0.18 0.09 0.44 0.44 0.05 0.54 0.54
Critt Moves: **** **** ****
Green/Cycle: 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.91 0.51 0.10 0.52 0.52
Volume/Cap: 1.04 0.39 0.39 0.39 0.39 0.39 0.39 0.87 0.87 0.87 0.84 1.04
Uniform Del: 38.7 30.7 30.7 36.2 36.2 33.0 50.0 23.8 23.8 46.2 26.3 26.3
IncrementDel: 88.4 1.4 1.4 12.8 12.8 7.7 86.4 14.3 14.3 8.2 43.2 43.2
InitQueudel: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Delay: 127.1 32.1 32.1 49.0 49.0 40.0 107.4 38.1 38.1 54.3 69.5 69.5
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjVol/Veh: 127.1 32.1 32.1 49.0 49.0 40.0 107.4 38.1 38.1 54.3 69.5 69.5

LOS by Move: F C D D F D D E E
HCMAvgQ: 9 5 4 11 12 16 16 2 34 34

Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

#### Intersection #37: 16th/7th

**Signal=Split/Rights=Include**

**Base+Add Vol:** 47 98 287***

**Lanes:** 0 1 0 0 1

#### 2040 AM (2-lane 16th)

**Critical V/C:** 1.098

**A vg Crit Del (sec/veh):** 125.1

**A vg Delay (sec/veh):** 94.3

**Cycle Time (sec):** 110

**Loss Time (sec):** 14

**Street Name:** 7th Street 16th Street

- **Approach:** North Bound South Bound East Bound West Bound
- **Min. Green:** 30 30 30 30 30 30 36 36 36 36 36 36 67 67 67
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **LOS:** F

---

**Volume Module:**

- **Base Vol:** 41 365 109 287 98 47 133 700 78 23 304 304 23 304 23 304
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **InitPut:** 41 365 109 287 98 47 133 700 78 23 304 23 304 23 304 23 304
- **User Adj:** 1.00 1.00 0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Critical V/C:** 1.230

---

**Saturation Flow Module:**

- **Sat./Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
- **Min. Green:** 37 37 37 37 37 37 37 37 37 37 37 37 37 37 37
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Intensity:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Vol/Sat:** 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50
- **HCMAvgQ:** 2 1 0 0 0 0 0 0 0 0 0 0 0 0 0

---

**Volume Module:**

- **Base Vol:** 75 329 48 135 140 131 72 502 76 58 539 459
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **InitPut:** 75 329 48 135 140 131 72 502 76 58 539 459
- **User Adj:** 1.00 1.00 0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Critical V/C:** 1.370

---

**Saturation Flow Module:**

- **Sat./Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
- **Min. Green:** 37 37 37 37 37 37 37 37 37 37 37 37 37 37 37
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Intensity:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Vol/Sat:** 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50
- **HCMAvgQ:** 3 2 1 0 0 0 0 0 0 0 0 0 0 0 0

---

**Capacity Analysis Module:**

**Vol/Sat:** 0.61 0.48 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

---

**D**

**F**

**E**

**D**

**F**

**HCMAvgQ:** 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

Note: Queue reported is the number of cars per lane.
**Level Of Service Computation Report**

**2000 HCM Operations (Future Volume Alternative)**

**Intersection #38: 16th St/Rhode Island**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 16  59  42

**Lanes:** 0 0 1! 0 0

**Cycle Time (sec):** 60

**Loss Time (sec):** 10

**Critical V/C:** 0.702

**Avg Delay (sec/veh):** 31.2

**Street Name:** Rhode Island Street 16th Street

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<tr>
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<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
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| **Street Name:** Rhode Island Street 16th Street

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<td>0 643 99</td>
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</table>

**Saturation Flow Module:**

| Sat/Lane: | 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 |
| Lanes: | 0.29 0.52 0.19 0.36 0.50 0.14 | 0.00 0.92 0.08 | 0.00 0.92 0.08 |
| Final Sat: | 488 855 307 563 790 214 | 0.172 152 | 0.179 142 |

**Capacity Analysis Module:**

| Volume/Sat: | 0.15 0.15 0.15 0.08 0.08 0.08 | 0.00 0.43 0.43 | 0.00 0.23 0.23 |
| Crit Moves: | **** | **** | **** | **** |
| Green/Cycle: | 0.64 0.60 0.40 0.40 0.40 0.40 | 0.00 0.43 0.43 | 0.00 0.43 0.43 |
| Volume/Cap: | 0.38 0.38 0.38 0.21 0.21 0.21 0.21 0.21 0.21 0.21 | 0.00 0.54 0.54 | 0.00 0.54 0.54 |
| Uniform Del: | 12.7 12.7 12.7 11.8 11.8 11.8 | 0.00 17.0 17.0 | 0.00 12.5 12.5 |
| IncremDel: | 0.4 0.4 0.4 0.2 0.2 0.2 0.0 0.0 0.0 0.0 | 0.0 0.0 0.0 | 0.0 0.0 0.0 |
| InitQueueDel: | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Delay Adj: | 1.00 1.00 | 1.00 1.00 1.00 1.00 | 0.00 1.00 1.00 | 0.00 1.00 1.00 |
| User Del Adj: | 1.00 1.00 | 1.00 1.00 | 1.00 1.00 | 1.00 1.00 | 1.00 1.00 | 1.00 1.00 | 1.00 1.00 | 1.00 1.00 |

**LOS by Move:**

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<td>1.00 1.00</td>
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</tbody>
</table>
| Note: Queue reported is the number of cars per lane.
### 2040 AM (2-lane 16th)

**Intersection #39: 16th/Vermont**

- Signal=Permit/Rights=Include
- Base+Add Vol: 23 0 51
- Lanes: 0 0 1! 0 0
- Cycle Time (sec): 60
- Loss Time (sec): 10
- Critical V/C: 0.769
- Avg Critical Delay (sec/veh): 48.0
- Avg Delay (sec/veh): 38.6
- LOS: D
- Volume Module:
  - Base Vol: 23 0 51
  - Growth Adj: 1.00
  - InitQueueDelay: 0.0
  - Delay Adj: 1.00
  - Delay/Veh: 14.5
  - User Delay Adj: 1.00
  - LOS by Move: B

**Volume Module:**

- Street Name: Vermont St 16th St
- Approach: North Bound South Bound East Bound West Bound
- Movement: L T R L T R L T R
- Min. Green: 23 23 23 23 23 23 23 23
- Y+R: 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0
- LOS: D

---

### 2040 PM (2-lane 16th)

**Intersection #39: 16th/Vermont**

- Signal=Permit/Rights=Include
- Base+Add Vol: 39 0 71
- Lanes: 0 0 1! 0 0
- Cycle Time (sec): 60
- Loss Time (sec): 10
- Critical V/C: 0.753
- Avg Critical Delay (sec/veh): 35.4
- Avg Delay (sec/veh): 30.3
- LOS: C
- Volume Module:
  - Base Vol: 39 0 71
  - Growth Adj: 1.00
  - InitQueueDelay: 0.0
  - Delay Adj: 1.00
  - Delay/Veh: 14.5
  - User Delay Adj: 1.00
  - LOS by Move: B

**Volume Module:**

- Street Name: Vermont St 16th St
- Approach: North Bound South Bound East Bound West Bound
- Movement: L T R L T R L T R
- Min. Green: 21 0 21 0 21 0 21 0
- Y+R: 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0
- LOS: C

---
### Intersection #40: 16th/Potrero

**Level Of Service Computation Report**

**2000 HCM Operations (Future Volume Alternative)**

**2040 AM (2-lane 16th)**

**Intersection #40: 16th/Potrero**

**Signal=Permit/Rights=Include**

- **Base+Add Vol:** 78 460 172***
- **Lanes:** 0 1 1 0 1

**Cycle Time (sec):** 90

**Loss Time (sec):** 10

**Critical V/C:** 1.413

**Avg Crit Del (sec/veh):** 179.6

**vg Delay (sec/veh):** 82.0

**Street Name:** Potrero Ave 16th St

<table>
<thead>
<tr>
<th>Approach</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movement</td>
<td>T</td>
<td>R</td>
<td>T</td>
<td>E</td>
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<tr>
<td>Min. Green</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
</tbody>
</table>

### Volume Module:

- **Base Vol:** 114 941 49 172 460 78 57 468 143 0 477 42
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Added Vol:** 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
- **PasserVol:** 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
- **User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **PHF Volume:** 118 970 51 177 474 80 59 482 147 0 492 43
- **Reduce Vol:** 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
- **Reduced Vol:** 118 970 51 177 474 80 59 482 147 0 492 43
- **PCF Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Cycle Time:** 90

**Loss Time:** 10

**Critical V/C:** 1.765

**Avg Crit Del (sec/veh):** 293.2

**vg Delay (sec/veh):** 178.3

**Street Name:** Potrero Ave 16th St

<table>
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<th>Approach</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
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<td>Movement</td>
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<td>R</td>
<td>T</td>
<td>E</td>
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<tr>
<td>Min. Green</td>
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<td>40</td>
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</table>

### Volume Module:

- **Base Vol:** 133 625 44 131 1076 247 49 396 242 0 686 109
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Added Vol:** 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
- **PasserVol:** 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
- **User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **PHF Volume:** 137 644 45 135 1109 255 51 408 249 0 707 112
- **Reduce Vol:** 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
- **Reduced Vol:** 137 644 45 135 1109 255 51 408 249 0 707 112
- **PCF Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**Cycle Time:** 90

**Loss Time:** 10

**Critical V/C:** 1.567

**Avg Crit Del (sec/veh):** 242.0

**vg Delay (sec/veh):** 133.4

**Street Name:** Potrero Ave 16th St

<table>
<thead>
<tr>
<th>Approach</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movement</td>
<td>T</td>
<td>R</td>
<td>T</td>
<td>E</td>
</tr>
<tr>
<td>Min. Green</td>
<td>40</td>
<td>40</td>
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<td>40</td>
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</tbody>
</table>
### Level Of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

#### 2040 AM (2-lane 16th)

**Intersection #41: Mariposa/3rd**

**Signal=Protect/Rights=Include**

**Base+Add Vol:** 81***  318  36

**Lanes:** 0 1 1  0 1

- **Cycle Time (sec):** 100
- **Loss Time (sec):** 10
- **Critical V/C:** 0.441
- **Avg Crit Del (sec/veh):** 43.7
- **Avg Delay (sec/veh):** 54.5

**LOS:** D

---

#### 2040 PM (2-lane 16th)

**Intersection #41: Mariposa/3rd**

**Signal=Protect/Rights=Include**

**Base+Add Vol:** 303  941***  26

**Lanes:** 0 1 1  0 1

- **Cycle Time (sec):** 100
- **Loss Time (sec):** 15
- **Critical V/C:** 0.959
- **Avg Crit Del (sec/veh):** 63.7
- **Avg Delay (sec/veh):** 48.7

**LOS:** D

---

**Street Name:** 3rd Street

**Approach:** North Bound    South Bound    East Bound    West Bound

---

**Min. Green:** 23  51  51  4  32  44  31  27  27  12  4  4

**Y+R:** 5.0  5.0  5.0  5.0  5.0  5.0  5.0  5.0  5.0  5.0  5.0  5.0

---

**Capacity Analysis Module:**

- **Vol/Sat:**
  - Base Vol: 98 1509  130  36  318  81  462  484  77  8  68  22
  - Growth Adj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00  1.00
  - Added Vol: 0  0  0  0  0  0  0  0  0  0  0  0
  - PasserByVol: 0  0  0  0  0  0  0  0  0  0  0  0
  - Initial Put: 98 1509  130  36  318  81  462  484  77  8  68  22
  - User Adj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00  1.00
  - PHF Adj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00  1.00
  - PHF Volume: 98 1509  130  36  318  81  462  484  77  8  68  22
  - Reduct Vol: 0  0  0  0  0  0  0  0  0  0  0  0
  - Reduced Vol: 98 1509  130  36  318  81  462  484  77  8  68  22
  - PCE Adj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00  1.00
  - MLP Adj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00  1.00
  - FinalVolume: 98 1509  130  36  318  81  462  484  77  8  68  22

**Capacity Analysis Module:**

- **Vol/Sat:**
  - Base Vol: 106 1157  55  26  941   303 205  89 106 49 378  45
  - Growth Adj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00  1.00
  - Added Vol: 0  0  0  0  0  0  0  0  0  0  0  0
  - PasserByVol: 0  0  0  0  0  0  0  0  0  0  0  0
  - Initial Put: 106 1157  55  26  941   303 205  89 106 49 378  45
  - User Adj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00  1.00
  - PHF Adj: 0.95 0.95  0.95  0.95 0.95  0.95  0.95 0.95  0.95  0.95  0.95
  - PHF Volume: 112 1218  58  27  993  319 216 94 112 52 398  47
  - Reduct Vol: 0  0  0  0  0  0  0  0  0  0  0  0
  - Reduced Vol: 112 1218  58  27  993  319 216 94 112 52 398  47
  - PCE Adj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00  1.00
  - MLP Adj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00  1.00
  - FinalVolume: 112 1218  58  27  993  319 216 94 112 52 398  47

---

**Saturation Flow Module:**

**Sat./Lane:**

- **3rd Street:**
  - **Vol:** 98 1509  130  36  318  81  462  484  77  8  68  22
  - **Density:** 23  51  51  4  32  44  31  27  27  12  4  4
  - **LOS:** D
  - **Saturation:** 0.9  0.8  0.8  0.8  0.8  0.8  0.8  0.8  0.8  0.8  0.8  0.8

**3rd Street:**

- **Vol:** 106 1157  55  26  941   303 205  89 106 49 378  45
  - **Density:** 1.0  0.9  0.9  0.9  0.9  0.9  0.9  0.9  0.9  0.9  0.9  0.9
  - **LOS:** D
  - **Saturation:** 1.0  1.0  1.0  1.0  1.0  1.0  1.0  1.0  1.0  1.0  1.0  1.0

---

**Note:** Queue reported is the number of cars per lane.
<table>
<thead>
<tr>
<th>Street Name: Mariposa Street</th>
<th>4th Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approach Movement:</td>
<td>Movement:</td>
</tr>
<tr>
<td>North Bound</td>
<td>L  -  T  -  R</td>
</tr>
<tr>
<td>South Bound</td>
<td>L  -  T  -  R</td>
</tr>
<tr>
<td>East Bound</td>
<td>L  -  T  -  R</td>
</tr>
<tr>
<td>West Bound</td>
<td>L  -  T  -  R</td>
</tr>
</tbody>
</table>

**Volume Module:**

- **Base Vol:** 68 0 66 20 0 68 194 895 49 4 190 67
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Initial Put:** 68 0 66 20 0 68 194 895 49 4 190 67
- **User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Y+R:** 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0
- **Min. Green:** 17 17 17 17 17 17 15 28 28 15 28 28
- **Reduce Vol:** 0 0 0 0 0 0 0 0 0 0 0 0
- **Critical V/C:** 0.565 0 0 0 0 0 0 0 0 0 0 0
- **Cycle Time (sec):** 60 0 0 0 0 0 0 0 0 0 0 0
- **Critical V/C:** 0.609 0 0 0 0 0 0 0 0 0 0 0
- **Cycle Time (sec):** 60 0 0 0 0 0 0 0 0 0 0 0
- **Loss Time (sec):** 15 0 0 0 0 0 0 0 0 0 0 0
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Delay/Veh:** 47.1 30.8 17.3 30.8 17.3 30.8 17.3 30.8 17.3 30.8 17.3 30.8
- **Initial QueuDel:** 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
- **Queue DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Avg Del (sec/veh):** 25.3 27.4 25.3 27.4 25.3 27.4 25.3 27.4 25.3 27.4 25.3 27.4
- **Critical Del (sec/veh):** 25.3 27.4 25.3 27.4 25.3 27.4 25.3 27.4 25.3 27.4 25.3 27.4
- **HCM2kAvgQ:** 5 0 5 0 5 0 5 0 5 0 5 0
- **Note:** Queue reported is the number of cars per lane.

---

<table>
<thead>
<tr>
<th>Street Name: 4th Street</th>
<th>Mariposa Street</th>
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</thead>
<tbody>
<tr>
<td>Approach Movement:</td>
<td>Movement:</td>
</tr>
<tr>
<td>North Bound</td>
<td>L  -  T  -  R</td>
</tr>
<tr>
<td>South Bound</td>
<td>L  -  T  -  R</td>
</tr>
<tr>
<td>East Bound</td>
<td>L  -  T  -  R</td>
</tr>
<tr>
<td>West Bound</td>
<td>L  -  T  -  R</td>
</tr>
</tbody>
</table>

**Volume Module:**

- **Base Vol:** 41 0 9 46 0 172 85 719 76 6 713 105
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Initial Put:** 41 0 9 46 0 172 85 719 76 6 713 105
- **User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Y+R:** 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0
- **Min. Green:** 20 20 20 20 20 20 15 25 25 15 25 25
- **Reduce Vol:** 0 0 0 0 0 0 0 0 0 0 0 0
- **Critical V/C:** 0.565 0 0 0 0 0 0 0 0 0 0 0
- **Cycle Time (sec):** 60 0 0 0 0 0 0 0 0 0 0 0
- **Critical V/C:** 0.609 0 0 0 0 0 0 0 0 0 0 0
- **Cycle Time (sec):** 60 0 0 0 0 0 0 0 0 0 0 0
- **Loss Time (sec):** 105 0 0 0 0 0 0 0 0 0 0 0
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Delay/Veh:** 30.8 30.8 30.8 30.8 30.8 30.8 30.8 30.8 30.8 30.8 30.8 30.8
- **Initial QueuDel:** 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
- **Queue DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **HCM2kAvgQ:** 1 0 1 0 1 0 1 0 1 0 1 0
- **Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #43: Mariposa/I-280NB**

**Signal=Split/Rights=Include**

**Base+Add Vol:** 161*** 0 0 0 0

**Lanes:** 2 0 0 0 0

**Cycle Time (sec):** 90

**Loss Time (sec):** 7

**Critical V/C:** 1.014

**Avg Crit Del (sec/veh):** 93.6

**Avg Delay (sec/veh):** 48.3

**Sta Name:** I-280NB

**Mariposa Street**

**Approach:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>T</th>
<th>L</th>
<th>R</th>
<th>E</th>
<th>T</th>
<th>R</th>
<th>L</th>
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<tbody>
<tr>
<td>Min. Green</td>
<td>57</td>
<td>57</td>
<td>57</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>15</td>
</tr>
<tr>
<td>Y+R:</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
</tr>
</tbody>
</table>

**Volume Module:**

| Base Vol: 891 | 710 | 1039 |
| Added Vol: 0 | 0 | 0 |
| Parry Vol: 0 | 0 | 0 |
| Initial Put: 891 | 710 | 1039 |
| User Adj: 1.00 | 1.00 | 1.00 |
| PHP Volume: 924 | 737 | 1078 |
| Reduce Vol: 0 | 0 | 0 |
| Reduced Vol: 924 | 737 | 1078 |
| PCF Adj: 1.00 | 1.00 | 1.00 |
| PHP Volume: 539 | 248 | 464 |

**Saturation Flow Module:**

| Sat/Lane: 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adj: 1.06 | 0.77 | 0.76 | 1.00 | 0.61 | 0.62 | 1.00 | 0.81 | 0.79 |
| Lanes: 1.00 | 1.00 | 0.00 | 0.00 |
| Final Sat: 2018 | 1461 | 1440 |

**Capacity Analysis Module:**

| Vol/Sat: 0.46 | 0.50 | 0.75 |
| Crit Moves: **** | **** |
| Green/Cycle: 0.63 | 0.63 | 0.63 |
| Volume/Cap: 0.72 | 0.68 | 0.58 |
| Uniform Del: 11.2 | 12.2 | 16.5 |
| IncremDel: 3.6 | 3.0 | 88.7 |
| InitialQueDel: 0.0 | 0.0 | 0.0 |
| Delay Adj: 1.00 | 1.00 | 1.00 |
| Delay/Veh: 14.7 | 15.2 | 105.2 |
| LOS by Move: B B |
| HCMAvgQ: 18 | 18 | 45 |

Note: Queue reported is the number of cars per lane.

---

### Level Of Service Computation Report

#### 2040 PM (2-lane 16th)

**Intersection #43: Mariposa/I-280NB**

**Signal=Split/Rights=Include**

**Base+Add Vol:** 606*** 0 0 0 0

**Lanes:** 2 0 0 0 0

**Cycle Time (sec):** 90

**Loss Time (sec):** 12

**Critical V/C:** 0.886

**Avg Crit Del (sec/veh):** 42.6

**Avg Delay (sec/veh):** 40.1

**Sta Name:** I-280NB

**Mariposa Street**

**Approach:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>T</th>
<th>L</th>
<th>R</th>
<th>E</th>
<th>T</th>
<th>R</th>
<th>L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>29</td>
<td>29</td>
<td>29</td>
<td>27</td>
<td>27</td>
<td>27</td>
<td>22</td>
</tr>
<tr>
<td>Y+R:</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
</tr>
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</table>

**Volume Module:**

| Base Vol: 539 | 248 | 464 |
| Added Vol: 25 | 99 |
| Parry Vol: 0 | 0 |
| Initial Put: 539 | 248 | 464 |
| User Adj: 1.00 | 1.00 | 1.00 |
| PHP Volume: 561 | 258 | 483 |
| Reduce Vol: 0 | 0 |
| Reduced Vol: 561 | 258 | 483 |
| PCF Adj: 1.00 | 1.00 | 1.00 |
| PHP Volume: 539 | 248 | 464 |

**Saturation Flow Module:**

| Sat/Lane: 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adj: 1.06 | 0.77 | 0.76 | 1.00 | 0.61 | 0.62 | 1.00 |
| Lanes: 1.00 | 1.00 | 0.00 | 0.00 |
| Final Sat: 2018 | 1461 | 1453 |

**Capacity Analysis Module:**

| Vol/Sat: 0.28 | 0.18 | 0.32 |
| Crit Moves: **** | **** |
| Green/Cycle: 0.36 | 0.36 | 0.36 |
| Volume/Cap: 0.78 | 0.60 | 0.59 |
| Uniform Del: 25.9 | 22.7 | 27.3 |
| IncremDel: 8.3 | 12.3 | 13.3 |
| InitialQueDel: 0.0 | 0.0 | 0.0 |
| Delay Adj: 1.00 | 1.00 | 1.00 |
| Delay/Veh: 34.2 | 24.0 | 40.6 |
| LOS by Move: C C |
| HCMAvgQ: 16 | 6 | 37 |

Note: Queue reported is the number of cars per lane.
## Level Of Service Computation Report

### 2000 HCM Operations (Future Volume Alternative)

### 2040 AM (2-lane 16th)

**Intersection #71: 16th St/Mission**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 37  237  
**Lanes:** 0 1 0  1 0

<table>
<thead>
<tr>
<th>Cycle Time (sec)</th>
<th>Loss Time (sec)</th>
<th>Critical V/C</th>
<th>V/C Del. (sec/veh)</th>
<th>Delay (sec/veh)</th>
<th>LOS by Move</th>
<th>Volume Module:</th>
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<tr>
<td>60</td>
<td>0</td>
<td>0.745</td>
<td>41.2</td>
<td>34.8</td>
<td>C</td>
<td></td>
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### 2040 PM (2-lane 16th)

**Intersection #71: 16th St/Mission**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 51  401  
**Lanes:** 0 1 0  1 0

<table>
<thead>
<tr>
<th>Cycle Time (sec)</th>
<th>Loss Time (sec)</th>
<th>Critical V/C</th>
<th>V/C Del. (sec/veh)</th>
<th>Delay (sec/veh)</th>
<th>LOS by Move</th>
<th>Volume Module:</th>
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<tr>
<td>68</td>
<td>1</td>
<td>0.768</td>
<td>45.8</td>
<td>33.1</td>
<td>C</td>
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### Street Name: Mission Street

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<thead>
<tr>
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<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
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</thead>
<tbody>
<tr>
<td>Movement</td>
<td>L  -  T  -  R</td>
<td>L  -  T  -  R</td>
<td>L  -  T  -  R</td>
<td>L  -  T  -  R</td>
</tr>
</tbody>
</table>

| Min. Green | 28 | 0 | 28 | 0 | 24 | 0 | 24 | 0 | 24 | 0 | 24 | 0 |
| Initial Base | 516 | 78 | 2 | 237 | 37 | 17 | 482 | 42 | 0 | 376 | 70 |
| Added Vol | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PasserByVol | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Initial Put | 516 | 78 | 2 | 237 | 37 | 17 | 482 | 42 | 0 | 376 | 70 |
| User Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHE Volume | 532 | 80 | 2 | 244 | 38 | 18 | 497 | 43 | 0 | 388 | 72 |
| Total Delay | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| FinalVolume | 532 | 80 | 2 | 244 | 38 | 18 | 497 | 43 | 0 | 388 | 72 |

### Street Name: 16th Street

<table>
<thead>
<tr>
<th>Approach</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movement</td>
<td>L  -  T  -  R</td>
<td>L  -  T  -  R</td>
<td>L  -  T  -  R</td>
<td>L  -  T  -  R</td>
</tr>
</tbody>
</table>

| Min. Green | 25 | 0 | 25 | 0 | 25 | 0 | 25 | 0 | 25 | 0 |
| Initial Base | 385 | 95 | 1 | 401 | 51 | 2 | 315 | 68 | 0 | 529 | 68 |
| Added Vol | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PasserByVol | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Initial Put | 385 | 95 | 1 | 401 | 51 | 2 | 315 | 68 | 0 | 529 | 68 |
| User Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHE Volume | 405 | 100 | 1 | 422 | 54 | 2 | 332 | 72 | 0 | 557 | 72 |
| Total Delay | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| FinalVolume | 405 | 100 | 1 | 422 | 54 | 2 | 332 | 72 | 0 | 557 | 72 |

### Volume Module:

- **Base Vol:** 516 78 2 237 37 17 482 42 0 376 70
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 ... 1.2 6.7 6.7 6.7 0.0 54.4 54.4
- **InitQueuDel:** 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00 ... 13.6 20.4 20.4 20.4 0.0 71.4 71.4

### Capacity Analysis Module:

- **Vol/Sat:** 0.0 0.19
- **Crit Moves:** ****
- **Green/Cycle:** 0.0 0.42
- **Uniform Del:** 0.0 11.4
- **IncremDel:** 0.0 1.3
- **User DelAdj:** 1.00 1.00
- **AdjDel/Yhr:** 12.7 12.7
- **LOS by Move:** A B B B B B E E E A C C
- **HCM2kAvgQ:** 4 4 4 8 7 0 16 16

Note: Queue reported is the number of cars per lane.
# Level Of Service Computation Report

2000 HCM Operations (Future Volume Alternative)

## Intersection #72: 16th St / S Van Ness

**Signal=Permit/Rights=Include**

### Base+Add Vol: 44  323  121

<table>
<thead>
<tr>
<th>Lanes</th>
<th>Base+Add Lanes: Rights=Include Vol Cnt Date: n/a Rights=Include Lanes: Base+Add</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 1 0</td>
<td>26</td>
</tr>
<tr>
<td>0 1 0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Critical V/C: 1.037**

**vg Crit Del (sec/veh): 61.5**

**vg Delay (sec/veh): 49.2**

**Cycle Time (sec): 60**

**Loss Time (sec): 8**

**Cycle Length:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>15 0</th>
<th>493***</th>
<th>1!</th>
</tr>
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<tr>
<td>L  -  T  -  R</td>
<td>0 118</td>
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</tbody>
</table>

### Street Name: S Van Ness

<table>
<thead>
<tr>
<th>Approach</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movement</td>
<td>L  -  T  -  R</td>
<td>L  -  T  -  R</td>
<td>L  -  T  -  R</td>
<td>L  -  T  -  R</td>
</tr>
<tr>
<td>-----------</td>
<td>--------------</td>
<td>--------------</td>
<td>------------</td>
<td>------------</td>
</tr>
<tr>
<td>Min. Green</td>
<td>31 0</td>
<td>31 0</td>
<td>31 0</td>
<td>31 0</td>
</tr>
<tr>
<td>YRd</td>
<td>4 0</td>
<td>4 0</td>
<td>4 0</td>
<td>4 0</td>
</tr>
<tr>
<td>LOS</td>
<td>D</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Volume Module:

<table>
<thead>
<tr>
<th>Base Vol</th>
<th>Growth Adj</th>
<th>Delay Adj</th>
<th>Delay/Veh</th>
<th>User DelAdj</th>
<th>LOS by Move</th>
</tr>
</thead>
<tbody>
<tr>
<td>74 913</td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
<td>24.7 24.7</td>
<td>1.00 1.00</td>
<td>C</td>
</tr>
</tbody>
</table>

**HCM2kAvgQ: 15 15 15 6 23 23 23 0 9 9**

**Note:** Queue reported is the number of cars per lane.

---

# Level Of Service Computation Report

2000 HCM Operations (Future Volume Alternative)

## Intersection #72: 16th St / S Van Ness

**Signal=Permit**

### Base+Add Vol: 53  682 | 69 |

<table>
<thead>
<tr>
<th>Lanes</th>
<th>Base+Add Lanes: Rights=Include Vol Cnt Date: n/a Rights=Include Lanes: Base+Add</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 0 1</td>
<td>15</td>
</tr>
<tr>
<td>1 0 1</td>
<td>0</td>
</tr>
</tbody>
</table>

**Critical V/C: 1.197**

**vg Crit Del (sec/veh): 117.8**

**vg Delay (sec/veh): 81.4**

**Cycle Time (sec): 60**

**Loss Time (sec): 8**

**Cycle Length:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>15 0</th>
<th>266</th>
<th>1!</th>
</tr>
</thead>
<tbody>
<tr>
<td>L  -  T  -  R</td>
<td>0</td>
<td>118</td>
<td></td>
</tr>
</tbody>
</table>

### Street Name: S Van Ness

<table>
<thead>
<tr>
<th>Approach</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movement</td>
<td>L  -  T  -  R</td>
<td>L  -  T  -  R</td>
<td>L  -  T  -  R</td>
<td>L  -  T  -  R</td>
</tr>
<tr>
<td>-----------</td>
<td>--------------</td>
<td>--------------</td>
<td>------------</td>
<td>------------</td>
</tr>
<tr>
<td>Min. Green</td>
<td>29 0</td>
<td>29 0</td>
<td>29 0</td>
<td>29 0</td>
</tr>
<tr>
<td>YRd</td>
<td>4 0</td>
<td>4 0</td>
<td>4 0</td>
<td>4 0</td>
</tr>
<tr>
<td>LOS</td>
<td>F</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Volume Module:

<table>
<thead>
<tr>
<th>Base Vol</th>
<th>Growth Adj</th>
<th>Delay Adj</th>
<th>Delay/Veh</th>
<th>User DelAdj</th>
<th>LOS by Move</th>
</tr>
</thead>
<tbody>
<tr>
<td>53 682</td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
<td>28.3 28.3</td>
<td>1.00 1.00</td>
<td>C</td>
</tr>
</tbody>
</table>

**HCM2kAvgQ: 12 12 12 4 25 25 25 6 6 6**

**Note:** Queue reported is the number of cars per lane.
## Level Of Service Computation Report

2000 HCM Operations (Future Volume Alternative)

### 2040 AM (2-lane 16th)

**Intersection #73: 16th St / Folsom**

**Signal=Permit/Rights=Include**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>29 244 35</td>
<td>0 1 0 0 1</td>
<td>60</td>
<td>10</td>
<td>0.071</td>
<td>72.1</td>
<td>44.7</td>
<td>D</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Street Name: Folsom Street</th>
<th>16th Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movement:</td>
<td></td>
</tr>
<tr>
<td>L  -  T  -  R</td>
<td>L  -  T  -  R</td>
</tr>
<tr>
<td>Min. Green:</td>
<td></td>
</tr>
<tr>
<td>24 24 24 24 24 24 24 24 24 24 25 25 25 25 25 25 25 25 25</td>
<td>6.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0</td>
</tr>
</tbody>
</table>

### 2040 PM (2-lane 16th)

**Intersection #73: 16th St / Folsom**

**Signal=Permit/Rights=Include**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>61 539 43</td>
<td>0 1 0 1 0</td>
<td>60</td>
<td>86</td>
<td>1.247</td>
<td>66.1</td>
<td>98.2</td>
<td>F</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Street Name: Folsom Street</th>
<th>16th Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movement:</td>
<td></td>
</tr>
<tr>
<td>L  -  T  -  R</td>
<td>L  -  T  -  R</td>
</tr>
<tr>
<td>Min. Green:</td>
<td></td>
</tr>
<tr>
<td>24 24 24 24 24 24 24 24 24 24 25 25 25 25 25 25 25 25 25</td>
<td>6.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0</td>
</tr>
</tbody>
</table>

## Capacity Analysis Module

<table>
<thead>
<tr>
<th>Volume/Sat:</th>
<th>0.80 0.48 0.48 0.14 0.21 0.21 0.31 0.31</th>
<th>0.00 0.33 0.33</th>
<th>Crit Moves: ****</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green/Cycle:</td>
<td>0.42 0.42 0.42 0.42 0.42 0.42 0.42 0.42</td>
<td>0.42 0.42 0.42</td>
<td>0.00 0.42 0.42 0.42</td>
</tr>
</tbody>
</table>

**Note:** Queue reported is the number of cars per lane.
Intersection #74: 16th St / Harrison

Signal=Permit/Rights=Include

Base+Add Vol: 29  337  88
Lanes: 0 1 0  1 0
Cycle Time (sec): 60
Loss Time (sec): 10

Critical V/C: 0.954
Avg Crit Del (sec/veh): 64.6
Avg Delay (sec/veh): 39.5

Cycle Time (sec): 60
Loss Time (sec): 10

Critical V/C: 1.221
Avg Crit Del (sec/veh): 130.5
Avg Delay (sec/veh): 112.7

Base+Add Vol: 36  348  65
Lanes: 0 1 0  1 0
Cycle Time (sec): 60
Loss Time (sec): 10

Critical V/C: 0.954
Avg Crit Del (sec/veh): 64.6
Avg Delay (sec/veh): 39.5

Cycle Time (sec): 60
Loss Time (sec): 10

Critical V/C: 1.221
Avg Crit Del (sec/veh): 130.5
Avg Delay (sec/veh): 112.7

Street Name: Harrison Street 16th Street
Approach: North Bound South Bound East Bound West Bound
Movement: R L T R L T R L T R L T R
Min. Green: 19 19 19 19 0 19 31 31 0 31 31
Cycle Time (sec): 60
Loss Time (sec): 10

Critical V/C: 0.954
Avg Crit Del (sec/veh): 64.6
Avg Delay (sec/veh): 39.5

Cycle Time (sec): 60
Loss Time (sec): 10

Critical V/C: 1.221
Avg Crit Del (sec/veh): 130.5
Avg Delay (sec/veh): 112.7

Base+Add Vol: 36  348  65
Lanes: 0 1 0  1 0
Cycle Time (sec): 60
Loss Time (sec): 10

Critical V/C: 0.954
Avg Crit Del (sec/veh): 64.6
Avg Delay (sec/veh): 39.5

Cycle Time (sec): 60
Loss Time (sec): 10

Critical V/C: 1.221
Avg Crit Del (sec/veh): 130.5
Avg Delay (sec/veh): 112.7

Note: Queue reported is the number of cars per lane.
COMPARE

Mon Jul 14 09:04:54 2014

Page 3-147

COMPARE

Mon Jul 14 09:04:54 2014

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 AM (2-lane 16th)

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PM (2-lane 16th)

Intersection #75: 16th St / Bryant
Base+Add Vol:
Lanes:

Intersection #75: 16th St / Bryant
Signal=Permit/Rights=Include
41
99
48
0
0
1!
0
0

Signal=Permit
Base+Add Lanes: Rights=Include
73

Vol Cnt Date:
Cycle Time (sec):

n/a
50

Base+Add Vol:
Lanes:

Signal=Permit
Rights=Include

Loss Time (sec):

41

133

76

0

Critical V/C:

0.988

1

1

Avg Crit Del (sec/veh):

46.8

0

0

Avg Delay (sec/veh):

36.1

0

Lanes:
Base+Add Vol:

0
44

Signal=Permit/Rights=Include
258***
103
0
1!
0
0

Vol Cnt Date:
Cycle Time (sec):

n/a
50

Loss Time (sec):

10

Signal=Permit
Rights=Include

428

32

0

0

Critical V/C:

1.168

1

1

Avg Crit Del (sec/veh):

106.0

0

0

Avg Delay (sec/veh):

85.2

0

D

LOS:

0
1!
0
0
354***
76
Signal=Permit/Rights=Include

186

0

1
512

Lanes: Base+Add
1

0

10
0

LOS:

64
0

Signal=Permit
Base+Add Lanes: Rights=Include

Lanes: Base+Add
1

0
1

626***

Page 3-148

Lanes:
Base+Add Vol:

0
50

690***

0

F

0
1!
0
0
359
100
Signal=Permit/Rights=Include

Street Name:
Bryant Street
16th Street
Approach:
North Bound
South Bound
East Bound
West Bound
Movement:
L - T - R
L - T - R
L - T - R
L - T - R
------------|---------------||---------------||---------------||---------------|
Min. Green:
20
20
20
20
20
20
20
20
20
20
20
20
Y+R:
5.0 5.0
5.0
5.0 5.0
5.0
5.0 5.0
5.0
5.0 5.0
5.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:
44 354
76
48
99
41
73 626
41
0 512
133
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:
44 354
76
48
99
41
73 626
41
0 512
133
Added Vol:
0
0
0
0
0
0
0
0
0
0
0
0
PasserByVol:
0
0
0
0
0
0
0
0
0
0
0
0
Initial Fut:
44 354
76
48
99
41
73 626
41
0 512
133
User Adj:
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:
0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97
PHF Volume:
45 365
78
49 102
42
75 645
42
0 528
137
Reduct Vol:
0
0
0
0
0
0
0
0
0
0
0
0
Reduced Vol:
45 365
78
49 102
42
75 645
42
0 528
137
PCE Adj:
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:
45 365
78
49 102
42
75 645
42
0 528
137
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:
1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.62 0.63 0.61 0.54 0.55 0.53 0.53 0.53 0.53 1.00 0.85 0.44
Lanes:
0.09 0.75 0.16 0.25 0.53 0.22 0.20 1.69 0.11 0.00 1.00 1.00
Final Sat.:
110 884
190
262 541
224
199 1709
112
0 1620
844
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:
0.41 0.41 0.41 0.19 0.19 0.19 0.38 0.38 0.38 0.00 0.33 0.16
Crit Moves:
****
****
Green/Cycle: 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.00 0.40 0.40
Volume/Cap: 1.03 1.03 1.03 0.47 0.47 0.47 0.94 0.94 0.94 0.00 0.81 0.41
Uniform Del: 15.0 15.0 15.0 11.1 11.1 11.1 14.5 14.5 14.5
0.0 13.3 10.7
IncremntDel: 50.0 50.0 50.0
3.8 3.8
3.8 20.7 20.7 20.7
0.0 10.8
3.6
InitQueuDel: 0.0 0.0
0.0
0.0 0.0
0.0
0.0 0.0
0.0
0.0 0.0
0.0
Delay Adj:
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00 1.00 1.00
Delay/Veh:
65.0 65.0 65.0 14.9 14.9 14.9 35.2 35.2 35.2
0.0 24.1 14.3
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 65.0 65.0 65.0 14.9 14.9 14.9 35.2 35.2 35.2
0.0 24.1 14.3
LOS by Move:
E
E
E
B
B
B
D
D
D
A
C
B
HCM2kAvgQ:
16
16
15
2
2
2
8
8
8
0
10
2
Note: Queue reported is the number of cars per lane.

Street Name:
Bryant Street
16th Street
Approach:
North Bound
South Bound
East Bound
West Bound
Movement:
L - T - R
L - T - R
L - T - R
L - T - R
------------|---------------||---------------||---------------||---------------|
Min. Green:
20
20
20
20
20
20
20
20
20
20
20
20
Y+R:
5.0 5.0
5.0
5.0 5.0
5.0
5.0 5.0
5.0
5.0 5.0
5.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:
50 359
100
103 258
64
76 428
32
0 690
186
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:
50 359
100
103 258
64
76 428
32
0 690
186
Added Vol:
0
0
0
0
0
0
0
0
0
0
0
0
PasserByVol:
0
0
0
0
0
0
0
0
0
0
0
0
Initial Fut:
50 359
100
103 258
64
76 428
32
0 690
186
User Adj:
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:
0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
PHF Volume:
53 378
105
108 272
67
80 451
34
0 726
196
Reduct Vol:
0
0
0
0
0
0
0
0
0
0
0
0
Reduced Vol:
53 378
105
108 272
67
80 451
34
0 726
196
PCE Adj:
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:
53 378
105
108 272
67
80 451
34
0 726
196
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:
1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.60 0.61 0.58 0.48 0.49 0.47 0.40 0.40 0.40 1.00 0.85 0.43
Lanes:
0.10 0.70 0.20 0.24 0.61 0.15 0.28 1.60 0.12 0.00 1.00 1.00
Final Sat.:
112 805
224
223 558
138
215 1212
91
0 1620
812
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:
0.47 0.47 0.47 0.49 0.49 0.49 0.37 0.37 0.37 0.00 0.45 0.24
Crit Moves:
****
****
Green/Cycle: 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.00 0.40 0.40
Volume/Cap: 1.17 1.17 1.17 1.22 1.22 1.22 0.93 0.93 0.93 0.00 1.12 0.60
Uniform Del: 15.0 15.0 15.0 15.0 15.0 15.0 14.3 14.3 14.3
0.0 15.0 11.9
IncremntDel: 99.1 99.1 99.1 119.7 120 119.7 22.8 22.8 22.8
0.0 73.3
8.0
InitQueuDel: 0.0 0.0
0.0
0.0 0.0
0.0
0.0 0.0
0.0
0.0 0.0
0.0
Delay Adj:
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00 1.00 1.00
Delay/Veh: 114.1 114 114.1 134.7 135 134.7 37.1 37.1 37.1
0.0 88.3 19.9
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 114.1 114 114.1 134.7 135 134.7 37.1 37.1 37.1
0.0 88.3 19.9
LOS by Move:
F
F
F
F
F
F
D
D
D
A
F
B
HCM2kAvgQ:
22
22
21
18
18
18
6
6
6
0
26
4
Note: Queue reported is the number of cars per lane.

Traffix 8.0.0715

Traffix 8.0.0715

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### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #440: Mariposa/I-280SB**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 0 0 0
**Lanes:** 0 0 0 0 0

**Signal=Protect**

**Cycle Time (sec):** 90
**Loss Time (sec):** 7
**Critical V/C:** 0.534
**vg Crit Del (sec/veh):** 0.8
**vg Delay (sec/veh):** 8.4

**Street Name:** I-280 Southbound Ramp
**Approach:** North Bound  South Bound  East Bound  West Bound
**Min. Green:** 0 0 0 0
**Y+R:** 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
**LOS:** A

**Volume Module:**

**Base Vol:** 0 0 0 0 0 0 0 260 156 430 757 0
**Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
**Added Vol:** 0 0 0 0 0 0 0 0 0 0 0 0

**CriticalDel:** 0.34
**Avg Crit Del (sec):** 0.8
**InitQueDel:** 0.6

**HCM2kAvgQ:** 0 0 0 0 0 0 0 6 8 14 3 0
**Note:** Queue reported is the number of cars per lane.

---

**Intersection #440: Mariposa/I-280SB**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 0 0 0
**Lanes:** 0 0 0 0 0

**Signal=Protect**

**Cycle Time (sec):** 90
**Loss Time (sec):** 7
**Critical V/C:** 0.458
**vg Crit Del (sec/veh):** 0.6
**vg Delay (sec/veh):** 13.0

**Street Name:** I-280 Southbound Ramp
**Approach:** North Bound  South Bound  East Bound  West Bound
**Min. Green:** 0 0 0 0
**Y+R:** 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
**LOS:** B

**Volume Module:**

**Base Vol:** 0 0 0 0 0 0 0 156 430 1325 757 0
**Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
**Added Vol:** 0 0 0 0 0 0 0 0 0 0 0 0

**CriticalDel:** 0.68
**Avg Crit Del (sec):** 0.6
**InitQueDel:** 0.2

**HCM2kAvgQ:** 0 0 0 0 0 0 0 8 8 14 3 0
**Note:** Queue reported is the number of cars per lane.
Year 2040 Plus LRDP (Mission Bay Variant; 2-Lane 16th Street; Mission Bay Only)
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)

Intersection #25: King/4th

Signal=Permit/Rights=Include

Base+Add Vol: 245  775***  73
Lanes: 1 1 1  0 1
Cycle Time (sec): 110
Loss Time (sec): 19

Critical V/C: 0.912
Avg Crit Del (sec/veh): 51.8
Avg Delay (sec/veh): 51.7

L O S : D

Base+Add Vol: 8  115    38    73  611   245   225 1486    32    56  848    43
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00 1.00  1.00 1.00
InitVol:     8  115  38  73  775  245  225 1486  32  56  848  43
Added Vol:   0     0    0    0    0   0    0   0   0    0   0    0
PasserVol:   0     0    0    0    0   0    0   0   0    0   0    0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00 1.00  1.00 1.00
PHE Volume:  9  124  41  78  833  263  242 1598  34  60  912  46
Reduce Vol:  0     0    0    0    0   0    0   0   0    0   0    0
Reduce Vol:  9  124  41  78  833  263  242 1598  34  60  912  46
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00 1.00  1.00 1.00
PHE Volume:  8  258  110  48  630  610  357 1684  37  31  992  24
Reduce Vol:  0     0    0    0    0   0    0   0   0    0   0    0
Reduce Vol:  8  258  110  48  630  610  357 1684  37  31  992  24

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adj: 0.80 0.80 0.72 0.81 0.77 0.77 0.81 0.80 0.80
Lanes: 0.07 0.93 1.00 1.00 2.00 1.00 1.00 2.00 1.00 2.00 1.00 1.00
FinalSat: 99 1421 1377 1074 2968 1484 1539 4275 92 1539 2828 146

Capacity Analysis Module:
Vol/Sat: 0.09 0.09 0.09 0.07 0.28 0.18 0.16 0.37 0.37 0.04 0.32 0.32
Crit Moves: **** **** **** ****
Weight: 0.32 0.32 0.45 0.32 0.32 0.32 0.17 0.17 0.17 0.14 0.34 0.34
Weight/Cycle: 0.32 0.32 0.45 0.32 0.32 0.32 0.17 0.17 0.17 0.14 0.34 0.34
V/C: 0.07 0.07 0.23 0.88 0.56 0.91 1.00 1.00 0.29 0.94 0.94
Uniform Del: 28.0 28.0 16.9 27.6 35.5 31.1 46.7 34.5 34.5 42.7 35.4 35.4
IncrmmtDel: 2.0 1.4 0.2 1.4 1.6 1.6 1.6 1.6 1.6 1.6 1.6 1.6
Intqrdel:1.0 0.0 0.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Delay/Veh: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adj: 0.84 0.84 0.72 0.81 0.80 0.77 0.81 0.81 0.81
Lanes: 0.03 0.97 1.00 1.00 1.52 1.48 1.00 2.00 2.00 1.00 1.00 1.00
FinalSat: 49 1539 1377 779 2172 2105 1539 4275 92 1539 2998 72

Capacity Analysis Module:
Vol/Sat: 0.17 0.17 0.08 0.06 0.29 0.29 0.23 0.38 0.38 0.23 0.33 0.33
Crit Moves: **** **** **** ****
Weight: 0.35 0.35 0.49 0.35 0.35 0.35 0.14 0.34 0.34 0.14 0.34 0.34
Weight/Cycle: 0.47 0.47 0.56 0.18 0.36 0.56 0.12 0.12 0.12 0.15 0.98 0.98
Uniform Del: 27.5 27.5 15.5 24.4 32.3 32.3 47.5 36.5 36.5 41.9 36.2 36.2
IncrmmntDel: 2.8 2.8 0.5 1.4 1.5 1.5 5.0 334.2 61.8 61.8 1.5 24.3 24.3
Intqrdel:1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Delay/Veh: 30.4 30.4 16.0 25.8 37.3 37.3 381.7 98.3 98.3 43.3 60.5 60.5
User DelAdj:1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 30.4 30.4 16.0 25.8 37.3 37.3 381.7 98.3 98.3 43.3 60.5 60.5
Loss By Move: C C B C D F F F E E E
HCM2kAvgQ: 7 7 7 1 16 16 31 33 32 1 18 18

Note: Queue reported is the number of cars per lane.
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)

Intersection #26: 7th St/Brannan

Signal=Permit/Rights=Include
Base+Add Vol: 0 0 0
Lanes: 0 0 0
Cycle Time (sec): 60
Loss Time (sec): 0
Critical V/C: 0.740
Avg Crit Del (sec/veh): 46.7
Avg Delay (sec/veh): 26.0
LOS: C

Base Vol: 28
Growth Adj: 1.00
Delay Adj: 1.00
Delay/Veh: 26.9
User DelAdj: 1.00
LOS by Move: C
HCM2kAvgQ: 12
Note: Queue reported is the number of cars per lane.

Intersection #26: 7th St/Brannan

Signal=Permit/Rights=Include
Base+Add Vol: 0 0 0
Lanes: 0 0 0
Cycle Time (sec): 60
Loss Time (sec): 0
Critical V/C: 1.210
Avg Crit Del (sec/veh): 74.3
Avg Delay (sec/veh): 20.2
LOS: E

Base Vol: 80
Growth Adj: 1.00
Delay Adj: 1.00
Delay/Veh: 26.9
User DelAdj: 1.00
LOS by Move: F
HCM2kAvgQ: 12
Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

**Intersection #27: Channel/3rd**

**Street Name:** Channel Street

**Approach:**
- North Bound
- South Bound
- East Bound
- West Bound

**Movement:**
- L - T - R
- L - R - T
- L - T - R
- L - R - T

<table>
<thead>
<tr>
<th>Movement</th>
<th>Base Vol</th>
<th>Add Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Bound</td>
<td>39 1470</td>
<td>176 97 398</td>
</tr>
<tr>
<td>South Bound</td>
<td>35 120 204</td>
<td></td>
</tr>
<tr>
<td>East Bound</td>
<td>100 100 204</td>
<td></td>
</tr>
<tr>
<td>West Bound</td>
<td>1 5 1</td>
<td></td>
</tr>
</tbody>
</table>

**Cycle Time (sec):** 100

**Loss Time (sec):** 15

**Critical V/C:** 0.902

**User Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**LOS:** D

**Volume Module:**

<table>
<thead>
<tr>
<th>Volume Module</th>
<th>Base Vol</th>
<th>Add Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Bound</td>
<td>39 1470</td>
<td>176 97 398</td>
</tr>
<tr>
<td>South Bound</td>
<td>35 120 204</td>
<td></td>
</tr>
<tr>
<td>East Bound</td>
<td>100 100 204</td>
<td></td>
</tr>
<tr>
<td>West Bound</td>
<td>1 5 1</td>
<td></td>
</tr>
</tbody>
</table>

**Saturation Flow Module:**

<table>
<thead>
<tr>
<th>Sat/Lane</th>
<th>Base Vol</th>
<th>Add Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Bound</td>
<td>39 1470</td>
<td>176 97 398</td>
</tr>
<tr>
<td>South Bound</td>
<td>35 120 204</td>
<td></td>
</tr>
<tr>
<td>East Bound</td>
<td>100 100 204</td>
<td></td>
</tr>
<tr>
<td>West Bound</td>
<td>1 5 1</td>
<td></td>
</tr>
</tbody>
</table>

**Capacity Analysis Module:**

<table>
<thead>
<tr>
<th>Vol/Sat</th>
<th>0.03 0.53 0.53</th>
<th>0.07 0.15 0.15</th>
<th>0.18 0.18 0.16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crit Moves</td>
<td>****</td>
<td>0.00 0.00</td>
<td></td>
</tr>
</tbody>
</table>

**Safety/Condition:**

<table>
<thead>
<tr>
<th>Green/Cycle</th>
<th>0.22 0.50 0.50</th>
<th>0.10 0.38 0.38</th>
<th>0.25 0.25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uniform Del</td>
<td>31.3 25.0 25.0</td>
<td>43.8 22.6 22.6</td>
<td>34.1 34.1 33.3</td>
</tr>
<tr>
<td>IncrementDel</td>
<td>0.36 9.3 9.3</td>
<td>20.3 1.0 1.0</td>
<td>11.7 11.7 8.3</td>
</tr>
<tr>
<td>IntQueueDel</td>
<td>0.0 0.0 0.0</td>
<td>0.0 0.0 0.0</td>
<td></td>
</tr>
<tr>
<td>Delay Adj</td>
<td>1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delay/Veh</td>
<td>32.0 61.9 63.7 23.6 23.6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**LOS by Move:**

- C
- E
- R

**HCM2kAvgQ:**

<table>
<thead>
<tr>
<th>LOS</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

**Notes:**
- Queue reported is the number of cars per lane.

---

### Level Of Service Computation Report

**2040 Var S2B AM (2-lane 16th)**

**Intersection #27: Channel/3rd**

**Street Name:** Channel Street

**Approach:**
- North Bound
- South Bound
- East Bound
- West Bound

**Movement:**
- L - T - R
- L - R - T
- L - T - R
- L - R - T

<table>
<thead>
<tr>
<th>Movement</th>
<th>Base Vol</th>
<th>Add Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Bound</td>
<td>23 411 58</td>
<td></td>
</tr>
<tr>
<td>South Bound</td>
<td>0 56</td>
<td></td>
</tr>
<tr>
<td>East Bound</td>
<td>1 56</td>
<td></td>
</tr>
<tr>
<td>West Bound</td>
<td>0 98</td>
<td></td>
</tr>
</tbody>
</table>

**Cycle Time (sec):** 100

**Loss Time (sec):** 15

**Critical V/C:** 0.813

**User Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

**LOS:** D

**Volume Module:**

<table>
<thead>
<tr>
<th>Volume Module</th>
<th>Base Vol</th>
<th>Add Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Bound</td>
<td>20 1424 106</td>
<td></td>
</tr>
<tr>
<td>South Bound</td>
<td>58 411</td>
<td></td>
</tr>
<tr>
<td>East Bound</td>
<td>23 56</td>
<td></td>
</tr>
<tr>
<td>West Bound</td>
<td>98 56</td>
<td></td>
</tr>
</tbody>
</table>

**Saturation Flow Module:**

<table>
<thead>
<tr>
<th>Sat/Lane</th>
<th>Base Vol</th>
<th>Add Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Bound</td>
<td>20 1424 106</td>
<td></td>
</tr>
<tr>
<td>South Bound</td>
<td>58 411</td>
<td></td>
</tr>
<tr>
<td>East Bound</td>
<td>23 56</td>
<td></td>
</tr>
<tr>
<td>West Bound</td>
<td>98 56</td>
<td></td>
</tr>
</tbody>
</table>

**Capacity Analysis Module:**

<table>
<thead>
<tr>
<th>Vol/Sat</th>
<th>0.01 0.50 0.50</th>
<th>0.04 0.15 0.15</th>
<th>0.12 0.12 0.15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crit Moves</td>
<td>****</td>
<td>0.00 0.00</td>
<td></td>
</tr>
</tbody>
</table>

**Safety/Condition:**

<table>
<thead>
<tr>
<th>Green/Cycle</th>
<th>0.24 0.48 0.48</th>
<th>0.08 0.36 0.36</th>
<th>0.29 0.29 0.29</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uniform Del</td>
<td>32.1 26.0 26.0</td>
<td>44.1 24.4 24.4</td>
<td>28.5 28.5 29.5</td>
</tr>
<tr>
<td>IncrementDel</td>
<td>0.438 38.0 38.0</td>
<td>13.6 12.2 12.2</td>
<td>2.9 2.9 4.5</td>
</tr>
<tr>
<td>IntQueueDel</td>
<td>0.0 0.0 0.0</td>
<td>0.0 0.0 0.0</td>
<td></td>
</tr>
<tr>
<td>Delay Adj</td>
<td>1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delay/Veh</td>
<td>32.6 64.0 64.0 31.4 31.4 31.4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**LOS by Move:**

- C
- E
- R

**HCM2kAvgQ:**

<table>
<thead>
<tr>
<th>LOS</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

**Notes:** Queue reported is the number of cars per lane.
## Level Of Service Computation Report

### 2000 HCM Operations (Future Volume Alternative)

### 2040 Var S2B AM (2-lane 16th)

**Intersection #28: Channel/4th**

**Signal=Protect/Rights=Include**

**Base+Add Vol:** 183 266 273

**Lanes:** 0 1 0 0 1

### Street Name:

**4th Street**

**Approach:**

<table>
<thead>
<tr>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
</tr>
</tbody>
</table>

**Movement:**

### Volume Module:

**Base Vol:** 16 114 29 273 266 183

**Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00

**Initial Base:**

**Added Vol:**

**PasserVol:**

**User Adj:**

**Y+R:**

**Cycle Time (sec):**

**Loss Time (sec):**

**Critical V/C:**

**Avg Crit Del (sec/veh):**

**Avg Delay (sec/veh):**

**L O S:**

### Capacity Analysis Module:

**Vol/Sat:**

**Green/Cycle:**

**Uniform Del:**

**IncremDel:**

**InitQueueDel:**

**Delay Adj:**

**Delay/Veh:**

**User Del(Adj):**

**Delay(Adj):**

**Delay(Veh):**

**LOS by Move:**

**HCM2kAvgQ:**

**Queue reported is the number of cars per lane.**

---

### 2040 Var S2B PM (2-lane 16th)

**Intersection #28: Channel/4th**

**Signal=Protect/Rights=Include**

**Base+Add Vol:** 43 317 299

**Lanes:** 0 1 0 0 1

### Street Name:

**4th Street**

**Approach:**

<table>
<thead>
<tr>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
</tr>
</tbody>
</table>

**Movement:**

### Volume Module:

**Base Vol:** 18 259 24 299 317 43

**Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00

**Initial Base:**

**Added Vol:**

**PasserVol:**

**User Adj:**

**Y+R:**

**Cycle Time (sec):**

**Loss Time (sec):**

**Critical V/C:**

**Avg Crit Del (sec/veh):**

**Avg Delay (sec/veh):**

**L O S:**

### Capacity Analysis Module:

**Vol/Sat:**

**Green/Cycle:**

**Uniform Del:**

**IncremDel:**

**InitQueueDel:**

**Delay Adj:**

**Delay/Veh:**

**User Del(Adj):**

**Delay(Adj):**

**Delay(Veh):**

**LOS by Move:**

**HCM2kAvgQ:**

**Queue reported is the number of cars per lane.**
## Level Of Service Computation Report

### 2000 HCM Operations (Future Volume Alternative)
### 2040 Var S2B AM (2-lane 16th)

**Intersection #29: Mission Rock/3rd**

**Signal=Protect/Rights=Include**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th>Vol/Crt Date</th>
<th>Cycle Time (sec)</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>513</td>
<td>0</td>
<td>47</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Street Name:</th>
<th>3rd Street</th>
<th>Mission Rock</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approach:</td>
<td>North Bound</td>
<td>South Bound</td>
</tr>
<tr>
<td>Movement:</td>
<td>R L T - R</td>
<td>R L T - R</td>
</tr>
<tr>
<td>YrB:</td>
<td>5.0 5.0 5.0</td>
<td>5.0 5.0 5.0</td>
</tr>
<tr>
<td>YrR:</td>
<td>5.0 5.0 5.0</td>
<td>5.0 5.0 5.0</td>
</tr>
<tr>
<td>LOS:</td>
<td>D</td>
<td>D</td>
</tr>
</tbody>
</table>

### Street Name: 3rd Street

**Approach:**
- North Bound
- South Bound
- Mission Rock

**Movement:**
- R L T - R
- R L T - R

**Vol/Crt Date:**
- 0

**Cycle Time (sec):**
- 47

**Los Time (sec):**
- 15

**Critical V/C:**
- 0.765

**Avg Crit Del (sec/veh):**
- 54.9

**Delay Adj:**
- 1.00

**Delay/Veh:**
- 34.9

**User DelAdj:**
- 1.00

**LOS:**
- D

**HCM2kAvgQ:**
- 1

**Note:** Queue reported is the number of cars per lane.

---

**Intersection #29: Mission Rock/3rd**

**Signal=Permit**

<table>
<thead>
<tr>
<th>Base+Add Vol</th>
<th>Lanes</th>
<th>Vol/Crt Date</th>
<th>Cycle Time (sec)</th>
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</thead>
<tbody>
<tr>
<td>45</td>
<td>513</td>
<td>0</td>
<td>47</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Street Name:</th>
<th>3rd Street</th>
<th>Mission Rock</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approach:</td>
<td>North Bound</td>
<td>South Bound</td>
</tr>
<tr>
<td>Movement:</td>
<td>R L T - R</td>
<td>R L T - R</td>
</tr>
<tr>
<td>YrB:</td>
<td>5.0 5.0 5.0</td>
<td>5.0 5.0 5.0</td>
</tr>
<tr>
<td>YrR:</td>
<td>5.0 5.0 5.0</td>
<td>5.0 5.0 5.0</td>
</tr>
<tr>
<td>LOS:</td>
<td>D</td>
<td>D</td>
</tr>
</tbody>
</table>

### Street Name: 3rd Street

**Approach:**
- North Bound
- South Bound
- Mission Rock

**Movement:**
- R L T - R
- R L T - R

**Vol/Crt Date:**
- 0

**Cycle Time (sec):**
- 47

**Los Time (sec):**
- 15

**Critical V/C:**
- 0.895

**Avg Crit Del (sec/veh):**
- 50.0

**Delay Adj:**
- 1.00

**Delay/Veh:**
- 56.1

**User DelAdj:**
- 1.00

**LOS:**
- D

**HCM2kAvgQ:**
- 3

**Note:** Queue reported is the number of cars per lane.
Intersection #30: Mission Bay North/3rd

2000 HCM Operations (Future Volume Alternative)

2040 Var S2B AM (2-lane 16th)

Street Name: 3rd Street
Approach: North Bound South Bound East Bound

- Movement: L - T - R L - T - R L - T - R

- Min. Green: 14 57 57 15 38 38
- Initial Base: 508 26
- Added Vol: 0 0 0 0 0
- Base+Add Vol: 26 508
- Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00
- Critical V/C: 0.662
- Cycle Time (sec): 100
- LOS: D

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report

Intersection #30: Mission Bay North/3rd

2000 HCM Operations (Future Volume Alternative)

2040 Var S2B PM (2-lane 16th)

Street Name: 3rd Street
Approach: North Bound South Bound East Bound

- Movement: L - T - R L - T - R L - T - R

- Min. Green: 14 57 57 15 38 38
- Initial Base: 508 26
- Added Vol: 0 0 0 0 0
- Base+Add Vol: 26 508
- Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00
- Critical V/C: 0.643
- Cycle Time (sec): 100
- LOS: C

Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #31: Mission Bay South/3rd**

**Signal=Protect/Rights=Include**

**Base+Add Vol:** 0 507 23

**Lanes:** 0 0 2 0 1

**Cycle Time (sec):** 100

**Loss Time (sec):** 10

**Critical V/C:** 0.592

**Avg Crit Del (sec/veh):** 48.8

**Avg Delay (sec/veh):** 40.6

**Critical Del (sec):** 17

**Avg Delay (sec):** 0

**Cycle by Movement:**

<table>
<thead>
<tr>
<th>Movement</th>
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**Saturation Flow Module:**

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<th>西</th>
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**Saturation Flow Module:**

<table>
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<tr>
<th>Lanes</th>
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<th>东</th>
<th>西</th>
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<td>34</td>
<td>34</td>
<td>34</td>
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</tbody>
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**Note:** Queue reported is the number of cars per lane.

---

**Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### FHWA Roundabout (Future Volume Alternative)

**2040 Var S2B AM (2-lane 16th)**

**Intersection #32: Mission Bay/Owens**

- **Signal=Yield/Rights=Include**
- **Base+Add Vol:** 21 180 8
- **Lanes:** 0 0 1 0 0
- **Cycle Time (sec):** 100
- **Loss Time (sec):** 0
- **Critical V/C:** 0.815
- **Avg Crit Del (sec/veh):** 11.1
- **LOS:** B
- **Critical V/C:** 0.618
- **Avg Crit Del (sec/veh):** 6.8
- **LOS:** A

**Street Name:** Owens Street  
**Mission Bay**

<table>
<thead>
<tr>
<th>Approach</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
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<td>L - T - R</td>
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<td>11 250 29</td>
<td>121 247 479</td>
<td>36 186 10</td>
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**Delay Module:** >> Time Period: 0.25 hours <<

| CircVolume: | 379 | 381 |
| MaxVolume: | 995 | 995 |
| PedVolume: | 0 | 0 |
| AdjMaxVol: | 995 | 995 1040 |
| ApproachVol: | 207 | 290 847 |
| Approach/C: | 0.21 | 0.29 0.82 0.22 |
| ApproachDel: | 4.6 | 5.1 16.6 4.4 |
| ApproxDel: | A | A C A |
| Queue: | 0.8 | 1.2 9.5 0.9 |
## Level Of Service Computation Report

### 2000 HCM Operations (Future Volume Alternative)

### 2040 Var S2B AM (2-lane 16th)

**Intersection #33: Mission Bay/7th**

- **Signal=Protect/Rights=Include**

**Base+Add Vol:** 0 557 388

**Lanes:** 0 0 1 0 1

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<tr>
<th>Cycle Time (sec)</th>
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**Loss Time (sec):** 0 0 0

**Critical V/C:** 0.631

**Avg Crit Del (sec/veh):** 52.8

**Avg Delay (sec/veh):** 38.3

**Cycle Time (sec):** 100

**Loss Time (sec):** 0 0 0

**Critical V/C:** 0.631

**Avg Crit Del (sec/veh):** 52.8

**Avg Delay (sec/veh):** 38.3

**Cycle Time (sec):** 100

**Loss Time (sec):** 0 0 0

**Critical V/C:** 0.631

**Avg Crit Del (sec/veh):** 52.8

**Avg Delay (sec/veh):** 38.3

**Cycle Time (sec):** 100

**Loss Time (sec):** 0 0 0

**Critical V/C:** 0.631

**Avg Crit Del (sec/veh):** 52.8

**Avg Delay (sec/veh):** 38.3

**Cycle Time (sec):** 100

**Loss Time (sec):** 0 0 0

**Critical V/C:** 0.631

**Avg Crit Del (sec/veh):** 52.8

**Avg Delay (sec/veh):** 38.3

**Cycle Time (sec):** 100

**Loss Time (sec):** 0 0 0

**Critical V/C:** 0.631

**Avg Crit Del (sec/veh):** 52.8

**Avg Delay (sec/veh):** 38.3

---

### 7th Street

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**Saturation Flow Module:**

- **Sat/Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900
- **Adjustment:** 1.00
- **Lanes:** 0.00 2.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Init Sat:** 0 3079 1377 1539 1620 0 0 0 1539 0 2424

**Capacity Analysis Module:**

- **Vol/Sat:** 0.00 20.0 17.4 0.00 0.00 0.00 0.00 0.00 0.00
- **Cirt Moves:** ****

---

### Mission Bay

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<th>L</th>
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**Saturation Flow Module:**

- **Sat/Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900
- **Adjustment:** 1.00
- **Lanes:** 0.00 2.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Init Sat:** 0 3079 1377 1539 1620 0 0 0 1539 0 2424

**Capacity Analysis Module:**

- **Vol/Sat:** 0.00 20.0 17.4 0.00 0.00 0.00 0.00 0.00 0.00
- **Cirt Moves:** ****
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #34: 16th/3rd**

**Signal=Protect/Rights=Include**

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<tr>
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</table>

**Base+Add Lanes: Rights=Include**

<table>
<thead>
<tr>
<th>Vol/Crit Del paced (sec)</th>
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**Cycle Time (sec): 100**

**Loss Time (sec): 15**

**Critical V/C: 0.897**

**Avg Crit Del (sec/veh): 71.6**

**Avg Delay (sec/veh): 55.0**

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**Street Name:**

- **3rd Street**
- **16th Street**

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**Saturation Flow Module:**

- **1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900**
- **Adj: 0.79 0.83 0.81 0.81 0.77 0.77 0.48 0.71 0.71 0.36 0.70 0.70**
- **Lanes: 0 1 1 0 1**

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<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>FinalVolume</td>
<td>335</td>
<td>1173</td>
<td>8</td>
<td>70</td>
<td>1003</td>
<td>232</td>
<td>208</td>
<td>137</td>
<td>337</td>
<td>28</td>
<td>233</td>
<td>126</td>
</tr>
</tbody>
</table>

**Delay/Veh:**

- **47.8 74.1 74.1 75.8 24.1 24.1 43.3 35.0 35.0 27.6 30.3 31.9**

| User DelAdj   | 1.00| 1.00| 1.00| 1.00| 1.00| 1.00| 1.00| 1.00| 1.00| 1.00| 1.00| 1.00|

**LOS by Move:**

- **D**
- **E**
- **E**
- **F**
- **E**
- **E**
- **D**
- **C**
- **C**
- **C**
- **C**

<table>
<thead>
<tr>
<th>HCM2kAvgQ</th>
<th>6</th>
<th>33</th>
<th>33</th>
<th>5</th>
<th>6</th>
<th>6</th>
<th>0</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
</table>

*Note: Queue reported is the number of cars per lane.*
### Intersection #35: 16th/4th

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #35: 16th/4th**

**Signal=Permit/Rights=Include**

- **Base+Add Vol:** 100  55     23
- **Lanes:** 0 1 0  0 1

#### Cycle Time (sec): 90

- **Loss Time (sec): 15
- **Critical V/C:** 0.904

#### 282***

- **AVG Crit Del (sec/veh):** 78.4

#### 156

- **AVG Delay (sec/veh):** 61.7

#### 459

- **AVG Critical Delay (sec/veh):** 46.3

#### 77

- **AVG Delay (sec/veh):** 42.2

**Street Name:**

- 4th Street
- 16th Street

**Approach:**

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>T</td>
<td>R</td>
<td>L</td>
<td>T</td>
</tr>
</tbody>
</table>

- **Min. Green:** 20 20 20 20 20 15 40 40 15 40 40
- **Y+R:** 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0

**Volume Module:**

<table>
<thead>
<tr>
<th>Base Vol:</th>
<th>100 86 75 23 55 100 282 459 67 24 510</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
</tr>
<tr>
<td>Initial Vol:</td>
<td>86 75 23 55 100 282 459 67 24 510</td>
</tr>
<tr>
<td>Added Vol:</td>
<td>0              0              0              0</td>
</tr>
<tr>
<td>PasserByVol:</td>
<td>0              0              0              0</td>
</tr>
<tr>
<td>Initial Fire:</td>
<td>0              0              0              0</td>
</tr>
<tr>
<td>User Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
</tr>
<tr>
<td>PHF Adj:</td>
<td>0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95</td>
</tr>
<tr>
<td>PHF Volume:</td>
<td>105 91 79 24 58 105 297 483 71 25 537</td>
</tr>
<tr>
<td>Reduce Vol:</td>
<td>0              0              0              0</td>
</tr>
<tr>
<td>Reduce Vol:</td>
<td>0              0              0              0</td>
</tr>
<tr>
<td>FinalVolume:</td>
<td>105 91 79 24 58 105 297 483 71 25 537</td>
</tr>
</tbody>
</table>

**Saturation Flow Module:**

- **Sat/Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
- **Adj: 0.50 0.79 0.79 0.79 0.79 0.79 0.79 0.79 0.79 0.79 0.79 0.79 |
- **Lanes:** 1.00 0.53 0.47 1.00 0.35 0.65 1.00 0.87 0.13 1.00 0.77 0.23
- **Final Sat.:** 946 805 702 925 519 944 1593 1214 177 1597 1197 566

**Capacity Analysis Module:**

| Vol/Sat: | 0.11 0.11 0.11 0.03 0.11 0.11 0.19 0.40 0.40 0.02 0.45 0.45 |
| Crit Moves: | ***** | ***** |
| Green/Cycle: | 0.22 0.22 0.22 0.22 0.22 0.22 0.17 0.44 0.44 0.17 0.44 0.44 |
| Volume/Cap: | 0.50 0.51 0.51 0.51 0.49 0.90 0.90 0.10 1.01 1.01 |
| Uniform Del: | 30.6 30.7 30.8 30.6 30.6 30.7 37.5 23.1 23.1 31.8 25.0 25.0 |
| Increment Del: | 8.3 5.4 5.4 1.2 5.4 5.4 105.3 18.0 18.0 0.8 36.3 36.3 |
| InitQueueDel: | 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 |
| Delay Adj: | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| Delay/Veh: | 38.9 36.0 36.0 29.1 36.1 36.1 142.8 41.1 41.1 32.5 41.3 41.3 |
| User DelAdj: | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| Del/J/Hr: | 38.9 36.0 36.0 29.1 36.1 36.1 142.8 41.1 41.1 32.5 41.3 41.3 |
| LOS by Move: | D D D C D D D D D D D |
| HCM Avg Q: | 3 5 5 1 1 1 13 13 13 1 27 27 |

Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

**Intersection #36: 16th/Owens**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 75  232  61

**Lanes:** 1 0 1  1 0

**Critical V/C:** 1.064

**Avg Crit Del (sec):** 157.7

**Base+Add Lanes:** Rights=Include

**Vol Cnt Date:** n/a

**Rights=Include Lanes:** Base+Add

**Cycle Time (sec):** 60

**Loss Time (sec):** 10

**Loss:** F

**Critical V/C:** 1.064

**Avg Crit Del (sec):** 157.7

**Base+Add Vol:** 308  607   199

**Lanes:** 1 0 1  1 0

**Cycle Time (sec):** 60

**Loss Time (sec):** 10

**Loss:** F

**Critical V/C:** 1.064

**Avg Crit Del (sec):** 157.7

**Base+Add Vol:** 137  162

**Lanes:** 1 0 1  1 0

**Cycle Time (sec):** 60

**Loss Time (sec):** 10

**Loss:** F

**Critical V/C:** 1.064

**Avg Crit Del (sec):** 157.7

**Street Name:** Owens St  16th St

**Approach:** North Bound  South Bound  East Bound  West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>R</th>
<th>L</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Green</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>10</td>
<td>25</td>
<td>25</td>
<td>5</td>
<td>18</td>
</tr>
<tr>
<td>Y+R</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
</tbody>
</table>

**Volume Module:**

| Base Vol | 115 355 138 61 232 75 | 308 607 199 | 131 399 | 180 |
| Growth Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Added Vol | 0 | 0 | 0 | 0 | 0 | 0 |
| Initial Put | 115 355 138 61 232 75 | 308 607 199 | 131 399 | 180 |

**Saturation Flow Module:**

| Sat/Lane | 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 |
| Adjument | 0.46 0.78 0.57 0.78 0.44 0.44 0.44 0.44 0.44 0.44 |
| Lanes | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |

**Final Volume:**

| Base Vol | 121 374 145 64 244 79 | 324 639 209 | 138 420 | 189 |

**Capacity Analysis Module:**

| Vol/Sat | 0.14 0.18 0.18 0.13 0.13 0.06 0.21 0.62 0.62 0.09 0.39 0.39 |
| Crit Moves | **** | **** |
| Green/Cycle | 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.17 0.42 0.42 0.08 0.33 0.33 |
| Volume/Cap | 0.41 0.53 0.53 0.53 0.53 0.53 0.53 0.53 0.53 0.53 0.53 |
| Uniform Del | 15.5 16.2 16.2 15.3 15.3 14.1 24.8 17.5 17.5 27.5 20.2 20.2 |
| IncrementDel | 4.3 2.0 2.0 1.3 1.3 0.8 124.2 230 230 100.9 112.1 112.1 |
| InitQueuDel | 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 |
| Delay Adj | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| Delay/Veh | 15.9 18.2 18.2 16.6 16.6 15.0 149.0 248 247.8 128.4 132 132.3 |
| User Del/Adj | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| AdjDel/Vehr | 19.7 18.2 18.2 16.6 16.6 15.0 149.0 248 247.8 128.4 132 132.3 |
| LOS by Move | B B B B B B F F F F |
| LOS by Move | C C D D D F D D E E |
| HCM AvgQ | 2 5 5 3 13 49 49 4 24 24 |

Note: Queue reported is the number of cars per lane.
### Level of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

#### Intersection #37: 16th/7th

**Signal=Split/Rights=Include**

**Base+Add Vol: 47  98  295***

**Lanes: 0 1 0  0 1**

**Cycle Time (sec): 110**

**Loss Time (sec): 14**

**Critical V/C: 1.111**

**Avg Crit Del (sec/veh): 96.8**

**Avg Delay (sec/veh): 96.8**

**LOS: F**

**Street Name:** 7th Street

**Approach:** North Bound

**Movement:** L  -  T  -  R

**Min. Green:** 30  30

**Volume Module:**

**Base Vol:** 41  365  109  295  98  47  133  710  78  23  306  260

**Growth Adj:** 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00

**Delay Adj:** 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00

**Delay/Veh:** 45.7  127  0.0  87.1  55.6  55.6  51.2  146  145.8  51.8  40.9  40.9

**User DelAdj:** 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00

**LOS by Move:** D  F  E  D  D  D  F

**Capacity Analysis Module:**

**Vol/Sat:** 0.03  0.23

**Crt Moves:** ****

**Green/Cycle:** 0.21  0.21

**Volume/Cap:** 0.13  0.68

**Uniform Del:** 44.9  55.5

**IncrementDel:** 0.0  0.0

**Delay Adj:** 1.00  1.00

**Delay/Veh:** 45.7  127

**User Del Adj:** 1.00  1.00

**AdjDel/Vehr:** 45.7  127

**LOS by Mov:** D  F  A  F  E  D  D  D

**HCMAvgQ:** 3.15  0

**Note:** Queue reported is the number of cars per lane.

---

### Level of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

#### Intersection #37: 16th/7th

**Signal=Split/Rights=Ignore**

**Base+Add Vol: 131  140***  137

**Lanes: 0 1 0  0 1**

**Cycle Time (sec): 110**

**Loss Time (sec): 14**

**Critical V/C: 1.221**

**Avg Crit Del (sec/veh): 234.2**

**Avg Delay (sec/veh): 181.2**

**LOS: F**

**Street Name:** 7th Street

**Approach:** North Bound

**Movement:** L  -  T  -  R

**Min. Green:** 37  37

**Volume Module:**

**Base Vol:** 75  329  140  137  140  131  72  504  76  58  543  465

**Growth Adj:** 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00

**Delay Adj:** 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00

**Delay/Veh:** 40.9  61.2

**User DelAdj:** 1.00  1.00

**LOS by Move:** D  F  E  D  D  D  F  F

**Capacity Analysis Module:**

**Vol/Sat:** 0.05  0.21

**Crt Moves:** ****

**Green/Cycle:** 0.26  0.26

**Volume/Cap:** 0.19  0.28

**Uniform Del:** 39.9  47.8

**IncrementDel:** 0.0  0.0

**Delay Adj:** 1.00  1.00

**Delay/Veh:** 40.9  61.2

**User Del Adj:** 1.00  1.00

**AdjDel/Vehr:** 40.9  61.2

**LOS by Mov:** D  E  A  D  D  F  F  F

**HCMAvgQ:** 3.15  0

**Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

**Intersection #38: 16th St/Rhode Island**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 16  59     43

**Lanes:** 0 0 1! 0 0

**Cycle Time (sec):** 60

**Loss Time (sec):** 10

**Critical V/C:** 0.705

**Avg Crit Del (sec/veh):** 41.6

**Avg Delay (sec/veh):** 31.7

**Cycle Time (sec):** 60

**Loss Time (sec):** 10

**Critical V/C:** 0.743

**Avg Crit Del (sec/veh):** 28.2

**Avg Delay (sec/veh):** 24.8

**Base+Add Vol:** 40  125    31

**Lanes:** 0 0 1! 0 0

**Cycle Time (sec):** 60

**Loss Time (sec):** 10

**Critical V/C:** 0.743

**Avg Crit Del (sec/veh):** 28.2

**Avg Delay (sec/veh):** 24.8
### Intersection #39: 16th/Vermont

#### 2000 HCM Operations (Future Volume Alternative)

**Street Name:** Vermont St, 16th St

**Approach:**
- North Bound
- South Bound
- East Bound
- West Bound

**Volume Module:**

<table>
<thead>
<tr>
<th>Min. Green</th>
<th>North</th>
<th>South</th>
<th>East</th>
<th>West</th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td>23</td>
<td>23</td>
<td>27</td>
<td>27</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>27</td>
<td>27</td>
</tr>
<tr>
<td>23</td>
<td>23</td>
<td>27</td>
<td>27</td>
<td>27</td>
</tr>
</tbody>
</table>

**Cycle Time (sec):** 60

**Loss Time (sec):** 10

**Critical V/C:** 0.769

**vg Crit Del (sec/veh):** 48.7

**vg Delay (sec/veh):** 39.0

**User DelAdj:** 13.8

**Saturation Flow Module:**

<table>
<thead>
<tr>
<th>Adj</th>
<th>North</th>
<th>South</th>
<th>East</th>
<th>West</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.59</td>
<td>0.50</td>
<td>0.50</td>
<td>0.50</td>
<td>0.50</td>
</tr>
</tbody>
</table>

**Capacity Analysis Module:**

| Vol/Sat: | 0.34 | 0.34 | 0.34 | 0.34 |

**Crit Moves:**

| 0.39 | 0.39 | 0.39 | 0.39 |

**Delay Adj:** 1.00

**Delay/Vol:** 14.4

**LOS by Move:**

| B     | B     | B     | B     | E     | A     | C     | C
|-------|-------|-------|-------|-------|-------|-------|-------|

**Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #40: 16th/Potrero**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 78, 460, 172

**Lanes:** 0, 1, 1, 0, 1

**Cycle Time (sec):** 90

**Loss Time (sec):** 10

**Critical V/C:** 0.97

**Avg Critical Del (sec/veh):** 124

**V/C Delay (sec/veh):** 127

**Street Name:** Potrero Ave, 16th St

**Approach:** North Bound, South Bound, East Bound, West Bound

**Movement:** L - T - R, L - T - R, L - T - R, L - T - R

**Min. Green:** 40, 40, 40, 40, 40, 40, 40, 40, 40, 40

**Y+R:** 5.0, 4.0, 5.0, 5.0, 4.0, 4.0, 5.0, 4.0, 4.0, 5.0

**Growth Adj:** 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00

**Delay Adj:** 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00

**Delay/Veh:** 21.6, 57.8, 57.8, 131, 20.6, 10.8, 5.0, 13.8, 63.8

**InitQueuDel:** 0.0, 0.0, 0.0, 0.0, 1.4, 0.0, 0.0, 0.0, 2.2, 0.0

**LOS by Move:** C, E, E, C, F, C, B, F, E

**HCM2kAvgQ:** 3, 32, 26, 3, 46, 0, 1, 32, 35, 0

**Note:** Queue reported is the number of cars per lane.

---

### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

**Intersection #40: 16th/Potrero**

**Signal=Permit/Rights=Include**

**Base+Add Vol:** 247, 1087, 131

**Lanes:** 0, 1, 1, 0, 1

**Cycle Time (sec):** 90

**Loss Time (sec):** 10

**Critical V/C:** 1.71

**Avg Critical Del (sec/veh):** 242

**V/C Delay (sec/veh):** 170

**Street Name:** Potrero Ave, 16th St

**Approach:** North Bound, South Bound, East Bound, West Bound

**Movement:** L - T - R, L - T - R, L - T - R, L - T - R

**Min. Green:** 40, 40, 40, 40, 40, 40, 40, 40, 40, 40

**Y+R:** 5.0, 4.0, 5.0, 5.0, 4.0, 4.0, 5.0, 4.0, 4.0, 5.0

**Growth Adj:** 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00

**Delay Adj:** 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00

**Delay/Veh:** 393, 23.8, 23.8, 30.7, 189, 189, 14.9, 151, 63.8

**InitQueuDel:** 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0

**LOS by Move:** F, C, E, C, F, C, B, F, E

**HCM2kAvgQ:** 12, 9, 21, 3, 43, 53, 1, 36, 39, 0

**Note:** Queue reported is the number of cars per lane.
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 Var S2B AM (2-lane 16th)
Intersection #41: Mariposa/3rd
Signal=Protect/Rights=Include
Base+Add Vol: 81*** 318 39
Lanes: 0 1 1 0 1
Cycle Time (sec): 100
Loss Time (sec): 10
Critical V/C: 0.447
Avg Crit Del (sec/veh): 45.1
Avg Delay (sec/veh): 55.6
LOS: E

Street Name:
3rd Street Mariposa Street
Approach: North Bound South Bound East Bound West Bound
Movement: L R L T R L T R L T R
Min. Green: 23 51 51 4 32 44 31 27 27 12 4 4
YrBl: 5 5 5 5 5 5 5 5 5 5 5

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adj: 0.81 0.79 0.79 0.79 0.81 0.74 0.74 0.81 0.78 0.78
Lanes: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalSat.: 1539 2769 242 1539 2356 600 1539 2452 377 1539 2250 719

Capacity Analysis Module:
Vol/Sat: 0.06 0.54 0.54 0.03 0.13 0.13 0.30 0.20 0.20 0.01 0.03 0.03
Crit Moves: **** **** 0.03 0.03
Green/Cycle: 0.20 0.54 0.54 0.03 0.38 0.38 0.38 0.23 0.23 0.10 0.03 0.03
Volume/Cap: 0.32 1.00 1.00 0.70 0.38 0.38 0.38 0.38 0.38 0.05 0.03 0.03
Uniform Del: 39.8 26.5 26.5 55.5 28.5 28.5 40.5 42.9 42.9 46.9 55.9 55.9
Increment Del: 2.8 23.0 23.0 61.8 0.9 0.9 41.5 15.4 15.4 0.6 70.8 70.8
InitQueueDel: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Delay/Ven: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
User Del(Ahead): 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
DelayVol(Ahead): 42.6 49.5 49.5 117.3 26.7 26.7 82.0 58.3 58.3 47.5 127 127
LOS by Move: D D D D C C F F F D D D
HCMAvgQ: 3 38 38 2 3 19 20 11 11 4 4
Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 Var S2B PM (2-lane 16th)
Intersection #41: Mariposa/3rd
Signal=Protect/Rights=Include
Base+Add Vol: 304 941*** 27
Lanes: 0 1 1 0 1
Cycle Time (sec): 100
Loss Time (sec): 15
Critical V/C: 0.954
Avg Crit Del (sec/veh): 65.0
Avg Delay (sec/veh): 49.5
LOS: D

Street Name:
3rd Street Mariposa Street
Approach: North Bound South Bound East Bound West Bound
Movement: L R L T R L T R L T R
Min. Green: 5 50 50 5 50 50 15 15 15 10 10 10
YrBl: 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adj: 0.81 0.80 0.79 0.79 0.81 0.70 0.70 0.81 0.80 0.80
Lanes: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalSat.: 1539 2889 137 1539 2219 717 1539 2328 1218 1539 2696 334

Capacity Analysis Module:
Vol/Sat: 0.07 0.42 0.42 0.02 0.45 0.45 0.14 0.07 0.08 0.03 0.15 0.15
Crit Moves: **** **** ****
Green/Cycle: 0.06 0.51 0.51 0.05 0.50 0.50 0.15 0.17 0.17 0.11 0.14 0.14
Volume/Cap: 0.12 0.82 0.82 0.08 0.88 0.88 0.43 0.49 0.49 0.30 0.12 0.12
Uniform Del: 46.8 20.5 20.5 45.8 22.6 22.6 42.0 37.1 37.1 40.6 43.2 43.2
Increment Del: 126.1 5.0 5.0 12.3 8.7 8.7 45.3 27.4 27.4 4.0 4.3 81.2 81.2
InitQueueDel: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Delay/Ven: 172.9 25.5 25.5 58.1 31.2 31.2 87.3 39.8 39.8 41.5 45.0 124 124.4
User Del(Ahead): 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
DelayVol(Ahead): 42.6 49.5 49.5 117.3 26.7 26.7 82.0 58.3 58.3 47.5 127 127
LOS by Move: F F F F C C F F F F F F F F F
HCMAvgQ: 8 19 19 1 18 18 8 3 3 2 14 14
Note: Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

<table>
<thead>
<tr>
<th>Intersection #42: Mariposa/4th</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Street Name:</strong></td>
</tr>
<tr>
<td><strong>Approach:</strong></td>
</tr>
<tr>
<td>Movement</td>
</tr>
<tr>
<td>-------------------</td>
</tr>
<tr>
<td>Min. Green</td>
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<tr>
<td>Street Name:</td>
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<tr>
<td>Approach:</td>
</tr>
<tr>
<td>Movement:</td>
</tr>
<tr>
<td>-------------------</td>
</tr>
<tr>
<td>Min. Green</td>
</tr>
</tbody>
</table>

#### Volume Module:

- **Base Vol:**
  - 68
  - 0
  - 66
  - 20
  - 0
  - 68

- **Growth Adj:**
  - 1.00
  - 1.00
  - 1.00
  - 1.00
  - 1.00
  - 1.00

- **Delay Adj:**
  - 1.00
  - 0.00
  - 1.00
  - 1.00
  - 0.00
  - 1.00

- **Delay/Veh:**
  - 45.7
  - 0.0
  - 45.7
  - 30.9
  - 0.0
  - 33.8

- **User DelAdj:**
  - 1.00
  - 1.00
  - 1.00
  - 1.00
  - 1.00
  - 1.00

- **LOS by Move:**
  - D
  - A
  - D
  - C

- **HCM2kAvgQ:**
  - 5
  - 0

**Note:** Queue reported is the number of cars per lane.

### Level Of Service Computation Report

#### 2000 HCM Operations (Future Volume Alternative)

<table>
<thead>
<tr>
<th>Intersection #42: Mariposa/4th</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Street Name:</strong></td>
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<tr>
<td><strong>Approach:</strong></td>
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<tr>
<td>Movement:</td>
</tr>
<tr>
<td>-------------------</td>
</tr>
<tr>
<td>Min. Green</td>
</tr>
</tbody>
</table>

#### Volume Module:

- **Base Vol:**
  - 41
  - 0
  - 9
  - 85

- **Growth Adj:**
  - 1.00
  - 1.00
  - 1.00
  - 1.00

- **Delay Adj:**
  - 1.00
  - 0.00
  - 1.00
  - 1.00

- **Delay/Veh:**
  - 30.6
  - 0.0
  - 30.6
  - 29.8

- **User DelAdj:**
  - 1.00
  - 1.00
  - 1.00
  - 1.00

- **LOS by Move:**
  - C
  - A
  - C
  - A

- **HCM2kAvgQ:**
  - 1
  - 0

**Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

#### Intersection #43: Mariposa/I-280NB

**Signal=Split/Rights=Include**

**Base+Add Vol:** 162 0 0

**Lanes:** 2 0 0 0 0

**Cycle Time (sec):** 90

**Loss Time (sec):** 7

**Critical V/C:** 1.015

**vg Crit Del (sec/veh):** 95.2

**vg Delay (sec/veh):** 49.2

**L O S:** D

**Volume Module:**

<table>
<thead>
<tr>
<th>Base Vol</th>
<th>Growth Adj</th>
<th>Delay Adj</th>
<th>Delay/Veh</th>
<th>User DelAdj</th>
</tr>
</thead>
<tbody>
<tr>
<td>891 713 1054</td>
<td>1.00 1.00 1.00</td>
<td>1.00 1.00 1.00</td>
<td>14.8 15.4 107.3</td>
<td>1.00 1.00</td>
</tr>
</tbody>
</table>

**InitQueueDel:** 0.0 0.0 0.0 0.0

**Delay/Veh:** 11.7 11.7 11.7 11.7

**User DelAdj:** 1.00 1.00 1.00 1.00

**LOS by Move:** B B B B

**HCM2kAvgQ:** 18 18 18 18

**Note:** Queue reported is the number of cars per lane.

---

#### Intersection #43: Mariposa/I-280NB

**Signal=Split/Rights=Include**

**Base+Add Vol:** 609 0 0

**Lanes:** 2 0 0 0 0

**Cycle Time (sec):** 90

**Loss Time (sec):** 12

**Critical V/C:** 0.871

**vg Crit Del (sec/veh):** 41.8

**vg Delay (sec/veh):** 39.3

**L O S:** D

**Volume Module:**

<table>
<thead>
<tr>
<th>Base Vol</th>
<th>Growth Adj</th>
<th>Delay Adj</th>
<th>Delay/Veh</th>
<th>User DelAdj</th>
</tr>
</thead>
<tbody>
<tr>
<td>539 249 467</td>
<td>1.00 1.00 1.00</td>
<td>1.00 1.00 1.00</td>
<td>35.1 24.4 39.1</td>
<td>1.00 1.00</td>
</tr>
</tbody>
</table>

**InitQueueDel:** 0.0 0.0 0.0 0.0

**Delay/Veh:** 22.2 22.2 22.2 22.2

**User DelAdj:** 1.00 1.00 1.00 1.00

**LOS by Move:** D D D D

**HCM2kAvgQ:** 16 16 16 16

**Note:** Queue reported is the number of cars per lane.
### Intersection #440: Mariposa/I-280SB

#### 2000 HCM Operations (Future Volume Alternative)

<table>
<thead>
<tr>
<th>Street Name:</th>
<th>I-280 Southbound Ramp</th>
<th>Mariposa Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movement</td>
<td>North Bound</td>
<td>South Bound</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Street Name:</td>
<td>Mariposa Street</td>
<td>I-280 Southbound Ramp</td>
</tr>
<tr>
<td>Approach</td>
<td>North Bound</td>
<td>South Bound</td>
</tr>
<tr>
<td>Min. Green</td>
<td>0 0 0 0 0 0 0 0 0 0 0 0</td>
<td>31 31 31 55 88 0</td>
</tr>
<tr>
<td>Base Vol</td>
<td>0 0 0 0 0 0 0 0 0 0 0 0</td>
<td>263 150 417 904 0</td>
</tr>
<tr>
<td>Growth Adj</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
</tr>
<tr>
<td>Initial Base</td>
<td>0 0 0 0 0 0 0 0 0 0 0 0</td>
<td>263 150 417 904 0</td>
</tr>
<tr>
<td>Added Vol</td>
<td>0 0 0 0 0 0 0 0 0 0 0 0</td>
<td>0 0 0 0 0 0</td>
</tr>
<tr>
<td>PhH Volume</td>
<td>0 0 0 0 0 0 0 0 0 0 0 0</td>
<td>274 156 434 942 0</td>
</tr>
<tr>
<td>Reduce Vol</td>
<td>0 0 0 0 0 0 0 0 0 0 0 0</td>
<td>0 0 0 0 0 0</td>
</tr>
<tr>
<td>Delay Adj</td>
<td>0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00</td>
<td></td>
</tr>
<tr>
<td>Delay/Veh</td>
<td>0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00</td>
<td></td>
</tr>
<tr>
<td>LOS</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>HCM2kAvgQ</td>
<td>0 0 0 0 0 0 0 0 0 0 0 0</td>
<td>7 3 3 5 0</td>
</tr>
</tbody>
</table>

**Note:** Queue reported is the number of cars per lane.

### Level Of Service Computation Report

| Base+Add Vol Lane | 0 0 0 0 0 0 0 0 0 0 0 0 |
|-------------------|-----------------------|----------------|------------|------------|
| Cycle Time (sec)  | 90 0 0 0 0 0 0 0 0 0 0 0 |
| Loss Time (sec)   | 7 0 0 0 0 0 0 0 0 0 0 0 |
| Critical V/C      | 0.364 0.364 0.364 0.364 0.364 0.364 |
| Avg Delay (sec)   | 8.4 0 0 0 0 0 0 0 0 0 0 0 |
| LOS               | A            | A            | A          | A          |

**Note:** Queue reported is the number of cars per lane.
### Assumptions:
- This exercise is for drive-alone commuters that travel during the AM and PM peak commute hours (7-9 AM, 4-6 PM) i.e., it is somewhat conservative as it doesn’t look at other time periods.
- This exercise is for drive-alone commuters only, thus it doesn’t include patients, visitors, vendors, etc.
- This exercise is for drive-alone commuters, thus it does not take into account how carpoolers/transit users may change their behavior if all/some of the proposed measures were implemented.
- The last-mile shuttle is assumed to run to the specified destinations with 20-minute headways.
- The park and ride is assumed to be a leased parking lot i.e. not on-street parking near a pick-up location.
- It is assumed there would be four shuttle buses from each park and ride lot. One each at 7 AM and 8 AM for Parnassus/Mount Zion...
  ...and one each at 7 AM and 8 AM for Mission Bay/Mission Center (vice versa during the PM peak period).
- Enhance existing car share assumes additional paring spaces in UCSF garages and on-street.
- More robust carpool matching assumes preferential parking spaces.
- Expand vanpool program assumes purchase of additional vans and preferential parking.
- Flexible work schedule assumes limited working from home or commuting outside peak AM and PM peak periods e.g. 10 AM to 7 PM shift.

### Total Approx. Drive-Alone Commute Vehicle Trip Percentage Reduction

<table>
<thead>
<tr>
<th>Campus</th>
<th>Drive-Alone Commute Vehicle Trips</th>
<th>UCSF Shuttle Enhancements (wi-fi, Nextbus, etc.)</th>
<th>Enhance Existing Car Share</th>
<th>More Robust Carpool Matching</th>
<th>Expand Vanpool Program</th>
<th>Flexible Work Schedules</th>
<th>Total Approx. Drive-Alone Commute Vehicle Trip Reduction</th>
<th>Total Approx. Drive-Alone Commute Vehicle Trip Percentage Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mission Bay (4500)</td>
<td>4500</td>
<td>15</td>
<td>20</td>
<td>35</td>
<td>35</td>
<td>50</td>
<td>155</td>
<td>-3%</td>
</tr>
</tbody>
</table>
Intersection #37: 16th/7th

Street Name: 7th Street
Approach: North Bound South Bound East Bound West Bound
Movement: L  T  R  L  T  R  L  T  R  L  T  R

Min. Green: 30 30 30 30 30 30 36 36 36 36 36 36 Y+R: 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 9.0 9.0 9.0 4.0

Volume Module:
Base Vol: 51 315 149 290 78 47 141 747 88 53 305 279
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 51 315 149 290 78 47 141 747 88 53 305 279
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 51 315 149 290 78 47 141 747 88 53 305 279
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 52 321 0 296 80 48 144 762 90 54 311 285
PHF Adj: 0.98 0.98 0.00 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98
PHF Volume: 52 321 0 296 80 48 144 762 90 54 311 285
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 52 321 0 296 80 48 144 762 90 54 311 285

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.81 0.85 1.00 0.81 0.70 0.70 0.58 0.58 0.58 0.52 0.52 0.72
Lanes: 1.00 1.00 1.00 1.00 0.62 0.38 0.29 1.53 0.18 0.30 1.70 1.00
Final Sat.: 1539 1620 1900 1539 835 503 321 1699 200 292 1681 1377

Capacity Analysis Module:
Vol/Sat: 0.03 0.20 0.00 0.19 0.10 0.10 0.45 0.45 0.45 0.19 0.19 0.21
Crit Moves: **** **** ****
Green/Cycle: 0.21 0.21 0.00 0.21 0.21 0.21 0.48 0.48 0.48 0.48 0.48 0.48
Volume/Cap: 0.16 0.93 0.00 0.90 0.45 0.45 0.94 0.94 0.94 0.39 0.39 0.43
Uniform Del: 45.2 54.5 0.0 54.1 48.3 48.3 35.2 35.2 35.2 23.8 23.8 24.5
IncremntDel: 1.0 34.0 0.0 30.3 5.0 5.0 17.2 17.2 17.2 1.2 1.2 2.1
InitQueueDel: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Delay Adj: 1.00 1.00 0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Delay/Veh: 46.3 88.5 0.0 84.4 53.3 53.3 52.4 52.4 52.4 26.7 26.7 26.7
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 46.3 88.5 0.0 84.4 53.3 53.3 52.4 52.4 52.4 26.7 26.7 26.7
LOS by Move: D F A F D D D D C C C
HCM2kAvgQ: 2 17 0 16 5 5 26 26 26 5 5 8
Note: Queue reported is the number of cars per lane.
## Level Of Service Computation Report

**2000 HCM Operations (Future Volume Alternative)**

**2040 Var S2B AM**

### Intersection #41: Mariposa/3rd

<table>
<thead>
<tr>
<th><strong>Base+Add Vol:</strong></th>
<th><strong>Lanes:</strong></th>
<th><strong>Signal=Protect/Rights=Include</strong></th>
<th><strong>Vol Cnt Date:</strong></th>
<th><strong>Cycle Time (sec):</strong></th>
<th><strong>Signal=Protect/Rights=Include</strong></th>
<th><strong>Lanes:</strong></th>
<th><strong>Base+Add</strong></th>
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</thead>
<tbody>
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<td>121***</td>
<td>n/a</td>
<td>100</td>
<td>0 23</td>
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<td></td>
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<td><strong>Base+Add Vol:</strong></td>
<td><strong>Lanes:</strong></td>
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<td><strong>Lanes:</strong></td>
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<td><strong>Base+Add Vol:</strong></td>
<td><strong>Lanes:</strong></td>
<td><strong>Signal=Protect/Rights=Include</strong></td>
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</tbody>
</table>

### Street Name:

- **3rd Street**
- **Mariposa Street**

<table>
<thead>
<tr>
<th><strong>Approach:</strong></th>
<th><strong>North Bound</strong></th>
<th><strong>South Bound</strong></th>
<th><strong>East Bound</strong></th>
<th><strong>West Bound</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Movement:</strong></td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
</tr>
<tr>
<td><strong>Min. Green:</strong></td>
<td>23 51 51 4 32 44</td>
<td>31 27 27 12 4 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Y+R:</strong></td>
<td>5.0 5.0 5.0 5.0 5.0 5.0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Volume Module:

- **Base Vol:** 97 1454 132 38 318 121 462 496 77 8 72 23
- **Growth Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Initial Bse:** 97 1454 132 38 318 121 462 496 77 8 72 23
- **Added Vol:** 0 0 0 0 0 0 0 0 0 0 0 0
- **PasserByVol:** 0 0 0 0 0 0 0 0 0 0 0 0
- **Initial Fut:** 97 1454 132 38 318 121 462 496 77 8 72 23
- **User Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **PHF Adj:** 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98
- **PHF Volume:** 99 1484 135 39 324 123 471 506 79 8 73 23
- **Reduced Vol:** 99 1484 135 39 324 123 471 506 79 8 73 23
- **PCE Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **MLF Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **FinalVolume:** 99 1484 135 39 324 123 471 506 79 8 73 23

### Saturation Flow Module:

- **Sat/Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
- **Adjustment:** 0.81 0.79 0.79 0.81 0.77 0.77 0.81 0.74 0.74 0.81 0.78 0.78
- **Lanes:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Final Sat.:** 1539 2761 251 1539 2117 806 1539 2449 380 1539 2250 719

### Capacity Analysis Module:

- **Vol/Sat:** 0.06 0.54 0.54 0.03 0.15 0.15 0.31 0.21 0.21 0.01 0.03 0.03
- **Crit Moves:** **** **** **** ****
- **Green/Cycle:** 0.20 0.54 0.54 0.03 0.38 0.38 0.30 0.23 0.23 0.10 0.03 0.03
- **Volume/Cap:** 0.32 0.99 0.99 0.72 0.40 0.40 1.01 0.89 0.89 0.05 0.95 0.95
- **Uniform Del:** 39.8 26.2 26.2 55.4 26.4 26.4 40.5 43.0 43.0 46.9 55.9 55.9
- **IncremntDel:** 2.8 20.0 20.0 59.4 11.1 1.1 45.6 16.4 16.4 6.75 75.5 75.5
- **InitQueueDel:** 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
- **Delay Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Delay/Veh:** 42.6 46.2 46.2 114.8 27.5 27.5 86.1 59.4 59.4 47.5 131 131.4
- **User DelAdj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **AdjDel/Veh:** 42.6 46.2 46.2 114.8 27.5 27.5 86.1 59.4 59.4 47.5 131 131.4
- **LOS by Move:** D D D F D C F E E D F F
- **HCM2kAvgQ:** 3 37 37 2 6 6 21 12 12 0 4 4

**Note:** Queue reported is the number of cars per lane.