Unsignalized Analysis

- 2012 Existing
- 2035 No Build
- 2035 Build Alternatives
### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SWL</th>
<th>SWR</th>
</tr>
</thead>
</table>

### Lane Configurations

<table>
<thead>
<tr>
<th>Sign Control</th>
<th>Free</th>
<th>Free</th>
<th>Stop</th>
</tr>
</thead>
</table>

| Grade | 0%  | 0%  | 0%  |

<table>
<thead>
<tr>
<th>Volume (veh/h)</th>
<th>465</th>
<th>385</th>
<th>0</th>
<th>955</th>
<th>0</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peak Hour Factor</td>
<td>0.93</td>
<td>0.93</td>
<td>0.89</td>
<td>0.89</td>
<td>0.92</td>
<td>0.92</td>
</tr>
<tr>
<td>Hourly flow rate (vph)</td>
<td>500</td>
<td>414</td>
<td>0</td>
<td>1073</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Pedestrians

<table>
<thead>
<tr>
<th>Lane Width (ft)</th>
<th>Walking Speed (ft/s)</th>
<th>Percent Blockage</th>
<th>Right turn flare (veh)</th>
<th>Median type</th>
<th>Median storage veh</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>yC1, conflicting volume</th>
<th>914</th>
<th>1780</th>
<th>707</th>
</tr>
</thead>
<tbody>
<tr>
<td>vC1, stage 1 conf vol</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>vC2, stage 2 conf vol</td>
<td>914</td>
<td>1780</td>
<td>707</td>
</tr>
<tr>
<td>vCu, unblocked vol</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>tC, single (s)</td>
<td>4.1</td>
<td>6.4</td>
<td>6.2</td>
</tr>
<tr>
<td>tC, 2 stage (s)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>tF (s)</td>
<td>2.2</td>
<td>3.5</td>
<td>3.3</td>
</tr>
<tr>
<td>p0 queue free %</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>cM capacity (veh/h)</td>
<td>750</td>
<td>90</td>
<td>435</td>
</tr>
</tbody>
</table>

### Direction, Lane #

<table>
<thead>
<tr>
<th>Direction, Lane #</th>
<th>NB 1</th>
<th>SB 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume Total</td>
<td>914</td>
<td>1073</td>
</tr>
<tr>
<td>Volume Left</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Volume Right</td>
<td>414</td>
<td>0</td>
</tr>
<tr>
<td>cSH</td>
<td>1700</td>
<td>1700</td>
</tr>
<tr>
<td>Volume to Capacity</td>
<td>0.54</td>
<td>0.63</td>
</tr>
<tr>
<td>Queue Length 95th (ft)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Control Delay (s)</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Lane LOS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach Delay (s)</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Approach LOS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Intersection Summary

<table>
<thead>
<tr>
<th>Intersection Summary</th>
<th>Average Delay</th>
<th>0.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intersection Capacity Utilization</td>
<td>57.6%</td>
<td>ICU Level of Service</td>
</tr>
<tr>
<td>Analysis Period (min)</td>
<td>15</td>
<td></td>
</tr>
</tbody>
</table>
## HCM Unsignalized Intersection Capacity Analysis

### 15: Exit 6 SB Off Ramp & Eddy Road

<table>
<thead>
<tr>
<th>Movement</th>
<th>WBL</th>
<th>WBR</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lane Configurations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sign Control</td>
<td>Stop</td>
<td>Free</td>
<td>Free</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volume (veh/h)</td>
<td>240</td>
<td>415</td>
<td>445</td>
<td>0</td>
<td>0</td>
<td>715</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.80</td>
<td>0.80</td>
<td>0.87</td>
<td>0.87</td>
<td>0.81</td>
<td>0.81</td>
</tr>
<tr>
<td>Hourly flow rate (vph)</td>
<td>300</td>
<td>519</td>
<td>511</td>
<td>0</td>
<td>0</td>
<td>883</td>
</tr>
</tbody>
</table>

### Pedestrians

<table>
<thead>
<tr>
<th>Lane Width (ft)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Walking Speed (ft/s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percent Blockage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Right turn flare (veh)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median type</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Median storage veh</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upstream signal (ft)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pX, platoon unblocked</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C, conflicting volume</td>
<td>1394</td>
<td>511</td>
</tr>
<tr>
<td>C1, stage 1 conf vol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C2, stage 2 conf vol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cu, unblocked vol</td>
<td>1394</td>
<td>511</td>
</tr>
<tr>
<td>C, single (s)</td>
<td>6.4</td>
<td>6.2</td>
</tr>
<tr>
<td>C, 2 stage (s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IF (s)</td>
<td>3.5</td>
<td>3.3</td>
</tr>
<tr>
<td>p0 queue free %</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>Cm capacity (veh/h)</td>
<td>158</td>
<td>566</td>
</tr>
</tbody>
</table>

### Direction, Lane #

<table>
<thead>
<tr>
<th>WB 1</th>
<th>WB 2</th>
<th>NB 1</th>
<th>SB 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume Total</td>
<td>300</td>
<td>519</td>
<td>511</td>
</tr>
<tr>
<td>Volume Left</td>
<td>300</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Volume Right</td>
<td>0</td>
<td>519</td>
<td>0</td>
</tr>
<tr>
<td>cSH</td>
<td>158</td>
<td>566</td>
<td>1700</td>
</tr>
<tr>
<td>Volume to Capacity</td>
<td>1.90</td>
<td>0.92</td>
<td>0.30</td>
</tr>
<tr>
<td>Queue Length 95th (ft)</td>
<td>569</td>
<td>282</td>
<td>0</td>
</tr>
<tr>
<td>Control Delay (s)</td>
<td>478.3</td>
<td>47.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Lane LOS</td>
<td>F</td>
<td>E</td>
<td></td>
</tr>
<tr>
<td>Approach Delay (s)</td>
<td>205.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Approach LOS</td>
<td>F</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Intersection Summary

| Average Delay | 75.9 |
| Intersection Capacity Utilization | 57.6% |
| ICU Level of Service | B |
| Analysis Period (min) | 15 |
Intersection: Sign configuration not allowed in HCM analysis.
## HCM Unsignalized Intersection Capacity Analysis

### 23: Eddy Road & Exit 6 SB On Ramp

#### Synchro 6 Report

6/21/2013

### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>NWL</th>
<th>NWR</th>
</tr>
</thead>
</table>

### Lane Configurations

<table>
<thead>
<tr>
<th>Sign Control</th>
<th>Free</th>
<th>Free</th>
<th>Stop</th>
</tr>
</thead>
</table>

### Grade

| % | 0% | 0% | 0% |

### Volume (veh/h)

|                      | 0   | 0   | 720 | 1600 | 0   | 0   |

### Peak Hour Factor

|                      | 0.92 | 0.92 | 0.93 | 0.93 | 0.92 | 0.92 |

### Hourly flow rate (vph)

|                      | 0   | 0   | 774 | 1720 | 0   | 0   |

### Pedestrians

<table>
<thead>
<tr>
<th>Lane Width (ft)</th>
<th>Walking Speed (ft/s)</th>
<th>Percent Blockage</th>
<th>Right turn flare (veh)</th>
<th>Median type</th>
<th>Median storage veh</th>
<th>Upstream signal (ft)</th>
<th>pX, platoon unblocked</th>
</tr>
</thead>
</table>

### vC, conflicting volume

|                      | 0   | 2409 | 0   |

### vC1, stage 1 conf vol

|                      | 0   | 2409 | 0   |

### vC2, stage 2 conf vol

|                      | 0   | 2409 | 0   |

### vCu, unblocked vol

|                      | 4.1 | 6.8  | 6.9  |

### tC, single (s)

|                      | 2.2 | 3.5  | 3.3  |

### tC, 2 stage (s)

|                      | 52  | 100  | 100  |

### p0 queue free %

|                      | 1629 | 14   | 1084 |

### cM capacity (veh/h)

|                      | 1348 | 1147 |

### Direction, Lane #

|                      | SB 1 | SB 2 |

### Volume Total

|                      | 774  | 0    |

### Volume Left

|                      | 0    | 0    |

### Volume Right

|                      | 1629 | 1700 |

### Volume to Capacity

|                      | 0.48 | 0.67 |

### Queue Length 95th (ft)

|                      | 66   | 0    |

### Control Delay (s)

|                      | 8.1  | 0.0  |

### Lane LOS

|                      | A    |

### Approach Delay (s)

|                      | 4.4  |

### Approach LOS

|                      | 4.4  |

### Intersection Summary

|                      | 68.5% | ICU Level of Service | 15 | C |

### Average Delay

|                      | 4.4  |

### Intersection Capacity Utilization

|                      | FEET Exits 6 & 7 | VHB, Inc. |

|                      | 2012 Existing AM Peak | Page 4 |
### Movement

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th>WBL</th>
<th>WBR</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sign Control</td>
<td>Yield</td>
<td>Free</td>
<td>Free</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volume (veh/h)</td>
<td>0</td>
<td>955</td>
<td>1745</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</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>Hourly flow rate (vph)</td>
<td>0</td>
<td>1038</td>
<td>1897</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Pedestrians

- Lane Width (ft)
- Walking Speed (ft/s)
- Percent Blockage
- Right turn flares (veh)

### Median

- Median Type: None
- Median Storage Veh
- Upstream Signal (ft): 585
- pX, platoon unblocked

### Intersection Summary

- vC, conflicting volume: 1897 948 1897
- vC1, stage 1 conf vol
- vC2, stage 2 conf vol
- vCu, unblocked vol: 1897 948 1897
- tC, single (s): 6.6 6.9
- tC, 2 stage (s)
- tF (s): 3.5 3.3 2.2
- p0 queue free %: 100 0 100
- cM capacity (veh/h): 61 261 311

### Direction, Lane #

<table>
<thead>
<tr>
<th>Direction, Lane #</th>
<th>WB 1</th>
<th>NB 1</th>
<th>NB 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume Total</td>
<td>1038</td>
<td>948</td>
<td>948</td>
</tr>
<tr>
<td>Volume Left</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Volume Right</td>
<td>1038</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>cSH</td>
<td>261</td>
<td>1700</td>
<td>1700</td>
</tr>
<tr>
<td>Volume to Capacity</td>
<td>3.97</td>
<td>0.56</td>
<td>0.56</td>
</tr>
<tr>
<td>Queue Length 95th (ft)</td>
<td>Err</td>
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<td>0</td>
</tr>
<tr>
<td>Control Delay (s)</td>
<td>Err</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Lane LOS</td>
<td>F</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach Delay (s)</td>
<td>Err</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>Approach LOS</td>
<td>F</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Intersection Summary

- Average Delay: 3536.7
- Intersection Capacity Utilization: 114.0%
- ICU Level of Service: H
- Analysis Period (min): 15
### HCM Unsignalized Intersection Capacity Analysis

#### 33: Dunbarton Road & Front Street

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sign Control</td>
<td>Stop</td>
<td>Stop</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volume (veh/h)</td>
<td>235</td>
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<td>305</td>
<td>5</td>
<td>0</td>
<td>5</td>
<td>125</td>
<td>85</td>
<td>10</td>
<td>5</td>
<td>410</td>
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<td>Peak Hour Factor</td>
<td>0.72</td>
<td>0.72</td>
<td>0.72</td>
<td>0.50</td>
<td>0.50</td>
<td>0.50</td>
<td>0.83</td>
<td>0.83</td>
<td>0.83</td>
<td>0.91</td>
<td>0.91</td>
<td>0.91</td>
</tr>
<tr>
<td>Hourly flow rate (vph)</td>
<td>326</td>
<td>0</td>
<td>424</td>
<td>10</td>
<td>0</td>
<td>10</td>
<td>151</td>
<td>102</td>
<td>12</td>
<td>5</td>
<td>451</td>
<td>33</td>
</tr>
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</table>

### Pedestrians

<table>
<thead>
<tr>
<th>Lane Width (ft)</th>
<th>Walking Speed (ft/s)</th>
<th>Percent Blockage</th>
<th>Right turn flare (veh)</th>
<th>Median type</th>
<th>Median storage veh</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Upstream signal (ft)</th>
<th>pX, platoon unblocked</th>
<th>vC, conflicting volume</th>
<th>vC1, stage 1 conf vol</th>
<th>vC2, stage 2 conf vol</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>898 894 467 1311</td>
<td>904 108 484</td>
<td>114</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>tC, single (s)</th>
<th>tC, 2 stage (s)</th>
<th>IF (s)</th>
<th>p0 queue free %</th>
<th>tM capacity (veh/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.1 6.5 6.2 7.1</td>
<td>6.5 6.2 4.2</td>
<td>3.5 4.0 3.3 3.5</td>
<td>4.0 3.3 2.3</td>
<td>229 240 596 35</td>
</tr>
</tbody>
</table>

### Direction Lane #

<table>
<thead>
<tr>
<th>Volume Total</th>
<th>EB 1</th>
<th>WB 1</th>
<th>NB 1</th>
<th>SB 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>750</td>
<td>20</td>
<td>265</td>
<td>489</td>
<td></td>
</tr>
<tr>
<td>Volume Left</td>
<td>326</td>
<td>10</td>
<td>151</td>
<td>5</td>
</tr>
<tr>
<td>Volume Right</td>
<td>424</td>
<td>10</td>
<td>12</td>
<td>33</td>
</tr>
<tr>
<td>cSH</td>
<td>351</td>
<td>68</td>
<td>1059</td>
<td>1475</td>
</tr>
<tr>
<td>Volume to Capacity</td>
<td>2.14</td>
<td>0.29</td>
<td>0.14</td>
<td>0.00</td>
</tr>
<tr>
<td>Queue Length 95th (ft)</td>
<td>1375</td>
<td>27</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>Control Delay (s)</td>
<td>545.5</td>
<td>78.8</td>
<td>5.7</td>
<td>0.1</td>
</tr>
<tr>
<td>Lane LOS</td>
<td>F</td>
<td>F</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Approach Delay (s)</td>
<td>545.5</td>
<td>78.8</td>
<td>5.7</td>
<td>0.1</td>
</tr>
<tr>
<td>Approach LOS</td>
<td>F</td>
<td>F</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Intersection Summary

| Average Delay | 270.5 |
| Intersection Capacity Utilization | 83.6% |
| ICU Level of Service | E |
| Analysis Period (min) | 15 |

---

FEET Exits 6 & 7
VHB, Inc.

2012 Existing AM Peak
Page 6
### Movement

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
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<td>Hourly flow rate (vph)</td>
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<td>17</td>
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<td>460</td>
<td>23</td>
<td>8</td>
<td>0</td>
<td>314</td>
<td>20</td>
<td>0</td>
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### Pedestrians

<table>
<thead>
<tr>
<th>Lane Width (ft)</th>
<th>Walking Speed (ft/s)</th>
<th>Right turn flare (veh)</th>
<th>Median type</th>
<th>Median storage veh</th>
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<tbody>
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<tr>
<td>Upstream signal (ft)</td>
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<td>yC, conflicting volume</td>
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<td>vC1, stage 1 conf vol</td>
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<td>vC2, stage 2 conf vol</td>
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<td>cM capacity (veh/h)</td>
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### Direction, Lane #

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<tr>
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<th>NB 1</th>
<th>SB 1</th>
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<td>1017</td>
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<td>6</td>
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<td>1.8</td>
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<td>A</td>
<td>F</td>
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<td>0.2</td>
<td>1.8</td>
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</tr>
</tbody>
</table>

### Intersection Summary

- Average Delay: Err
- Intersection Capacity Utilization: 77.5%
- ICU Level of Service: D
- Analysis Period (min): 15

---

2012 Existing AM Peak
VHB, Inc.
## HCM Unsignalized Intersection Capacity Analysis
### 35: Amoskeag Street & Exit 6 NB On Ramp

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>WBT</th>
<th>WBR</th>
<th>SEL</th>
<th>SER</th>
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<tr>
<td>Sign Control</td>
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<tr>
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<td>0.92</td>
<td>0.92</td>
<td>0.92</td>
<td>0.92</td>
<td>0.92</td>
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### Pedestrians
- Lane Width (ft)
- Walking Speed (ft/s)
- Percent Blockage
- Right turn flare (veh)
- Median type
- Median storage veh
- Upstream signal (ft)
- pX, platoon unblocked
- vC, conflicting volume
- vC1, stage 1 conf vol
- vC2, stage 2 conf vol
- vCu, unblocked vol
- IC, single (s)
- IC, 2 stage (s)
- IF (s)
- p0 queue free %
- cM capacity (veh/h)

### Direction, Lane #
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<th>WB 3</th>
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<tr>
<td>Volume Right</td>
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<tr>
<td>cSH</td>
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<td>1700</td>
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<tr>
<td>Volume to Capacity</td>
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<td>0.31</td>
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<td>Queue Length 95th (ft)</td>
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<tr>
<td>Control Delay (s)</td>
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<td>0.0</td>
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<tr>
<td>Lane LOS</td>
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<tr>
<td>Approach Delay (s)</td>
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<tr>
<td>Approach LOS</td>
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### Intersection Summary
- Average Delay | 0.0 |
- Intersection Capacity Utilization | 46.9% |
- ICU Level of Service | A |
- Analysis Period (min) | 15 |
### Movement

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<th>EBT</th>
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<th>WBL</th>
<th>WBT</th>
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<tr>
<td>Sign Control</td>
<td>Free</td>
<td>Free</td>
<td>Stop</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Grade</td>
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<td>0%</td>
<td>0%</td>
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<td>0.92</td>
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<td>0.77</td>
<td>0.77</td>
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<tr>
<td>Hourly flow rate (vph)</td>
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<td>473</td>
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<td>0</td>
<td>195</td>
<td>234</td>
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### Pedestrians

<table>
<thead>
<tr>
<th>Lane Width (ft)</th>
<th>Walking Speed (ft/s)</th>
<th>Percent Blockage</th>
<th>Right turn flare (veh)</th>
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<tbody>
<tr>
<td>Median type</td>
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<tr>
<td>Median storage veh</td>
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<tr>
<td>Upstream signal (ft)</td>
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<td></td>
</tr>
<tr>
<td>pX, platoon unblocked</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>vC, conflicting volume</td>
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<td>753</td>
<td>753</td>
</tr>
<tr>
<td>vC1, stage 1 conf vol</td>
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<td></td>
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<tr>
<td>vC2, stage 2 conf vol</td>
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<td></td>
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<tr>
<td>vCu, unblocked vol</td>
<td>989</td>
<td>753</td>
<td>753</td>
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<tr>
<td>tC, single (s)</td>
<td>4.1</td>
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<td>6.2</td>
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<td>tC, 2 stage (s)</td>
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<td>tF (s)</td>
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### Direction: Lane #

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<td>Volume Total</td>
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<tr>
<td>Volume Right</td>
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<td>cSH</td>
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<tr>
<td>Queue Length 95th (ft)</td>
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<tr>
<td>Control Delay (s)</td>
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<td>Lane LOS</td>
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<tr>
<td>Approach Delay (s)</td>
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<tr>
<td>Approach LOS</td>
<td>F</td>
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</tbody>
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### Intersection Summary

| Average Delay | 31.2 |
| Intersection Capacity Utilization | 77.6% |
| ICU Level of Service | D |
| Analysis Period (min) | 15 |
**HCM Unsignalized Intersection Capacity Analysis**

40: Front Street & 293 Exit 7 NB Off Ramp

<table>
<thead>
<tr>
<th>Movement</th>
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<th>SBL</th>
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<td>Free</td>
<td>Yield</td>
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<td>0%</td>
<td>0%</td>
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<td>801</td>
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</table>

**Pedestrians**

**Lane Width (ft)**

**Walking Speed (ft/s)**

**Percent Blockage**

**Right turn flare (veh)**

**Median type** | None |
| **Median storage veh** |

**Upstream signal (ft)**

| px, platoon unblocked | 190 | 1201 | 190 |
| vC, conflicting volume | 190 | 1201 | 190 |
| vC1, stage 1 conf vol | 4.1 | 6.4 | 6.2 |
| tC, single (s) | 2.2 | 3.5 | 3.3 |
| tC, 2 stage (s) | | | |
| LF (s) | 100 | 100 | 6 |
| p0 queue free % | 1390 | 204 | 852 |
| cM capacity (veh/h) | | | |

**Direction, Lane #**

<table>
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<th>NB</th>
<th>SB</th>
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<td>1</td>
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**Volume Total**

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<th>1011</th>
<th>801</th>
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<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Volume Left**

| 0 | 0 | 0 |

**Volume Right**

| 1700 | 1700 | 852 |

**cSH**

| 0.11 | 0.59 | 0.94 |

**Volume to Capacity**

| 0 | 0 | 362 |

**Queue Length 95th (ft)**

| 40.2 |

**Control Delay (s)**

| 0.0 | 0.0 | 40.2 |

**Lane LOS**

| E |

**Approach Delay (s)**

| 0.0 | 0.0 | 40.2 |

**Approach LOS**

| E |

**Intersection Summary**

**Average Delay**

| 16.1 |

**Intersection Capacity Utilization**

| 61.2% |

**ICU Level of Service**

| A |

**Analysis Period (min)**

| 15 |
### Movement

<table>
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<th>Lane Configurations</th>
<th>EBL</th>
<th>EBT</th>
<th>WBT</th>
<th>WBR</th>
<th>SEL</th>
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<tbody>
<tr>
<td>Sign Control</td>
<td>Free</td>
<td>Free</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td></td>
<td></td>
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<tr>
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<td>0.92</td>
<td>0.92</td>
<td>0.92</td>
<td>0.92</td>
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<td>1114</td>
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### Pedestrians
- Lane Width (ft)
- Walking Speed (ft/s)
- Percent Blockage
- Right turn flare (veh)
- Median type
  - None
- Median storage veh
- Upstream signal (ft)
  - 198
- pX, platoon unblocked
- vC, conflicting volume
  - 1114
- vC1, stage 1 conf vol
- vC2, stage 2 conf vol
- vCu, unblocked vol
- tC, single (s)
  - 4.1
- tC, 2 stage (s)
  - 6.8 6.9
- tF (s)
  - 2.2 3.5 3.3
- p0 queue free %
  - 100 100 100
- cM capacity (veh/h)
  - 623 227 1084

### Direction, Lane #

<table>
<thead>
<tr>
<th>Volume Total</th>
<th>EB 1</th>
<th>EB 2</th>
<th>WB 1</th>
<th>WB 2</th>
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<td></td>
<td>1038</td>
<td>1038</td>
<td>557</td>
<td>557</td>
</tr>
</tbody>
</table>

| Volume Left  | 0   | 0   | 0   | 0   |
| Volume Right | 0   | 0   | 557 | 557 |

| cSH          | 1700| 1700| 1700| 1700|
| Volume to Capacity | 0.61| 0.61| 0.33| 0.33|
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS      |     |     |     |     |
| Approach Delay (s) | 0.0 | 0.0 |     |     |
| Approach LOS  |     |     |     |     |

### Intersection Summary

- Average Delay | 0.0
- Intersection Capacity Utilization | 56.1%
- ICU Level of Service | B
- Analysis Period (min) | 15

---

**HCM Unsignalized Intersection Capacity Analysis**

41: Amoskeag Street &

**Synchro 6 Report**

6/21/2013

---

FEET Exits 6 & 7

VHB, Inc.

2012 Existing AM Peak

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## HCM Unsignalized Intersection Capacity Analysis

**42: MCC & Front Street**

### Synchro 6 Report

**6/21/2013**

### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBR</th>
<th>NBL</th>
<th>NBT</th>
<th>SBT</th>
<th>SBR</th>
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### Lane Configurations

<table>
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<tr>
<td>Grade</td>
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<td>0%</td>
<td>0%</td>
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</table>

### Volume (veh/h)

| Volume (veh/h) | 15  | 40  | 260 | 440 | 870 | 160 |

### Peak Hour Factor

| Peak Hour Factor | 0.84 | 0.84 | 0.73 | 0.73 | 0.83 | 0.83 |

### Hourly flow rate (vph)

| Hourly flow rate (vph) | 18  | 48  | 356 | 603 | 1048 | 193 |

### Pedestrians

<table>
<thead>
<tr>
<th>Pedestrians</th>
<th>Lane Width (ft)</th>
<th>Walking Speed (ft/s)</th>
<th>Percent Blockage</th>
<th>Right turn flare (veh)</th>
<th>Median type</th>
<th>Median storage veh</th>
<th>Upstream signal (ft)</th>
<th>pX, platoon unblocked</th>
<th>vC, conflicting volume</th>
<th>vC1, stage 1 conf vol</th>
<th>vC2, stage 2 conf vol</th>
<th>vCu, unblocked vol</th>
<th>tC, single (s)</th>
<th>tC, 2 stage (s)</th>
<th>TF (s)</th>
<th>p0 queue free %</th>
<th>cM capacity (veh/h)</th>
<th>Direction</th>
<th>Lane #</th>
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<tr>
<td></td>
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<td>2460</td>
<td>1145</td>
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<td>EB 1</td>
<td>NB 1</td>
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</tbody>
</table>

### Volume Total

| Volume Total | 65  | 959 | 1241 |

### Volume Left

| Volume Left | 18  | 356 | 0    |

### Volume Right

| Volume Right | 48  | 0   | 193  |

### cSH

| cSH | 39  | 558 | 1700 |

### Volume to Capacity

| Volume to Capacity | 1.70 | 0.64 | 0.73 |

### Queue Length 95th (ft)

| Queue Length 95th (ft) | 173  | 112  | 0    |

### Control Delay (s)

| Control Delay (s) | 566.6 | 22.0 | 0.0  |

### Lane LOS

| Lane LOS | F | C |

### Approach Delay (s)

| Approach Delay (s) | 566.6 | 22.0 | 0.0  |

### Approach LOS

| Approach LOS | F |

### Intersection Summary

| Average Delay | 25.7 |

### Intersection Capacity Utilization

| Intersection Capacity Utilization | 106.4% |

### ICU Level of Service

| ICU Level of Service | G |

### Analysis Period (min)

| Analysis Period (min) | 15 |

---

**FEET Exits 6 & 7**

VHB, Inc.  

**2012 Existing AM Peak**  

**Page 12**
Intersection Sign configuration not allowed in HCM analysis.
### Movement Capacity Analysis

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBR</th>
<th>NBL</th>
<th>NBT</th>
<th>SBT</th>
<th>SBR</th>
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<td>Lane Configurations</td>
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<td>Sign Control</td>
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<td>Free</td>
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</tr>
<tr>
<td>Grade</td>
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<td>0%</td>
<td>0%</td>
<td></td>
<td></td>
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<tr>
<td>Volume (veh/h)</td>
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<td>105</td>
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<td>Hourly flow rate (vph)</td>
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<td>119</td>
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### Pedestrians

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<th>Lane Width (ft)</th>
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<tr>
<td>Walking Speed (ft/s)</td>
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<tr>
<td>Percent Blockage</td>
</tr>
<tr>
<td>Right turn flare (veh)</td>
</tr>
<tr>
<td>Median type</td>
</tr>
<tr>
<td>Median storage veh</td>
</tr>
<tr>
<td>Upstream signal (ft)</td>
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<tr>
<td>pX, platoon unblocked</td>
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### VC, conflicting volume

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<th>VC</th>
<th>1626</th>
<th>1104</th>
<th>1107</th>
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### VC1, stage 1 conf vol

### VC2, stage 2 conf vol

### vcu, unblocked vol

### tc, single (s)

### tc, 2 stage (s)

### IF (s)

### p0 queue free %

### cM capacity (veh/h)

### Direction, Lane #

<table>
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<th>SB</th>
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### Volume Total

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<th>Right</th>
<th>Total</th>
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<td>11</td>
<td>119</td>
<td>131</td>
</tr>
<tr>
<td>27</td>
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<td>27</td>
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<tr>
<td>6</td>
<td>6</td>
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### Volume to Capacity

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<th>Volume</th>
<th>0.46</th>
<th>0.04</th>
<th>0.65</th>
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### Queue Length 95th (ft)

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<th>3</th>
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### Control Delay (s)

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<th>LS</th>
<th>A</th>
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### Approach Delay (s)

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<th>Delay</th>
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### Approach LOS

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<th>D</th>
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### Intersection Summary

<table>
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<td>ICU Level of Service</td>
<td>B</td>
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### Analysis Period (min)

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</table>
### Movement

<table>
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<tr>
<th>Movement</th>
<th>EBT</th>
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<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBR</th>
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<tbody>
<tr>
<td><strong>Sign Control</strong></td>
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<td>Free</td>
<td>NBR</td>
<td>NBR</td>
<td>NBR</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>
<td><strong>Volume (veh/h)</strong></td>
<td>300</td>
<td>55</td>
<td>10</td>
<td>35</td>
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<td>0.89</td>
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<td>0.55</td>
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<td><strong>Hourly flow rate (vph)</strong></td>
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<td>62</td>
<td>15</td>
<td>52</td>
<td>18</td>
<td>27</td>
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### Pedestrians

<table>
<thead>
<tr>
<th>Lane Width (ft)</th>
<th>Walking Speed (ft/s)</th>
<th>Percent Blockage</th>
<th>Right turn flare (veh)</th>
<th>Median type</th>
<th>Median storage veh</th>
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</table>

### Upstream Signal

<table>
<thead>
<tr>
<th>pX, platoon unblocked</th>
<th>tC, single (s)</th>
<th>tC, 2 stage (s)</th>
<th>tF (s)</th>
<th>p0 queue free%</th>
<th>cM capacity (veh/h)</th>
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</thead>
</table>

### Direction, Lane #

<table>
<thead>
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<th>WB</th>
<th>NB</th>
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<td>Volume Right</td>
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<td>cSH</td>
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<td>629</td>
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<td>Queue Length 95th (ft)</td>
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<tr>
<td>Control Delay (s)</td>
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<tr>
<td>Lane LOS</td>
<td>A</td>
<td>B</td>
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<tr>
<td>Approach Delay (s)</td>
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<tr>
<td>Approach LOS</td>
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<td>B</td>
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### Intersection Summary

<table>
<thead>
<tr>
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<th>Average Delay</th>
<th>Intersection Capacity Utilization</th>
<th>ICU Level of Service</th>
<th>Analysis Period (min)</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>1.2</td>
<td>29.1%</td>
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<td>15</td>
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### Movement

<table>
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<th>WBL</th>
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<table>
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<tr>
<th>Lane Configurations</th>
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<tbody>
<tr>
<td>Sign Control</td>
<td>Free</td>
</tr>
<tr>
<td>Grade</td>
<td>0%</td>
</tr>
<tr>
<td>Volume (veh/h)</td>
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</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.92</td>
</tr>
<tr>
<td>Hourly flow rate (vph)</td>
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### Pedestrians

<table>
<thead>
<tr>
<th>Pedestrians</th>
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<tbody>
<tr>
<td>Lane Width (ft)</td>
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</tr>
<tr>
<td>Walking Speed (ft/s)</td>
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</tr>
<tr>
<td>Percent Blockage</td>
<td></td>
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<tr>
<td>Right turn flare (veh)</td>
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<tr>
<td>Median type</td>
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<tr>
<td>Median storage veh</td>
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</tr>
<tr>
<td>Upstream signal (ft)</td>
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<tr>
<td>pX, platoon unblocked</td>
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<tr>
<td>vC, conflicting volume</td>
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</tr>
<tr>
<td>vC1, stage 1 conf vol</td>
<td></td>
</tr>
<tr>
<td>vC2, stage 2 conf vol</td>
<td></td>
</tr>
<tr>
<td>vCu, unblocked vol</td>
<td>0</td>
</tr>
<tr>
<td>tC, single (s)</td>
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<tr>
<td>tC, 2 stage (s)</td>
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<tr>
<td>IF (s)</td>
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<td>cM capacity (veh/h)</td>
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### Direction/Lane #

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<th>WB 3</th>
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<tbody>
<tr>
<td>Volume Total</td>
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<td>299</td>
<td>299</td>
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<tr>
<td>Volume Left</td>
<td>712</td>
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<td>0</td>
</tr>
<tr>
<td>Volume Right</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>cSH</td>
<td>1622</td>
<td>1700</td>
<td>1700</td>
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<td>Volume to Capacity</td>
<td>0.44</td>
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<td>0.18</td>
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<td>Queue Length 95th (ft)</td>
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<td>0</td>
</tr>
<tr>
<td>Control Delay (s)</td>
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<tr>
<td>Lane LOS</td>
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<tr>
<td>Approach Delay (s)</td>
<td>4.9</td>
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<tr>
<td>Approach LOS</td>
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### Intersection Summary

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<tbody>
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<td>Average Delay</td>
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<tr>
<td>Intersection Capacity Utilization</td>
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<td>ICU Level of Service</td>
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</tr>
<tr>
<td>Analysis Period (min)</td>
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2012 Existing AM Peak

VHB, Inc.
### HCM Unsignalized Intersection Capacity Analysis

#### 64: Eddy Road &

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<td>0%</td>
<td>0%</td>
<td></td>
<td></td>
<td></td>
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<td><strong>Volume (veh/h)</strong></td>
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<td>0</td>
<td>1665</td>
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<tr>
<td><strong>Peak Hour Factor</strong></td>
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<td>0.92</td>
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<tr>
<td><strong>Hourly flow rate (vph)</strong></td>
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<td>0</td>
<td>1810</td>
<td>712</td>
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#### Pedestrians
- **Lane Width (ft)**
- **Walking Speed (ft/s)**
- **Percent Blockage**
- **Right turn flare (veh)**
- **Median type**
- **Median storage veh**
- **Upstream signal (ft)**
- **pX, platoon unblocked**
- **vC, conflicting volume**
- **vC1, stage 1 conf vol**
- **vC2, stage 2 conf vol**
- **vCu, unblocked vol**
- **tC, single (s)**
- **tC, 2 stage (s)**
- **tF (s)**
- **p0 queue free %**
- **cM capacity (veh/h)**

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<th>Lane #</th>
<th>SB 1</th>
<th>SW 1</th>
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<tr>
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<td>712</td>
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</tr>
<tr>
<td><strong>Volume Right</strong></td>
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<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>cSH</strong></td>
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<td><strong>Volume to Capacity</strong></td>
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<td><strong>Queue Length 95th (ft)</strong></td>
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<td><strong>Control Delay (s)</strong></td>
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<td>Err</td>
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<tr>
<td><strong>Lane LOS</strong></td>
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<tr>
<td><strong>Approach Delay (s)</strong></td>
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<td>Err</td>
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<tr>
<td><strong>Approach LOS</strong></td>
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#### Intersection Summary
- **Average Delay**: 2823.0
- **Intersection Capacity Utilization**: 130.6%
- **ICU Level of Service**: H
- **Analysis Period (min)**: 15

---

FEET Exits 6 & 7  
VHB, Inc.  
2012 Existing AM Peak  
Page 17
### HCM Unsignalized Intersection Capacity Analysis

**65: Goffstown Road & Straw Road**

**Synchro 6 Report**

6/21/2013

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<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>Stop</td>
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<td></td>
<td></td>
</tr>
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<td>0%</td>
<td>0%</td>
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<td><strong>vC, conflicting volume</strong></td>
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<td>1024</td>
<td>259</td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>vC1, stage 1 conf vol</strong></td>
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<td>1700</td>
<td>273</td>
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<td>D</td>
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**Intersection Summary**

| Average Delay | 2.2 |
| Intersection Capacity Utilization | 62.7% |
| ICU Level of Service | A |
| Analysis Period (min) | 15 |

---

**FEET Exits 6 & 7**

VHB, Inc. 2012 Existing AM Peak Page 18
### Movement

<table>
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<tr>
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<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SWL</th>
<th>SWR</th>
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### Sign Control

- Free
- Stop

### Grade

- 0%
- 0%
- 0%

### Volume (veh/h)

- 790
- 1910
- 0
- 0
- 0
- 0

### Peak Hour Factor

- 0.92
- 0.92
- 0.92
- 0.92
- 0.92
- 0.92

### Hourly flow rate (vph)

- 859
- 2076
- 0
- 0
- 0
- 0

### Pedestrians

- Lane Width (ft)
- Walking Speed (ft/s)
- Percent Blockage
- Right turn flare (veh)
- Median type
- None
- Median storage veh
- Upstream signal (ft)
- 269
- pX, platoon unblocked
- vC, conflicting volume
- 2935
- 859
- 429
- vC1, stage 1 conf vol
- vC2, stage 2 conf vol
- vCu, unblocked vol
- 2935
- 859
- 429
- tC, single (s)
- 4.1
- 6.8
- 6.9
- tC, 2 stage (s)
- 2.2
- 3.5
- 3.3
- p0 queue free %
- 100
- 100
- 100
- cM capacity (veh/h)
- 120
- 296
- 574

### Direction, Lane #

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<td>1384</td>
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<tr>
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<tr>
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### Intersection Summary

- Average Delay
- 0.0
- Intersection Capacity Utilization
- 82.2%
- ICU Level of Service
- E
- Analysis Period (min)
- 15
### Movement Lane Configurations

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<td>Free</td>
<td>Stop</td>
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<td>0%</td>
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### Pedestrians

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<th>Walking Speed (ft/s)</th>
<th>Percent Blockage</th>
<th>Right turn flare (veh)</th>
<th>Median type</th>
<th>Median storage veh</th>
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### Upstream signal (ft) pX, platoon unblocked

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<th>1621</th>
<th>831</th>
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<tr>
<td>vC2, stage 2 conf vol</td>
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<td></td>
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<tr>
<td>vCu, unblocked vol</td>
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<td>1621</td>
<td>831</td>
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<tr>
<td>tX, single (s)</td>
<td>4.1</td>
<td>6.4</td>
<td>6.2</td>
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<tr>
<td>tX, 2 stage (s)</td>
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### Direction, Lane #

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<td>cSH</td>
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<tr>
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### Intersection Summary

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HCM Unsignalized Intersection Capacity Analysis

15: Exit 6 SB Off Ramp & Eddy Road

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Pedestrians

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<tr>
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<th>Right turn flare (veh)</th>
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<th>Median storage veh</th>
<th>Upstream signal (ft)</th>
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<th>vC, conflicting volume</th>
<th>vC1, stage 1 conf vol</th>
<th>vC2, stage 2 conf vol</th>
<th>vCu, unblocked vol</th>
<th>lC, single (s)</th>
<th>lC, 2 stage (s)</th>
<th>IF (s)</th>
<th>p0 queue free %</th>
<th>cM capacity (veh/h)</th>
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Direction: Lane #

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Intersection Summary

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Analysis Period (min) 15
### Lane Configurations

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### Pedestrians

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<th>Upstream signal (ft)</th>
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<th>vC1, stage 1 conf vol</th>
<th>vC2, stage 2 conf vol</th>
<th>vCu, unblocked vol</th>
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<th>tF (s)</th>
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### Intersection Summary

- Average Delay: 868.7
- Intersection Capacity Utilization: 119.5%
- ICU Level of Service: H
- Analysis Period (min): 15
Intersection sign configuration not allowed in HCM analysis.
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**Intersection Summary**

- Average Delay: 3.6
- Intersection Capacity Utilization: 45.5%
- ICU Level of Service: A
- Analysis Period (min): 15
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### Pedestrians

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### Direction / Lane #

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### Intersection Summary

| Average Delay | 47.9 |
| Intersection Capacity Utilization | 79.0% |
| ICU Level of Service | D |
| Analysis Period (min) | 15 |

---

2012 Existing PM Peak
VHB, Inc.
### HCM Unsignalized Intersection Capacity Analysis

#### 34: Goffstown Road & Coolidge Ave

**Synchro 6 Report**  
6/21/2013

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<td>11</td>
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<td><strong>Lane Width (ft)</strong></td>
</tr>
<tr>
<td>Walking Speed (ft/s)</td>
</tr>
<tr>
<td>Percent Blockage</td>
</tr>
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<td>Right turn flare (veh)</td>
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<td>Median type</td>
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<td>Median storage veh</td>
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<tr>
<td><strong>Upstream signal (ft)</strong></td>
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<tr>
<td>pX, platoon unblocked</td>
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<td>VC1, stage 1 conf vol</td>
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<td>VC2, stage 2 conf vol</td>
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<td>tC, single (s)</td>
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<td>tC, 2 stage (s)</td>
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<td>tF (s)</td>
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<td>p0 queue free %</td>
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<td>cM capacity (veh/h)</td>
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<th>SB 1</th>
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<tr>
<td>Volume Right</td>
<td>17</td>
<td>11</td>
<td>147</td>
<td>14</td>
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<tr>
<td>cSH</td>
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<td>947</td>
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<td>9</td>
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<td>Control Delay (s)</td>
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<tr>
<td>Lane LOS</td>
<td>A</td>
<td>A</td>
<td>F</td>
<td>F</td>
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<td>F</td>
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### Intersection Summary

| Average Delay | 568.1 |
| Intersection Capacity Utilization | 90.9% |
| ICU Level of Service | E |
| Analysis Period (min) | 15 |

---

**FEET Exits 6 & 7**  
VHB, Inc.  
2012 Existing PM Peak  
Page 8
### Movement

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<td>SEL</td>
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<tr>
<td>SER</td>
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### Sign Control

- Grade: 0% 0% 0%
- Volume (veh/h): 0 1900 910 0 0
- Peak Hour Factor: 0.94 0.94 0.94 0.94 0.94 0.94
- Hourly flow rate (vph): 0 2021 968 0 0

### Pedestrians

- Lane Width (ft)
- Walking Speed (ft/s)
- Percent Blockage
- Right turn flare (veh)
- Median type: None
- Median storage veh
- Upstream signal (ft): 324 253
- $p_x$, platoon unblocked: 0.57 0.57 0.57
- $\gamma_C$, conflicting volume: 2021 2505 1158
- $v_{C1}$, stage 1 conf vol
- $v_{C2}$, stage 2 conf vol
- $v_{Cu}$, unblocked vol: 1288 2135 0
- $t_C$, single (s): 4.1 6.8 6.9
- $t_C$, 2 stage (s)
- $t_F$ (s): 2.2 3.5 3.3
- $p_0$ queue free %: 100 100 100
- $cM$ capacity (veh/h): 309 24 622

### Direction, Lane #

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### Intersection Summary

- Average Delay: 0.0
- Intersection Capacity Utilization: 60.4%
- ICU Level of Service: B
- Analysis Period (min): 15
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<td>Upstream signal (ft)</td>
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<td>717</td>
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**Direction Lane #**
- EB 1  NB 1

**Volume Total**
- 1018  281

**Volume Left**
- 0  236

**Volume Right**
- 601  45

**cSH**
- 1700  401

**Volume to Capacity**
- 0.60  0.70

**Queue Length 95th (ft)**
- 0  130

**Control Delay (s)**
- 0.0  32.4

**Lane LOS**
- D

**Approach Delay (s)**
- 0.0  32.4

**Approach LOS**
- D

**Intersection Summary**
- Average Delay: 7.0
- Intersection Capacity Utilization: 70.1%
- ICU Level of Service: C
- Analysis Period (min): 15
### Movement Lane Configurations

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<td>Free</td>
<td>Free</td>
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<td>Yield</td>
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<td>0%</td>
<td>0%</td>
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<td>0%</td>
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<td>1044</td>
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### Pedestrians

- **Lane Width (ft):**
- **Walking Speed (ft/s):**
- **Percent Blockage:**
- **Right turn flare (veh):**
- **Median type:** None
- **Median storage veh:**
- **Upstream signal (ft):**
- **pX, platoon unblocked:**
- **vC, conflicting volume:** 273
- **vC1, stage 1 conf vol:** 1355
- **vC2, stage 2 conf vol:** 273
- **vCu, unblocked vol:** 1355
- **tC, single (s):** 4.1
- **tC, 2 stage (s):** 6.4
- **tF (s):** 2.2
- **p0 queue free %:** 100
- **cM capacity (veh/h):** 1296
- **Direction | Lane #:** NB 1 | SB 1 | NW 1

| Volume Total | 273 | 1082 | 1044 |
| Volume Left | 0 | 0 | 0 |
| Volume Right | 0 | 0 | 1044 |
| cSH | 1700 | 1700 | 771 |
| Volume to Capacity | 0.16 | 0.64 | 1.35 |
| Queue Length 95th (ft) | 0 | 0 | 1080 |
| Control Delay (s) | 0.0 | 0.0 | 185.3 |
| Lane LOS | F |
| Approach Delay (s) | 0.0 | 0.0 | 185.3 |
| Approach LOS | F |

### Intersection Summary

- **Average Delay:** 80.6
- **Intersection Capacity Utilization:** 76.5%
- **ICU Level of Service:** D
- **Analysis Period (min):** 15

---

**FEET Exits 6 & 7**

**VHB, Inc.**
### HCM Unsignalized Intersection Capacity Analysis

41: Amoskeag Street &

#### Movement

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#### Lane Configurations

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<td>0%</td>
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<td>0.92</td>
<td>0.92</td>
<td>0.92</td>
<td>0.92</td>
<td>0.92</td>
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| Hourly Flow Rate (vph) | 0 | 1326 | 0 | 1815 | 0 | 0 |

#### Pedestrians

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<th>Lane Width (ft)</th>
<th>Walking Speed (ft/s)</th>
<th>Percent Blockage</th>
<th>Right Turn Flare (veh)</th>
<th>Median Type</th>
<th>Median Storage Veh</th>
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<table>
<thead>
<tr>
<th>Upstream Signal (ft)</th>
<th>PX, Platoon Unblocked</th>
<th>vC, Conflicting Volume</th>
<th>vC1, Stage 1 Conf Vol</th>
<th>vC2, Stage 2 Conf Vol</th>
<th>vCu, Unblocked Vol</th>
<th>tC, Single (s)</th>
<th>tC, 2 Stage (s)</th>
</tr>
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</table>

<table>
<thead>
<tr>
<th>IF (s)</th>
<th>2.2</th>
<th>3.5</th>
<th>3.3</th>
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<tr>
<td>p0 Queue Free %</td>
<td>100</td>
<td>100</td>
<td>100</td>
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<tr>
<td>SM Capacity (veh/h)</td>
<td>334</td>
<td>394</td>
<td>1084</td>
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#### Direction Lane #

<table>
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<th>EB 2</th>
<th>WB 1</th>
<th>WB 2</th>
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<tbody>
<tr>
<td>Volume Left</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Volume Right</td>
<td>0</td>
<td>0</td>
<td>908</td>
<td>908</td>
</tr>
<tr>
<td>cSH</td>
<td>1700</td>
<td>1700</td>
<td>1700</td>
<td>1700</td>
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</table>

| Volume to Capacity | 0.39 | 0.39 | 0.53 | 0.53 |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | |
| Approach Delay (s) | 0.0 | 0.0 |
| Approach LOS | |

#### Intersection Summary

<p>| Average Delay | 0.0 |
| Intersection Capacity Utilization | 61.8% |
| ICU Level of Service | B |
| Analysis Period (min) | 15 |</p>
<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBR</th>
<th>NBL</th>
<th>NBT</th>
<th>SBT</th>
<th>SBR</th>
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<tr>
<td>Lane Configurations</td>
<td></td>
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<td></td>
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<tr>
<td>Sign Control</td>
<td>Stop</td>
<td>Free</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Grade</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
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<tr>
<td>Volume (veh/h)</td>
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<td>Hourly flow rate (vph)</td>
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<td>91</td>
<td>1011</td>
<td>963</td>
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<tr>
<td>Lane Width (ft)</td>
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<tr>
<td>Walking Speed (ft/s)</td>
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</tr>
<tr>
<td>Percent Blockage</td>
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<tr>
<td>Right turn flare (veh)</td>
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<tr>
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</tr>
<tr>
<td>Median storage veh</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Upstream signal (ft)</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>pX, platoon unblocked</td>
<td></td>
<td></td>
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<tr>
<td>vC1, conflicting volume</td>
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<td>979</td>
<td>994</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>vC2, stage 1 conf vol</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>vCu, unblocked vol</td>
<td>2172</td>
<td>979</td>
<td>994</td>
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<td></td>
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<tr>
<td>tC, single (s)</td>
<td>6.4</td>
<td>6.2</td>
<td>4.1</td>
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<td>NB 1</td>
<td>SB 1</td>
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<tr>
<td>Volume Total</td>
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<td>994</td>
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<td>Volume Left</td>
<td>7</td>
<td>91</td>
<td>0</td>
<td></td>
<td></td>
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<tr>
<td>Volume Right</td>
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<td></td>
<td></td>
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<td>1700</td>
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<td>0.13</td>
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<tr>
<td>Lane LOS</td>
<td>D</td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
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<tr>
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<td>D</td>
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</table>

Intersection Summary

Average Delay | 3.0
Intersection Capacity Utilization | 110.6%
ICU Level of Service | H
Analysis Period (min) | 15
### HCM Unsignalized Intersection Capacity Analysis

**53: Dunbarton Road & Straw Road**

**Synchro 6 Report**  
6/21/2013

#### Movement & Lane Configurations

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBR</th>
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<tbody>
<tr>
<td>Sign Control</td>
<td>Free</td>
<td>Free</td>
<td>Stop</td>
<td></td>
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<td>0%</td>
<td>0%</td>
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#### Volume (veh/h)

<table>
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<tr>
<th>Volume</th>
<th>65</th>
<th>40</th>
<th>5</th>
<th>185</th>
<th>65</th>
<th>5</th>
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</table>

#### Peak Hour Factor

| 0.79 | 0.79 | 0.75 | 0.75 | 0.85 | 0.85 |

#### Hourly flow rate (vph)

| 82 | 51 | 7 | 247 | 76 | 6 |

#### Pedestrians

<table>
<thead>
<tr>
<th>Lane Width (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walking Speed (ft/s)</td>
</tr>
<tr>
<td>Percent Blockage</td>
</tr>
<tr>
<td>Right turn flare (veh)</td>
</tr>
<tr>
<td>Median type: None</td>
</tr>
<tr>
<td>Median storage veh</td>
</tr>
<tr>
<td>Upstream signal (ft)</td>
</tr>
<tr>
<td>pX, platoon unblocked</td>
</tr>
</tbody>
</table>

#### vC, conflicting volume

<table>
<thead>
<tr>
<th>vC1, stage 1 conf vol</th>
<th>133</th>
<th>368</th>
<th>108</th>
</tr>
</thead>
<tbody>
<tr>
<td>vC2, stage 2 conf vol</td>
<td>133</td>
<td>368</td>
<td>108</td>
</tr>
<tr>
<td>vCu, unblocked vol</td>
<td>4.1</td>
<td>6.4</td>
<td>6.2</td>
</tr>
</tbody>
</table>

#### tC, single (s)

<table>
<thead>
<tr>
<th>tC, 2 stage (s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>tF (s) 2.2</td>
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</tbody>
</table>

#### p0 queue free %

<table>
<thead>
<tr>
<th>cM capacity (veh/h)</th>
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<tbody>
<tr>
<td>1458</td>
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#### Direction, Lane #

<table>
<thead>
<tr>
<th>EB 1</th>
<th>WB 1</th>
<th>NB 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume Total</td>
<td>133</td>
<td>253</td>
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<td>Volume Left</td>
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<td>7</td>
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<tr>
<td>Volume Right</td>
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<tr>
<td>cSH</td>
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<tr>
<td>Volume to Capacity</td>
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<td>Queue Length 95th (ft)</td>
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<tr>
<td>Control Delay (s)</td>
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</tr>
<tr>
<td>Lane LOS</td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>Approach Delay (s)</td>
<td>0.0</td>
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</tr>
<tr>
<td>Approach LOS</td>
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</table>

#### Intersection Summary

**Average Delay** 2.1

**Intersection Capacity Utilization** 24.3%  
**ICU Level of Service** A

**Analysis Period (min)** 15
## HCM Unsignalized Intersection Capacity Analysis

### Sign Control
- Free
- Stop

### Grade
- 0%
- 0%
- 0%

### Volume (veh/h)
- EBT: 995
- EBR: 215
- WBL: 0
- WBT: 995
- NBL: 0
- NBR: 0

### Peak Hour Factor
- 0.92
- 0.92
- 0.92
- 0.92
- 0.92
- 0.92

### Hourly flow rate (vph)
- EBT: 1082
- EBR: 234
- WBL: 0
- WBT: 1082
- NBL: 0
- NBR: 0

### Lane Width (ft)
- Walking Speed (ft/s)
- Percent Blockage
- Right turn flare (veh)
  - Median type: None
  - Median storage veh: None

### Upstream signal (ft)
- PX, platoon unblocked: 0.36
- vC, conflicting volume: 1315
- vC1, stage 1 conf vol: 2163
- vC2, stage 2 conf vol: 1082
- vCu, unblocked vol: 1879
- tC, single (s): 4.1
- tC, 2 stage (s): 6.4
- tF (s): 3.5
- p0 queue free %: 100
- CM capacity (veh/h): 114

### Direction, Lane #
- EB 1: 1082
- EB 2: 234
- WB 1: 1082

### Volume Total
- Left: 0
- Right: 0

### cSH
- 1700

### Volume to Capacity
- 0.64
- 0.14
- 0.64

### Queue Length 95th (ft)
- 0

### Control Delay (s)
- 0

### Lane LOS
- Approach Delay (s): 0.0
- Approach LOS

### Intersection Summary
- Average Delay: 0.0
- Intersection Capacity Utilization: 61.5%
- ICU Level of Service: B
- Analysis Period (min): 15

---

FEET Exits 6 & 7  
VHB, Inc.  
2012 Existing PM Peak  
Page 15
### Movement

<table>
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<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>WBT</th>
<th>WBR</th>
<th>SBL</th>
<th>SBR</th>
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### Lane Configurations

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<tr>
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<th>Free</th>
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<tr>
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<td>0%</td>
<td>0%</td>
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### Volume (veh/h)

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<th>EBL</th>
<th>EBT</th>
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### Peak Hour Factor

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### Hourly flow rate (vph)

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### Pedestrians

<table>
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<th>Lane Width (ft)</th>
<th>Walking Speed (ft/s)</th>
<th>Percent Blockage</th>
<th>Right turn flare (veh)</th>
<th>Median type</th>
<th>Median storage veh</th>
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### Upstream signal (ft)

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<th>vC, conflicting volume</th>
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### tC, single (s)

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### IF (s)

<table>
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### cSH

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<th>SB 1</th>
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### Control Delay (s)

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<th>SB 1</th>
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### Lane LOS

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<th>SB 1</th>
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<td>D</td>
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### Approach Delay (s)

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<th>SB 1</th>
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### Approach LOS

<table>
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<th>WB 1</th>
<th>SB 1</th>
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<tr>
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### Intersection Summary

<table>
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<tr>
<th>Average Delay</th>
<th>Intersection Capacity Utilization</th>
<th>ICU Level of Service</th>
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<tbody>
<tr>
<td>2.8</td>
<td>47.0%</td>
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<table>
<thead>
<tr>
<th>Analysis Period (min)</th>
<th>15</th>
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FEET Exits 6 & 7
VHB, Inc.

2012 Existing PM Peak
Page 16
# HCM Unsignalized Intersection Capacity Analysis

**67: Amoskeag Street &**  
**Synchro 6 Report**  
**6/21/2013**

## Movement Sign Control

<table>
<thead>
<tr>
<th>Movement</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SWL</th>
<th>SWR</th>
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<tr>
<td>Lane Configurations</td>
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</tr>
<tr>
<td>Sign Control</td>
<td>Free</td>
<td>Free</td>
<td>Stop</td>
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</tr>
<tr>
<td>Grade</td>
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<td>0%</td>
<td>0%</td>
<td></td>
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</tbody>
</table>

## Volume (veh/h)

| Volume (veh/h) | 1140 | 1220 | 0 | 0 | 0 | 0 |

## Peak Hour Factor

| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |

## Hourly flow rate (vph)

| Hourly flow rate (vph) | 1239 | 1326 | 0 | 0 | 0 | 0 |

## Pedestrians

- **Lane Width (ft)**
- **Walking Speed (ft/s)**
- **Percent Blockage**
- **Right turn flare (veh)**
- **Median type**
  - None
- **Median storage veh**
- **Upstream signal (ft)**
  - 280
- **pX, platoon unblocked**
- **vC, conflicting volume**
  - 2565
  - 1239
  - 620
- **vC1, stage 1 conf vol**
- **vC2, stage 2 conf vol**
- **vCu, unblocked vol**
  - 2565
  - 1239
  - 620
- **tC, single (s)**
  - 4.1
- **tC, 2 stage (s)**
  - 6.8
  - 6.9
- **tF (s)**
  - 2.2
  - 3.5
  - 3.3
- **p0 queue free %**
  - 100
  - 100
  - 100
- **cM capacity (veh/h)**
  - 169
  - 168
  - 431

## Direction, Lane #

<table>
<thead>
<tr>
<th>Direction, Lane #</th>
<th>NB 1</th>
<th>NB 2</th>
<th>NB 3</th>
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<td>855</td>
<td>884</td>
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<td>Volume Right</td>
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<td>442</td>
<td>884</td>
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<td>cSH</td>
<td>1700</td>
<td>1700</td>
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<td>Volume to Capacity</td>
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<td>Queue Length 50th (ft)</td>
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<td>Control Delay (s)</td>
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</table>

## Lane LOS

- **Approach Delay (s)**
  - 0.0
- **Approach LOS**

## Intersection Summary

<table>
<thead>
<tr>
<th>Intersection Summary</th>
<th>Average Delay</th>
<th>Intersection Capacity Utilization</th>
<th>ICU Level of Service</th>
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<tbody>
<tr>
<td>Analysis Period (min)</td>
<td>15</td>
<td>85.4%</td>
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**FEET Exits 6 & 7**  
VHB, Inc.  
2012 Existing PM Peak  
Page 17
### HCM Unsignalized Intersection Capacity Analysis

**Synchro 6 Report**

**68: Eddy Road &**

#### Movement

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<thead>
<tr>
<th>Movement</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SWL</th>
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#### Lane Configurations

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<th>Free</th>
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<tr>
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<td>0%</td>
<td>0%</td>
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<tr>
<td>Volume (veh/h)</td>
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<td>0</td>
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<tr>
<td>Peak Hour Factor</td>
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<td>0.92</td>
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<tr>
<td>Hourly flow rate (vph)</td>
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#### Pedestrians

<table>
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<tr>
<th>Lane Width (ft)</th>
<th>Walking Speed (ft/s)</th>
<th>Percent Blockage</th>
<th>Right turn flare (veh)</th>
<th>Median type:</th>
<th>Median storage veh</th>
<th>Upstream signal (ft)</th>
<th>pX, platoon unblocked</th>
<th>vC, conflicting volume</th>
<th>vC1, stage 1 conf vol</th>
<th>vC2, stage 2 conf vol</th>
<th>vCu, unblocked vol</th>
<th>tC, single (s)</th>
<th>tC, 2 stage (s)</th>
<th>F (s)</th>
<th>p0 queue free %</th>
<th>cM capacity (veh/h)</th>
<th>Direction</th>
<th>Lane #</th>
<th>SB 1</th>
<th>SW 1</th>
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</tbody>
</table>

#### Direction & Lane

| Volume Total | 978 | 652 |
| Volume Left  | 0   | 652 |
| Volume Right | 0   | 0   |
| cSH          | 1700| 223 |
| Volume to Capacity | 0.58 | 2.93 |
| Queue Length 95th (ft) | 0 | 1447 |
| Control Delay (s) | 0.0 | 911.7 |
| Lane LOS     | F   |     |
| Approach Delay (s) | 0.0 | 911.7 |
| Approach LOS | F   |     |

#### Intersection Summary

| Average Delay | 364.7 |
| Intersection Capacity Utilization | 90.0% | ICU Level of Service | E |
| Analysis Period (min) | 15 |

---

**FEET Exits 6 & 7**

VHB, Inc.

2012 Existing PM Peak

Page 18
<table>
<thead>
<tr>
<th>Movement</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
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<td>652</td>
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<td>Lane Width (ft)</td>
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<td>Walking Speed (ft/s)</td>
</tr>
<tr>
<td>Percent Blockage</td>
</tr>
<tr>
<td>Right turn flare (veh)</td>
</tr>
<tr>
<td>Median type</td>
</tr>
<tr>
<td>Median storage veh</td>
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<tr>
<td>Upstream signal (ft)</td>
</tr>
<tr>
<td>pX, platoon unblocked</td>
</tr>
<tr>
<td>vC, conflicting volume</td>
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<tr>
<td>vC1, stage 1 conf vol</td>
</tr>
<tr>
<td>vC2, stage 2 conf vol</td>
</tr>
<tr>
<td>vCu, unblocked vol</td>
</tr>
<tr>
<td>tC, single (s)</td>
</tr>
<tr>
<td>tC, 2 stage (s)</td>
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<tr>
<td>tF (s)</td>
</tr>
<tr>
<td>p0 queue free %</td>
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<tr>
<td>cM capacity (veh/h)</td>
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<table>
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<th>WB 2</th>
<th>WB 3</th>
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<td>Volume Right</td>
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<td>Approach Delay (s)</td>
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<td>Approach LOS</td>
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<td>Average Delay</td>
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<tr>
<td>Intersection Capacity Utilization</td>
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<td>ICU Level of Service</td>
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<td>Analysis Period (min)</td>
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### Movement

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<tr>
<td>Sign Control</td>
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<td>0%</td>
<td>0%</td>
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<td>1242</td>
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### Pedestrians

<table>
<thead>
<tr>
<th>Lane Width (ft)</th>
<th>Walking Speed (ft/s)</th>
<th>Percent Blockage</th>
<th>Right turn flare (veh)</th>
<th>Median type</th>
<th>Median storage veh</th>
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</tbody>
</table>

### VC

- VC, conflicting volume: 1126
- VC1, stage 1 conf vol: 2113
- VC2, stage 2 conf vol: 871
- VCu, unblocked vol: 1126
- VC1, stage 1 conf vol: 2113
- VC2, stage 2 conf vol: 871

### tC

- tC, single (s): 4.1
- tC, 2 stage (s): 6.4
- tC, 2 stage (s): 6.2

### tf

- tf (s): 2.2
- tf (s): 3.5
- tf (s): 3.3

### p0

- p0 queue free %: 100
- p0 queue free %: 100
- p0 queue free %: 100

### cM capacity (veh/h)

- cM capacity (veh/h): 624
- cM capacity (veh/h): 56
- cM capacity (veh/h): 350

### Direction, Lane #

<table>
<thead>
<tr>
<th>Lane</th>
<th>NB 1</th>
<th>SB 1</th>
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<td>cSH</td>
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<tr>
<td>Volume to Capacity</td>
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<tr>
<td>Control Delay (s)</td>
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<tr>
<td>Lane LOS</td>
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<tr>
<td>Approach Delay (s)</td>
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<td>0.0</td>
</tr>
<tr>
<td>Approach LOS</td>
<td></td>
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</tbody>
</table>

### Intersection Summary

| Average Delay | 0.0 |
| Intersection Capacity Utilization | 70.7% |
| ICU Level of Service | C |
| Analysis Period (min) | 15 |
### HCM Unsignalized Intersection Capacity Analysis

**15: Exit 6 SB Off Ramp & Eddy Road**

#### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>WBL</th>
<th>WBR</th>
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<td>Hourly flow rate (vph)</td>
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<td>547</td>
<td>589</td>
<td>0</td>
<td>0</td>
<td>942</td>
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</tbody>
</table>

#### Pedestrians

- **Walking Speed (ft/s)**:
- **Percent Blockage**:
- **Right turn flare (veh)**:
- **Median type**: None
- **Median storage veh**:
- **Upstream signal (ft)**:
- **pX, platoon unblocked**:
- **vc, conflicting volume**: 1532 589 589
- **vc1, stage 1 conf vol**:
- **vc2, stage 2 conf vol**:
- **vcu, unblocked vol**: 1532 589 589
- **tc, single (s)**: 6.4 6.2 4.1
- **tc, 2 stage (s)**: 3.5 3.3 2.2
- **p0 queue free %**: 0 0 100
- **cM capacity (veh/h)**: 130 512 991

#### Direction, Lane #

<table>
<thead>
<tr>
<th>Direction, Lane #</th>
<th>WB 1</th>
<th>WB 2</th>
<th>NB 1</th>
<th>SB 1</th>
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<tbody>
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<td>547</td>
<td>589</td>
<td>942</td>
</tr>
<tr>
<td>Volume Left</td>
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<td>Volume Right</td>
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<tr>
<td>cSH</td>
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<td>512</td>
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<tr>
<td>Approach Delay (s)</td>
<td>328.5</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Approach LOS</td>
<td></td>
<td>F</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Intersection Summary

- **Average Delay**: 118.9
- **Intersection Capacity Utilization**: 70.7%
- **ICU Level of Service**: C
- **Analysis Period (min)**: 15
Intersection Sign configuration not allowed in HCM analysis.
### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>NWL</th>
<th>NWR</th>
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</table>

### Lane Configurations

<table>
<thead>
<tr>
<th>Sign Control</th>
<th>Free</th>
<th>Free</th>
<th>Stop</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

### Volume (veh/h)

<table>
<thead>
<tr>
<th>Volume (veh/h)</th>
<th>0</th>
<th>0</th>
<th>905</th>
<th>2010</th>
<th>0</th>
<th>0</th>
</tr>
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</table>

### Peak Hour Factor

<table>
<thead>
<tr>
<th>Peak Hour Factor</th>
<th>0.95</th>
<th>0.95</th>
<th>0.95</th>
<th>0.95</th>
<th>0.95</th>
<th>0.95</th>
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</thead>
</table>

### Hourly flow rate (vph)

<table>
<thead>
<tr>
<th>Hourly flow rate (vph)</th>
<th>0</th>
<th>0</th>
<th>953</th>
<th>2116</th>
<th>0</th>
<th>0</th>
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### Pedestrians

<table>
<thead>
<tr>
<th>Lane Width (ft)</th>
<th>Walking Speed (ft/s)</th>
<th>Percent Blockage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Right turn flare (veh)

<table>
<thead>
<tr>
<th>Median type</th>
<th>None</th>
</tr>
</thead>
</table>

### Median storage veh

<table>
<thead>
<tr>
<th>Upstream signal (ft)</th>
<th>368</th>
</tr>
</thead>
</table>

### pX, platoon unblocked

<table>
<thead>
<tr>
<th>VC, conflicting volume</th>
<th>0</th>
<th>2963</th>
<th>0</th>
</tr>
</thead>
</table>

### VC1, stage 1 conf vol

<table>
<thead>
<tr>
<th>VC2, stage 2 conf vol</th>
<th>0</th>
<th>2963</th>
<th>0</th>
</tr>
</thead>
</table>

### VCu, unblocked vol

<table>
<thead>
<tr>
<th>TC, single (s)</th>
<th>4.1</th>
<th>6.8</th>
<th>6.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>TC, 2 stage (s)</td>
<td>2.2</td>
<td>3.5</td>
<td>3.3</td>
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</tbody>
</table>

### IF (s)

<table>
<thead>
<tr>
<th>p0 queue free %</th>
<th>42</th>
<th>100</th>
<th>100</th>
</tr>
</thead>
</table>

### cM capacity (veh/h)

<table>
<thead>
<tr>
<th>Direction</th>
<th>Lane #</th>
<th>SB 1</th>
<th>SB 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume Total</td>
<td>1658</td>
<td>1411</td>
<td></td>
</tr>
<tr>
<td>Volume Left</td>
<td>953</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Volume Right</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>cSH</td>
<td>1629</td>
<td>1700</td>
<td></td>
</tr>
<tr>
<td>Volume to Capacity</td>
<td>0.58</td>
<td>0.83</td>
<td></td>
</tr>
<tr>
<td>Queue Length 95th (ft)</td>
<td>101</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

### Control Delay (s)

<table>
<thead>
<tr>
<th>Lane LOS</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approach Delay (s)</td>
<td>5.5</td>
</tr>
</tbody>
</table>

### Intersection Summary

| Average Delay | 5.5 |

### Intersection Capacity Utilization

<table>
<thead>
<tr>
<th>ICU Level of Service</th>
<th>E</th>
</tr>
</thead>
</table>

### Analysis Period (min)

| 15 |

---

FEET Exits 6 & 7  
VHB, Inc.  
2035 No Build AM Peak  
Page 4
### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>WBL</th>
<th>WBR</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
</tr>
</thead>
</table>

### Lane Configurations

- **Sign Control**: Yield, Free, Free
- **Grade**: 0%, 0%, 0%
- **Volume (veh/h)**: 0, 1200, 2195, 0, 0, 0
- **Peak Hour Factor**: 0.95, 0.95, 0.95, 0.95, 0.95, 0.95
- **Hourly flow rate (vph)**: 0, 1263, 2311, 0, 0, 0

### Pedestrians

- **Lane Width (ft)**
- **Walking Speed (ft/s)**
- **Percent Blockage**

### Right-turn flare (veh)

- **Median type**: None
- **Median storage veh**
- **Upstream signal (ft)**: 585
- **pX, platoon unblocked**
- **vC2, conflicting volume**
- **vC1, stage 1 conf vol**
- **vC2, stage 2 conf vol**
- **vCu, unblocked vol**
- **tC, single (s)**: 6.8, 6.9, 4.1
- **tC, 2 stage (s)**
- **tF (s)**: 3.5, 3.3, 2.2
- **p0 queue free %**: 100, 0, 100
- **cM capacity (veh/h)**: 32, 190, 213

### Direction, Lane #

<table>
<thead>
<tr>
<th>Direction, Lane #</th>
<th>WB 1</th>
<th>NB 1</th>
<th>NB 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume Total</td>
<td>1263</td>
<td>1155</td>
<td>1155</td>
</tr>
<tr>
<td>Volume Left</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Volume Right</td>
<td>1263</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>cSH</td>
<td>180</td>
<td>1700</td>
<td>1700</td>
</tr>
<tr>
<td>Volume to Capacity</td>
<td>6.65</td>
<td>0.68</td>
<td>0.68</td>
</tr>
<tr>
<td>Queue Length 95th (ft)</td>
<td>Err</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Control Delay (s)</td>
<td>Er</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Lane LOS</td>
<td>F</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach Delay (s)</td>
<td>Er</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>Approach LOS</td>
<td>F</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Intersection Summary

- **Average Delay**: 3534.3
- **Intersection Capacity Utilization**: 141.6%
- **ICU Level of Service**: H
- **Analysis Period (min)**: 15
### HCM Unsignalized Intersection Capacity Analysis

**33: Dunbaron Road & Front Street**

**Synchro 6 Report**

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sign Control</td>
<td>Stop</td>
<td>Stop</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Stop</td>
<td>Stop</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade</td>
<td>0%</td>
<td>0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0%</td>
<td>0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volume (veh/h)</td>
<td>295</td>
<td>0</td>
<td>385</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>155</td>
<td>105</td>
<td>15</td>
<td>5</td>
<td>515</td>
<td>40</td>
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<tr>
<td>Peak Hour Factor</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
</tr>
<tr>
<td>Hourly flow rate (vph)</td>
<td>311</td>
<td>0</td>
<td>405</td>
<td>5</td>
<td>0</td>
<td>5</td>
<td>163</td>
<td>111</td>
<td>16</td>
<td>5</td>
<td>542</td>
<td>42</td>
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</table>

### Pedestrians

<table>
<thead>
<tr>
<th>Lane Width (ft)</th>
<th>Walking Speed (ft/s)</th>
<th>Percent Blockage</th>
<th>Right turn flare (veh)</th>
<th>Median type</th>
<th>Median storage veh</th>
</tr>
</thead>
</table>

### Upstream signal (ft)

<table>
<thead>
<tr>
<th>pX, platoon unblocked</th>
<th>vC, conflicting volume</th>
<th>vC1, stage 1 conf vol</th>
<th>vC2, stage 2 conf vol</th>
<th>vCu, unblocked vol</th>
<th>tC, single (s)</th>
<th>tC, 2 stage (s)</th>
<th>tF (s)</th>
<th>p0 queue free %</th>
<th>cM capacity (veh/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1024</td>
<td>1026</td>
<td>563</td>
<td>1424</td>
<td>1039</td>
<td>118</td>
<td>584</td>
<td>126</td>
<td>185</td>
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</tbody>
</table>

### Direction, Lane #

<table>
<thead>
<tr>
<th>Volume Total</th>
<th>Volume Left</th>
<th>Volume Right</th>
<th>cSH</th>
<th>Volume to Capacity</th>
<th>Queue Length 95th (ft)</th>
<th>Control Delay (s)</th>
<th>Lane LOS</th>
<th>Approach Delay (s)</th>
<th>Approach LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>716</td>
<td>11</td>
<td>289</td>
<td>589</td>
<td>311</td>
<td>1441</td>
<td>691.2</td>
<td>F</td>
<td>691.2</td>
<td>F</td>
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</table>

### Intersection Summary

<table>
<thead>
<tr>
<th>Average Delay</th>
<th>Intersection Capacity Utilization</th>
<th>ICU Level of Service</th>
<th>Analysis Period (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>310.1</td>
<td>101.5%</td>
<td>G</td>
<td>15</td>
</tr>
</tbody>
</table>
### Movement

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>WBR</th>
<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
<th>SBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sign Control</td>
<td>Free</td>
<td>Free</td>
<td>Stop</td>
<td>Stop</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade</td>
<td>0%</td>
<td>0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volume (veh/h)</td>
<td>5</td>
<td>1115</td>
<td>20</td>
<td>75</td>
<td>500</td>
<td>25</td>
<td>5</td>
<td>0</td>
<td>230</td>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Peak Hour Factor</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
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<tr>
<td>Hourly flow rate (vph)</td>
<td>5</td>
<td>1174</td>
<td>21</td>
<td>79</td>
<td>526</td>
<td>26</td>
<td>5</td>
<td>0</td>
<td>242</td>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Pedestrians

- Lane Width (ft)
- Walking Speed (ft/s)

### Percent Blockage

- Right turn flare (veh)
- Median type: None
- Median storage veh

### Upstream signal (ft)

<table>
<thead>
<tr>
<th>pX, platoon unblocked</th>
<th>0.80</th>
<th>313</th>
</tr>
</thead>
</table>

### vC, conflicting volume

<table>
<thead>
<tr>
<th>vC1, stage 1 conf vol</th>
<th>553</th>
<th>1195</th>
</tr>
</thead>
<tbody>
<tr>
<td>vC2, stage 2 conf vol</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### vcu, unblocked vol

<table>
<thead>
<tr>
<th>vcu, unblocked vol</th>
<th>443</th>
<th>1195</th>
</tr>
</thead>
</table>

### tC, single (s)

<table>
<thead>
<tr>
<th>tC, single (s)</th>
<th>4.1</th>
<th>7.1</th>
</tr>
</thead>
</table>

### tC, 2 stage (s)

<table>
<thead>
<tr>
<th>tC, 2 stage (s)</th>
<th>3.1</th>
</tr>
</thead>
</table>

### tF (s)

<table>
<thead>
<tr>
<th>tF (s)</th>
<th>2.2</th>
</tr>
</thead>
</table>

### p0 queue free %

<table>
<thead>
<tr>
<th>p0 queue free %</th>
<th>99</th>
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</thead>
</table>

### cM capacity (veh/h)

<table>
<thead>
<tr>
<th>cM capacity (veh/h)</th>
<th>906</th>
<th>1012</th>
</tr>
</thead>
</table>

### Direction, Lane #

<table>
<thead>
<tr>
<th>Direction, Lane #</th>
<th>EB 1</th>
<th>WB 1</th>
<th>NB 1</th>
<th>SB 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume Total</td>
<td>1200</td>
<td>632</td>
<td>247</td>
<td>5</td>
</tr>
<tr>
<td>Volume Left</td>
<td>5</td>
<td>79</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Volume Right</td>
<td>21</td>
<td>26</td>
<td>242</td>
<td>0</td>
</tr>
<tr>
<td>cSH</td>
<td>906</td>
<td>1012</td>
<td>235</td>
<td>0</td>
</tr>
<tr>
<td>Volume to Capacity</td>
<td>0.01</td>
<td>0.08</td>
<td>1.05</td>
<td>Err</td>
</tr>
<tr>
<td>Queue Length 95th (ft)</td>
<td>0</td>
<td>6</td>
<td>260</td>
<td>Err</td>
</tr>
<tr>
<td>Control Delay (s)</td>
<td>0.2</td>
<td>2.0</td>
<td>119.7</td>
<td>Err</td>
</tr>
<tr>
<td>Lane LOS</td>
<td>A</td>
<td>A</td>
<td>F</td>
<td>F</td>
</tr>
<tr>
<td>Approach Delay (s)</td>
<td>0.2</td>
<td>2.0</td>
<td>119.7</td>
<td>Err</td>
</tr>
<tr>
<td>Approach LOS</td>
<td>F</td>
<td>F</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Intersection Summary

<table>
<thead>
<tr>
<th>Average Delay</th>
<th>Err</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intersection Capacity Utilization</td>
<td>95.6%</td>
</tr>
<tr>
<td>ICU Level of Service</td>
<td>F</td>
</tr>
<tr>
<td>Analysis Period (min)</td>
<td>15</td>
</tr>
</tbody>
</table>

---

2035 No Build AM Peak

VHB, Inc.
# HCM Unsignalized Intersection Capacity Analysis

## 35: Amoskeag Street & Exit 6 NB On Ramp

### Synchro 6 Report

**Date:** 6/21/2013

## Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBT</th>
<th>WBT</th>
<th>WBR</th>
<th>SEL</th>
<th>SER</th>
</tr>
</thead>
</table>

## Lane Configurations

<table>
<thead>
<tr>
<th>Sign Control</th>
<th>Free</th>
<th>Free</th>
<th>Stop</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

### Volume (veh/h)

| Volume (veh/h) | 0 | 0 | 1515 | 765 | 0 | 0 |

### Peak Hour Factor

| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |

### Hourly flow rate (vph)

| Hourly flow rate (vph) | 0 | 0 | 1595 | 805 | 0 | 0 |

## Pedestrians

### Lane Width (ft)

### Walking Speed (ft/s)

### Percent Blockage

### Right turn flare (veh)

### Median type

None

### Median storage veh

### Upstream signal (ft)

| Upstream signal (ft) | 318 | 269 |

### pX, platoon unblocked

| pX, platoon unblocked | 0.74 | 0.74 | 0.74 |

### vC, conflicting volume

| vC, conflicting volume | 1595 | 1997 | 934 |

### vC1, stage 1 conf vol

### vC2, stage 2 conf vol

### vCu, unblocked vol

| vCu, unblocked vol | 1097 | 1642 | 203 |

### tC, single (s)

| tC, single (s) | 4.1 | 6.8 | 6.9 |

### tC, 2 stage (s)

| tC, 2 stage (s) | 2.2 | 3.5 | 3.3 |

### p0 queue free %

| p0 queue free % | 100 | 100 | 100 |

### cM capacity (veh/h)

| cM capacity (veh/h) | 467 | 67 | 594 |

## Direction, Lane #

<table>
<thead>
<tr>
<th>Direction, Lane #</th>
<th>WB 1</th>
<th>WB 2</th>
<th>WB 3</th>
</tr>
</thead>
</table>

### Volume Total

| Volume Total | 638 | 638 | 1124 |

### Volume Left

| Volume Left | 0 | 0 | 0 |

### Volume Right

| Volume Right | 0 | 0 | 805 |

### cSH

| cSH | 1700 | 1700 | 1700 |

### Volume to Capacity

| Volume to Capacity | 0.38 | 0.38 | 0.66 |

### Queue Length 95th (ft)

| Queue Length 95th (ft) | 0 | 0 | 0 |

### Control Delay (s)

| Control Delay (s) | 0.0 | 0.0 | 0.0 |

### Lane LOS

### Approach Delay (s)

| Approach Delay (s) | 0.0 |

### Approach LOS

### Intersection Summary

#### Average Delay

| Average Delay | 0.0 |

#### Intersection Capacity Utilization

| Intersection Capacity Utilization | 49.7% |

#### ICU Level of Service

| ICU Level of Service | A |

#### Analysis Period (min)

<p>| Analysis Period (min) | 15 |</p>
<table>
<thead>
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Intersection Summary

Average Delay | 59.4 |
Intersection Capacity Utilization | 95.9% |
ICU Level of Service | F |
Analysis Period (min) | 15 |
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**Pedestrians**

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<th>Right turn flare (veh)</th>
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<th>vC1, stage 1 conf vol</th>
<th>vC2, stage 2 conf vol</th>
<th>vCu, unblocked vol</th>
<th>TC, single (s)</th>
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**Intersection Summary**

| Average Delay | 9.8 |
| Intersection Capacity Utilization | 63.6% |
| ICU Level of Service | B |
| Analysis Period (min) | 15 |

---

FEET Exits 6 & 7
VHB, Inc.
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### HCM Unsignalized Intersection Capacity Analysis

**42: MCC & Front Street**

**Synchro 6 Report**

**6/21/2013**

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#### Pedestrians

- **Lane Width (ft)**
- **Walking Speed (ft/s)**
- **Percent Blockage**
- **Right turn flare (veh)**
- **Median type**
- **Median storage veh**
- **Upstream signal (ft)**
- **pX, platoon unblocked**
- **vC, conflicting volume**
- **vC1, stage 1 conf vol**
- **vC2, stage 2 conf vol**
- **vCu, unblocked vol**
- **tc, single (s)**
- **tc, 2 stage (s)**
- **tF (s)**
- **p0 queue free %**
- **cM capacity (veh/h)**

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<td>D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach Delay (s)</td>
<td>972.9</td>
<td>26.9</td>
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<tr>
<td>Approach LOS</td>
<td>F</td>
<td></td>
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</table>

**Intersection Summary**

- **Average Delay** | 40.9 |
- **Intersection Capacity Utilization** | 130.0% |
- **ICU Level of Service** | H |
- **Analysis Period (min)** | 15 |

---

FEET Exits 6 & 7

VHB, Inc.

2035 No Build AM Peak

Page 12
## HCM Unsignalized Intersection Capacity Analysis

### 44: Country Club Drive & Front Street

#### Movement

<table>
<thead>
<tr>
<th>Movement</th>
<th>EBL</th>
<th>EBR</th>
<th>NBL</th>
<th>NBT</th>
<th>SBT</th>
<th>SBR</th>
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#### Lane Configurations

<table>
<thead>
<tr>
<th>Sign Control</th>
<th>Stop</th>
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<table>
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<tr>
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<table>
<thead>
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<th>0.95</th>
<th>0.95</th>
<th>0.95</th>
<th>0.95</th>
<th>0.95</th>
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<table>
<thead>
<tr>
<th>Hourly flow rate (vph)</th>
<th>16</th>
<th>137</th>
<th>32</th>
<th>568</th>
<th>1226</th>
<th>5</th>
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#### Pedestrians

<table>
<thead>
<tr>
<th>Lane Width (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walking Speed (ft/s)</td>
</tr>
<tr>
<td>Percent Blockage</td>
</tr>
<tr>
<td>Right turn flare (veh)</td>
</tr>
<tr>
<td>Median type</td>
</tr>
<tr>
<td>Median storage veh</td>
</tr>
<tr>
<td>Upstream signal (ft)</td>
</tr>
<tr>
<td>pX, platoon unblocked</td>
</tr>
<tr>
<td>vC, conflicting volume</td>
</tr>
<tr>
<td>vC1, stage 1 conf vol</td>
</tr>
<tr>
<td>vC2, stage 2 conf vol</td>
</tr>
<tr>
<td>vCu, unblocked vol</td>
</tr>
<tr>
<td>tC, single (s)</td>
</tr>
<tr>
<td>tC, 2 stage (s)</td>
</tr>
<tr>
<td>IF (s)</td>
</tr>
<tr>
<td>p0 queue free %</td>
</tr>
<tr>
<td>cM capacity (veh/h)</td>
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<table>
<thead>
<tr>
<th>Direction</th>
<th>Lane #</th>
<th>EB 1</th>
<th>NB 1</th>
<th>SB 1</th>
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<table>
<thead>
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<th>600</th>
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<td>32</td>
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</tr>
<tr>
<td>Volume Right</td>
<td>137</td>
<td>0</td>
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<tr>
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<td>Control Delay (s)</td>
<td>48.2</td>
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<td>0.0</td>
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<tr>
<td>Lane LOS</td>
<td>E</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Approach Delay (s)</td>
<td>48.2</td>
<td>1.6</td>
<td>0.0</td>
</tr>
<tr>
<td>Approach LOS</td>
<td>E</td>
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#### Intersection Summary

- Average Delay: 4.2
- Intersection Capacity Utilization: 76.3%
- ICU Level of Service: D
- Analysis Period (min): 15
## Movement

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
<th>NBL</th>
<th>NBR</th>
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</thead>
<tbody>
<tr>
<td>Sign Control</td>
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<td>Free</td>
<td>Stop</td>
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<td></td>
</tr>
<tr>
<td>Grade</td>
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<td>0%</td>
<td>0%</td>
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<tr>
<td>Volume (veh/h)</td>
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<td>45</td>
<td>15</td>
<td>45</td>
<td>15</td>
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<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
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<tr>
<td>Hourly flow rate (vph)</td>
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<td>47</td>
<td>16</td>
<td>47</td>
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### Pedestrians

<table>
<thead>
<tr>
<th>Lane Width (ft)</th>
<th>Walking Speed (ft/s)</th>
<th>Percent Blockage</th>
<th>Right turn flare (veh)</th>
<th>Median type</th>
<th>Median storage veh</th>
</tr>
</thead>
<tbody>
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<td></td>
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<td></td>
<td>None</td>
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</tr>
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<table>
<thead>
<tr>
<th>pX, platoon unblocked</th>
<th>vC, conflicting volume</th>
<th>vC1, stage 1 conf vol</th>
<th>vC2, stage 2 conf vol</th>
<th>vCu, unblocked vol</th>
<th>tC, single (s)</th>
<th>tC, 2 stage (s)</th>
<th>tF (s)</th>
<th>p0 queue free %</th>
<th>cm capacity (veh/h)</th>
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<tr>
<td></td>
<td></td>
<td>442</td>
<td>497</td>
<td>418</td>
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<td>6.4</td>
<td>6.2</td>
<td>2.2</td>
<td>99</td>
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### Direction: Lane #

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<th>Volume Total</th>
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<th>WB 1</th>
<th>NB 1</th>
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<tr>
<td>442</td>
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<th>16</th>
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<table>
<thead>
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<table>
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<table>
<thead>
<tr>
<th>Lane LOS</th>
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<table>
<thead>
<tr>
<th>Approach Delay (s)</th>
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<th>11.6</th>
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<table>
<thead>
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<th>Approach LOS</th>
<th>B</th>
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## Intersection Summary

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### HCM Unsignalized Intersection Capacity Analysis

#### 63: Amoskeag Street &

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<th>Movement</th>
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<th>EBW</th>
<th>WBL</th>
<th>WBT</th>
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<td>Free</td>
<td>Stop</td>
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</tr>
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<td>0%</td>
<td>0%</td>
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<td></td>
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<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
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<tr>
<td>Lane Width (ft)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walking Speed (ft/s)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percent Blockage</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Right turn flare (veh)</td>
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<tr>
<td>Median type</td>
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<tr>
<td>Median storage veh</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Upstream signal (ft)</td>
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<td>444</td>
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</tr>
<tr>
<td>pX, platoon unblocked</td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>vC, conflicting volume</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
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<td>vC1, stage 1 conf vol</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>vC2, stage 2 conf vol</td>
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<td></td>
</tr>
<tr>
<td>vCu, unblocked vol</td>
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<td>100</td>
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#### Direction: Lane #

<table>
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<th>WB 3</th>
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<td>0</td>
</tr>
<tr>
<td>Volume Right</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>cSH</td>
<td>1622</td>
<td>1700</td>
<td>1700</td>
</tr>
<tr>
<td>Volume to Capacity</td>
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<td>0.21</td>
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<td>Approach Delay (s)</td>
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<tr>
<td>Approach LOS</td>
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#### Intersection Summary:

Average Delay | 5.3 |
Intersection Capacity Utilization | 49.7% |
ICU Level of Service | A |
Analysis Period (min) | 15 |
### Movement

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<tr>
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<th>NBT</th>
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<th>SBT</th>
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### Lane Configurations

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<th>Yield</th>
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<td>0%</td>
<td>0%</td>
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<table>
<thead>
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<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
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<tr>
<td>Hourly flow rate (vph)</td>
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<td>0</td>
<td>2200</td>
<td>868</td>
<td>0</td>
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### Pedestrians

<table>
<thead>
<tr>
<th>Lane Width (ft)</th>
<th>Walking Speed (ft/s)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Percent Blockage</th>
<th>Right turn flare (veh)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<table>
<thead>
<tr>
<th>Median type</th>
<th>Median storage veh</th>
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<tbody>
<tr>
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<table>
<thead>
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</thead>
<tbody>
<tr>
<td>170</td>
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<table>
<thead>
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<th>vC1, stage 1 conf vol</th>
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<tbody>
<tr>
<td>0</td>
<td>2200</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>vC2, stage 2 conf vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>vCu, unblocked vol</td>
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<td></td>
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</tbody>
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<table>
<thead>
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<th>tC1 single (s)</th>
<th>tC1, 2 stage (s)</th>
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<td>4.1</td>
<td>6.4</td>
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<table>
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<th>tF (s)</th>
<th>p0 queue free %</th>
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### Direction, Lane #

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</tr>
<tr>
<td>Volume Right</td>
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<td>0</td>
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<tr>
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<td>Queue Length 95th (ft)</td>
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<tr>
<td>Control Delay (s)</td>
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<td>F</td>
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<tr>
<td>Lane LOS</td>
<td>F</td>
<td></td>
</tr>
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<td>Approach Delay (s)</td>
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### Intersection Summary

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#### Sign Control

- Free
- Stop

#### Grade

- 0%

#### Volume (veh/h)

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#### Pedestrians

- Lane Width (ft)
- Walking Speed (ft/s)
- Percent Blockage
- Right turn flare (veh)
- Median type
- Median storage veh
- Upstream signal (ft)
- pX, platoon unblocked

#### vC, conflicting volume

<table>
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#### vC1, stage 1 conf vol

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#### vCu, unblocked vol

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#### p0 queue free %

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#### cM capacity (veh/h)

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#### Direction/Lane #

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#### Volume Total

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#### Volume Left

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#### Volume Right

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#### cSH

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#### Volume to Capacity

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#### Queue Length 95th (ft)

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#### Control Delay (s)

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#### Lane LOS

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#### Approach LOS

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### Intersection Summary

- Average Delay: 2.6
- Intersection Capacity Utilization: 63.3%
- ICU Level of Service: B
- Analysis Period (min): 15
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<td>0%</td>
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<td>524</td>
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## HCM Unsignalized Intersection Capacity Analysis

### 4: McGregor Street & Exit 6 SB On Ramp

#### Movement

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#### Lane Configurations

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<th>0%</th>
<th>0%</th>
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#### Pedestrians

| Lane Width (ft) | Walking Speed (ft/s) | Percent Blockage | Right turn flare (veh) |

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<th>Median Type</th>
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<table>
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<table>
<thead>
<tr>
<th>Upstream Signal (ft)</th>
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<table>
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<table>
<thead>
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<th>2005</th>
<th>1053</th>
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<table>
<thead>
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<th>VCu, unblocked vol</th>
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#### Direction, Lane #

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<table>
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<table>
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#### Intersection Summary

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<th>ICU Level of Service</th>
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<th>Analysis Period (min)</th>
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**FEET Exits 6 & 7**

VHB, Inc.  

2035 No Build PM Peak  

Page 1
### HCM Unsignalized Intersection Capacity Analysis

**15: Exit 6 SB Off Ramp & Eddy Road**

#### Movement
<table>
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<tr>
<th>WBL</th>
<th>WBR</th>
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<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
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</thead>
</table>

#### Lane Configurations
- Sign Control: Stop, Free
- Grade: 0%
- Volume (veh/h): 250, 260, 785, 0, 0, 675
- Peak Hour Factor: 0.95
- Hourly flow rate (vph): 263, 274, 826, 0, 0, 711

#### Pedestrians
- Lane Width (ft)
- Walking Speed (ft/s)
- Percent Blockage
- Right turn flare (veh)
- Median type: None
- Median storage veh
- Upstream signal (ft)
- pX, platoon unblocked
- vC, conflicting volume: 1537, 826
- vC1, stage 1 conf vol
- vC2, stage 2 conf vol
- vCu, unblocked vol: 1537, 826
- tC, single (s): 6.4, 6.2
- tC, 2 stage (s)
- tF (s): 3.5, 3.3
- p0 queue free %: 0, 27
- eM capacity (veh/h): 128, 373

#### Direction, Lane #
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<th>NB 1</th>
<th>SB 1</th>
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<td>826</td>
<td>711</td>
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<td>1700</td>
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#### Intersection Summary
- Average Delay: 75.4
- Intersection Capacity Utilization: 70.5%
- ICU Level of Service: C
- Analysis Period (min): 15
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<td>0%</td>
<td>0%</td>
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<td>125</td>
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<td>0.95</td>
<td>0.95</td>
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<td>132</td>
<td>200</td>
<td>1295</td>
<td>984</td>
<td>111</td>
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Pedestrians
Lane Width (ft)
Walking Speed (ft/s)
Percent Blockage
Right turn flare (veh) | 2
Median type | None
Median storage veh | |
Upstream signal (ft) | |
px, platoon unblocked | |
\( v_c \), conflicting volume | 2734 | 1039 | 1095 |
\( v_{c1} \), stage 1 conf vol | |
\( v_{c2} \), stage 2 conf vol | |
\( v_{cu} \), unblocked vol | 2734 | 1039 | 1095 |
\( t_{c} \), single (s) | 6.4 | 6.2 | 4.1 |
\( t_{c} \), 2 stage (s) | |
\( t_{f} \) (s) | 3.5 | 3.3 | 2.2 |
p0 queue free % | 0 | 53 | 69 |
c0 capacity (veh/h) | 16 | 281 | 641 |

Direction, Lane # | EB 1 | NB 1 | SB 1 |
Volume Total | 258 | 1495 | 1095 |
Volume Left | 126 | 200 | 0 |
Volume Right | 132 | 0 | 111 |
c0H | 30 | 641 | 1700 |
Volume to Capacity | 8.59 | 0.31 | 0.64 |
Queue Length 95th (ft) | Err | 33 | 0 |
Control Delay (s) | Err | 16.6 | 0.0 |
Lane LOS | F | C | |
Approach Delay (s) | Err | 16.6 | 0.0 |
Approach LOS | F | |

Intersection Summary
Average Delay | 914.4 |
Intersection Capacity Utilization | 147.5% |
ICU Level of Service | H |
Analysis Period (min) | 15 |
Intersection sign configuration not allowed in HCM analysis.
### HCM Unsignalized Intersection Capacity Analysis

#### 23: Eddy Road & Exit 6 SB On Ramp

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<th>1321</th>
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### Pedestrians

- **Lane Width (ft)**
- **Walking Speed (ft/s)**
- **Percent Blockage**
- **Right turn flare (veh)**
- **Median type**
- **Median storage veh**
- **Upstream signal (ft)**
- **pX, platoon unblocked**
- **vC, conflicting volume**
- **vC1, stage 1 conf vol**
- **vC2, stage 2 conf vol**
- **vCu, unblocked vol**
- **tC, single (s)**
- **tC, 2 stage (s)**
- **tF (s)**
- **p0 queue free %**
- **cM capacity (veh/h)**

#### Direction, Lane #

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### Intersection Summary

- **Average Delay**: 4.0
- **Intersection Capacity Utilization**: 56.5%
- **ICU Level of Service**: B
- **Analysis Period (min)**: 15
HCM Unsignalized Intersection Capacity Analysis
25: Amoskeag Street &

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<td>Walking Speed (ft/s)</td>
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<td>Right turn flare (veh)</td>
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<td>pX, platoon unblocked</td>
<td>vC, conflicting volume</td>
<td>vC1, stage 1 conf vol</td>
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Intersection Summary

Average Delay | 4528.2 |
Intersection Capacity Utilization | 134.9% |
ICU Level of Service | H |
Analysis Period (min) | 15 |
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Intersection:Summary:

- Average Delay: 95.2
- Intersection Capacity Utilization: 95.3%
- ICU Level of Service: F
- Analysis Period (min): 15
## HCM Unsignalized Intersection Capacity Analysis

### 34: Goffstown Road & Coolidge Ave

**Synchro 6 Report**

6/21/2013

### Movement

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### Intersection Summary

- **Average Delay**: Err
- **Intersection Capacity Utilization**: 110.0% **ICU Level of Service**: H
- **Analysis Period (min)**: 15

---

FEET Exits 6 & 7
VHB, Inc.

2035 No Build PM Peak
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**Intersection Summary**

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HCM Unsignalized Intersection Capacity Analysis
38: Front Street & Exit 7 SB On Ramp

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Pedestrians

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Direction, Lane #

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Intersection Summary

| Average Delay | 15.2 |
| Intersection Capacity Utilization | 88.0% |
| ICU Level of Service | E |
| Analysis Period (min) | 15 |

FEET Exits 6 & 7
VHB, Inc.

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Page 10
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Direction, Lane #: NB 1 | SB 1 | NW 1
---|---|---
Volume Total | 279 | 1174 | 1258 |
Volume Left | 0 | 0 | 0 |
Volume Right | 0 | 0 | 1258 |
cSH | 1700 | 1700 | 765 |
Volume to Capacity | 0.16 | 0.69 | 1.64 |
Queue Length 95th (ft) | 0 | 0 | 1713 |
Control Delay (s) | 0.0 | 0.0 | 311.5 |
Lane LOS | F | | |
Approach Delay (s) | 0.0 | 0.0 | 311.5 |
Approach LOS | F | | |

Intersection Summary
---
Average Delay | 144.6 |
Intersection Capacity Utilization | 94.6% |
ICU Level of Service | F |
Analysis Period (min) | 15 |
### Traffic Analysis:

#### Movement:
- **EBL** | **EBT** | **WBT** | **WBR** | **SEL** | **SER**

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#### Pedestrians:
- **Lane Width (ft)**
- **Walking Speed (ft/s)**
- **Percent Blockage**
- **Right turn flare (veh)**
- **Median type** None
- **Median storage veh**
- **Upstream signal (ft)** 190
- **pX, platoon unblocked**
- **vC, conflicting volume** 2211
- **vC1, stage 1 conf vol** 808
- **vC2, stage 2 conf vol**
- **vCu, unblocked vol** 2211
- **tC, single (s)** 4.1
- **tC, 2 stage (s)** 6.8
- **tF (s)** 2.2
- **p0 queue free %**
  - **CM capacity (veh/h)**
  - **Direction/Lane #**
  - **EB 1** | **EB 2** | **WB 1** | **WB 2**
  - **Volume Total**
    - **Volume Left**
    - **Volume Right**
    - **cSH**
    - **Volume to Capacity**
    - **Queue Length 95th (ft)**
    - **Control Delay (s)**
    - **Lane LOS**
    - **Approach Delay (s)**
    - **Approach LOS**

#### Intersection Summary:
- **Average Delay** 0.0
- **Intersection Capacity Utilization** 76.8%
- **ICU Level of Service** D
- **Analysis Period (min)** 15
## HCM Unsignalized Intersection Capacity Analysis

### 44: Country Club Drive & Front Street

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### Pedestrians

| Lane Width (ft) | | | | | | |
| **Walking Speed (ft/s)** | | | | | | |
| **Percent Blockage** | | | | | | |
| **Right turn flare (veh)** | 2 | | | | | |
| **Median type** | None | | | | | |
| **Median storage veh** | | | | | | |
| **Upstream signal (ft)** | | | | | | |
| **pX, platoon unblocked** | | | | | | |
| **yC, conflicting volume** | 2526 | 1063 | 1079 | | | |
| **vC1, stage 1 conf vol** | | | | | | |
| **vC2, stage 2 conf vol** | 2526 | 1063 | 1079 | | | |
| **vCu, unblocked vol** | 2526 | 1063 | 1079 | | | |
| **tC, single (s)** | 6.4 | 6.2 | 4.1 | | | |
| **tC, 2 stage (s)** | | | | | | |
| **tF (s)** | 3.5 | 3.3 | 2.2 | | | |
| **p0 queue free %** | 79 | 81 | 83 | | | |
| **cM/capacity (veh/h)** | 25 | 270 | 650 | | | |

### Direction, Lane #

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### Intersection Summary

| Average Delay | 5.0 |
| ICU Level of Service | H |
| Analysis Period (min) | 15 |

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Page 13
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Intersection Summary:
Average Delay | 2.2 |
Intersection Capacity Utilization | 27.8% |
ICU Level of Service | A |
Analysis Period (min) | 15 |
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**Intersection Summary**

| Average Delay | 0.0 | | | | | |
| Intersection Capacity Utilization | 76.7% | | | | | |
| ICU Level of Service | D | | | | | |
| Analysis Period (min) | 15 | | | | | |
### Movement

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<th>WBT</th>
<th>WBR</th>
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<th>SBR</th>
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### Lane Configurations

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<table>
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### Pedestrians

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<th>Walking Speed (ft/s)</th>
<th>Percent Blockage</th>
<th>Right turn flare (veh)</th>
<th>Median type</th>
<th>Median storage veh</th>
<th>Upstream signal (ft)</th>
<th>pX, platoon unblocked</th>
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<table>
<thead>
<tr>
<th>VC, conflicting volume</th>
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<th>853</th>
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### Intersection Summary

**Average Delay:** 2.2

**Intersection Capacity Utilization:** 67.6%

**ICU Level of Service:** B

**Analysis Period (min):** 15
### Movement

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### Lane Configurations

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### Volume (veh/h)

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### Hourly flow rate (vph)

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### Right turn flare (veh)

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### Upstream signal (ft)

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### yC, conflicting volume

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### vC2, stage 2 conf vol

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### tC, single (s)

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### tF (s)

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### cM capacity (veh/h)

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### Intersection Summary

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### Intersection Capacity Utilization

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### Analysis Period (min)

| 15                   |

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FEET Exits 6 & 7
VHB, Inc.

2035 No Build PM Peak
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### HCM Unsignalized Intersection Capacity Analysis

**68: Eddy Road &**

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**Pedestrians**

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<th>Walking Speed (ft/s)</th>
<th>Percent Blockage</th>
<th>Right turn flare (veh)</th>
<th>Median type</th>
<th>Median storage veh</th>
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<td>vC2, stage 2 conf vol</td>
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**Intersection Summary**

- Average Delay: 3994.3
- Intersection Capacity Utilization: 111.6%
- ICU Level of Service: H
- Analysis Period (min): 15
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Intersection Summary
- Average Delay: 2.9
- Intersection Capacity Utilization: 89.1%
- ICU Level of Service: E
- Analysis Period (min): 15
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### Direction, Lane #

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## Intersection Summary

| Average Delay | 5.4 |
| Intersection Capacity Utilization | 64.8% |
| ICU Level of Service | C |
| Analysis Period (min) | 15 |
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### Pedestrians

- Lane Width (ft)
- Walking Speed (ft/s)
- Percent Blockage
- Right turn flare (veh)
- Median type
- Median storage veh
- Upstream signal (ft)
- pX, platoon unblocked
- vC, conflicting volume
- vC1, stage 1 conflic vol
- vC2, stage 2 conflic vol
- vCu, unblock conflic vol
- tC, single (s)
- tC, 2 stage (s)
- LF (s)
- p0 queue free %
- cM capacity (veh/h)

### Direction: Lane #

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<th>EB 3</th>
<th>WB 1</th>
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<td>Lane LOS</td>
<td>B</td>
<td>B</td>
<td>D</td>
<td>F</td>
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### Intersection Summary

- Average Delay: 8.6
- Intersection Capacity Utilization: 60.1%
- ICU Level of Service: B
- Analysis Period (min): 15

---

2035 Build PM Peak - Alt-4 w/ 8
VHB, Inc.
### Movement

<table>
<thead>
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#### Lane Configurations

<table>
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<tr>
<th>Grade</th>
<th>Volume (veh/h)</th>
<th>Peak Hour Factor</th>
<th>Hourly flow rate (vph)</th>
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#### Sign Control

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<th>Hourly flow rate (vph)</th>
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<td>5 1174 21 132 642 26 5 1 263 5 1 1</td>
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#### Lane Width (ft)

<table>
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<tr>
<th>Walking Speed (ft/s)</th>
<th>Percent Blockage</th>
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#### Right turn flare (veh)

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<th>Upstream signal (ft)</th>
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<td>293</td>
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#### pX, platoon unblocked

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<tr>
<th>vC, conflicting volume</th>
<th>vC1, stage 1 conf vol</th>
<th>vC2, stage 2 conf vol</th>
<th>vCu, unblocked vol</th>
<th>IC, single (s)</th>
<th>IC, 2 stage (s)</th>
<th>IF (s)</th>
<th>p0 queue free %</th>
<th>cM capacity (veh/h)</th>
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#### Direction: Lane #

<table>
<thead>
<tr>
<th>Volume Total</th>
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<th>Volume Right</th>
<th>cSH</th>
<th>Volume to Capacity</th>
<th>Queue Length 95th (ft)</th>
<th>Control Delay (s)</th>
<th>Lane LOS</th>
<th>Approach Delay (s)</th>
<th>Approach LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 782 412 132 428 240 269 7</td>
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<td>0 0 21 0 0 26 263 1</td>
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<td>A B C F</td>
<td>0.0 2.1 24.5 104.5</td>
<td>C F</td>
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#### Intersection Summary

<table>
<thead>
<tr>
<th>Average Delay</th>
<th>Intersection Capacity Utilization</th>
<th>ICU Level of Service</th>
<th>Analysis Period (min)</th>
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<tr>
<td>4.0</td>
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FEET Exits 6 & 7
VHB, Inc.
## Movement

<table>
<thead>
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<th>EBL</th>
<th>EBT</th>
<th>EBR</th>
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<th>NBL</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
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<th>SBR</th>
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<tbody>
<tr>
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<td>Stop</td>
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<tr>
<td>Grade</td>
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<td>0%</td>
<td>0%</td>
<td>0%</td>
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<tr>
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<tr>
<td>Peak Hour Factor</td>
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<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
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<td>0.95</td>
<td>0.95</td>
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<tr>
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<td>189</td>
<td>26</td>
<td>5</td>
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## Pedestrians

| Lane Width (ft) | 8 |
| Walking Speed (ft/s) | TWLTL |
| Percent Blockage | 0 |
| Right turn flare (veh) | 0 |
| Median type | TWLTL |
| Median storage veh | 0 |
| Upstream signal (ft) | 293 |
| pX, platoon unblocked | 0.72 |
| vC, conflicting volume | 1305 |
| vC1, stage 1 conf vol | 1526 |
| vC2, stage 2 conf vol | 1026 |
| vCu, unblocked vol | 1030 |
| lC, single (s) | 4.1 |
| lC, 2 stage (s) | 5.5 |
| nC1 (s) | 2.2 |
| p0 queue free | 99 |
| cM capacity (veh/h) | 480 |

## Direction, Lane #

<table>
<thead>
<tr>
<th>EB 1</th>
<th>EB 2</th>
<th>EB 3</th>
<th>WB 1</th>
<th>WB 2</th>
<th>WB 3</th>
<th>NB 1</th>
<th>SB 1</th>
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<tbody>
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<td>181</td>
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<td>189</td>
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<td>Volume Right</td>
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<td>0</td>
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<td>189</td>
</tr>
<tr>
<td>cSH</td>
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<td>1700</td>
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<td>1700</td>
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<td>Control Delay (s)</td>
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<tr>
<td>Lane LOS</td>
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<td>A</td>
<td>C</td>
<td>F</td>
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## Intersection Summary

- Average Delay: 5.7
- Intersection Capacity Utilization: 56.3%
- ICU Level of Service: B
- Analysis Period (min): 15

---

FEET Exits 6 & 7
VHB, Inc.
### HCM Unsignalized Intersection Capacity Analysis

**1: Dunbarton Road & New E-W Road**

**Synchro 6 Report**

**2/11/2013**

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<th>WBL</th>
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</tr>
<tr>
<td>Grade</td>
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<td>0%</td>
<td>0%</td>
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<tr>
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<td>340</td>
<td>350</td>
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<tr>
<td>Hourly flow rate (vph)</td>
<td>274</td>
<td>53</td>
<td>358</td>
<td>368</td>
<td>79</td>
<td>395</td>
</tr>
</tbody>
</table>

**Pedestrians**

| Lane Width (ft) |     |
| Walking Speed (ft/s) |     |
| Percent Blockage |     |
| Right turn flare (veh) | 6 |
| Median type | Raised |
| Median storage veh | 0 |
| Upstream signal (ft) | 1107 |

| pX, platoon unblocked |
| vC, conflicting volume | 326 | 1358 | 274 |
| vC1, stage 1 conf vol | 274 |
| vC2, stage 2 conf vol | 1084 |
| vCu, unblocked vol | 326 | 1358 | 274 |
| IC, single (s) | 4.1 | 6.4 | 6.2 |
| IC, 2 stage (s) | 5.4 |
| IF (s) | 2.2 | 3.5 | 3.3 |
| p0 queue free % | 71 | 46 | 48 |
| cM capacity (veh/h) | 1233 | 145 | 765 |

<table>
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<th>Direction</th>
<th>Lane #</th>
<th>EB 1</th>
<th>EB 2</th>
<th>WB 1</th>
<th>WB 2</th>
<th>NB 1</th>
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<tbody>
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<td>358</td>
<td>368</td>
<td>474</td>
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### Intersection Summary

| Average Delay | 8.8 |
| Intersection Capacity Utilization | 46.7% |
| ICU Level of Service | A |
| Analysis Period (min) | 15 |

---

**FEET Exits 6 & 7**

**VHB, Inc.**

**2035 PM Build - Alt-9**

**Page 1**
## Movement

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<th>EBR</th>
<th>WBL</th>
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<th>SBL</th>
<th>SBT</th>
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</thead>
<tbody>
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<td>Free</td>
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<td>Stop</td>
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<td>Hourly flow rate (vph)</td>
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<td>95</td>
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<td>105</td>
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## Pedestrians

<table>
<thead>
<tr>
<th>Pedestrians</th>
<th>Lane Width (ft)</th>
<th>Walking Speed (ft/s)</th>
<th>Percent Blockage</th>
<th>Right turn flare (veh)</th>
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<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

## Median type

- Raised
- Raised

## Median storage veh

- 0
- 0

## Upstream signal (ft)

- 346
- 999

## pX, platoon unblocked

- 0.95

## vc, conflicting volume

- 205
- 753

## vc1, stage 1 conf vol

- 205
- 763

## vc2, stage 2 conf vol

- 205
- 739

## vcu, unblocked vol

- 205
- 739

## tc, single (s)

- 4.1
- 4.1

## tc, 2 stage (s)

- 6.1
- 6.1

## IF (s)

- 2.2
- 2.2

## p0 queue free %

- 93
- 96

## cM capacity (veh/h)

- 1366
- 822

## Direction Lane #

<table>
<thead>
<tr>
<th>EB 1</th>
<th>EB 2</th>
<th>EB 3</th>
<th>WB 1</th>
<th>WB 2</th>
<th>NB 1</th>
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<td>1700</td>
<td>1700</td>
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<td>1700</td>
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<tr>
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<td>0.34</td>
<td>0.10</td>
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<td>0.46</td>
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<td>5</td>
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## Intersection Summary

- Average Delay: 5.2
- Intersection Capacity Utilization: 54.2%
- ICU Level of Service: A
- Analysis Period (min): 15
### Movement

<table>
<thead>
<tr>
<th>Lane Configurations</th>
<th>WBL</th>
<th>WBR</th>
<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
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<tbody>
<tr>
<td>Sign Control</td>
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<td>Free</td>
<td>Free</td>
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<tr>
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<td>0%</td>
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<td>326</td>
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<td>384</td>
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### Pedestrians

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<tr>
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<tbody>
<tr>
<td>Walking Speed (ft/s)</td>
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<tr>
<td>Percent Blockage</td>
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<td>Right turn flare (veh)</td>
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<td>Upstream signal (ft)</td>
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### Direction, Lane #

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<th>NB 1</th>
<th>SB 1</th>
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### Intersection Summary

| Average Delay | 6.8 |
| Intersection Capacity Utilization | 54.2% |
| ICU Level of Service | A |
| Analysis Period (min) | 15 |
### HCM Unsignalized Intersection Capacity Analysis

**4: New E-W Road & CC Conn Rd**

**2/13/2013**

<table>
<thead>
<tr>
<th>Movement</th>
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<th>EBT</th>
<th>EBR</th>
<th>WBL</th>
<th>WBT</th>
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<th>NBR</th>
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<td>Stop</td>
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<td>0.95</td>
<td>0.95</td>
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<td>0.95</td>
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<td>158</td>
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<td>47</td>
<td>53</td>
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**Pedestrians**

| Lane Width (ft)       |     |     |     |     |     |     |     |     |     |     |     |     |
| Walking Speed (ft/s)  |     |     |     |     |     |     |     |     |     |     |     |     |
| Percent Blockage      |     |     |     |     |     |     |     |     |     |     |     |     |
| Right turn flare (veh)|     |     |     |     |     |     |     |     |     |     |     |     |
| Median type           | Raised | Raised |     |     |     |     |     |     |     |     |     |     |
| Median storage veh    | 0    | 0    |     |     |     |     |     |     |     |     |     |     |
| Upstream signal (ft)  | 346  | 999  |     |     |     |     |     |     |     |     |     |     |

| pX, platoon unblocked |     |     |     |     |     |     |     |     |     |     |     |     |
| vC, conflicting volume| 389 | 547 | 1058| 989 | 232 | 1008| 1300| 384 |     |     |     |     |
| vC1, stage 1 conf vol| 284 | 284 | 700 | 700 |     |     |     |     |     |     |     |     |
| vC2, stage 2 conf vol| 774 | 705 | 308 | 600 |     |     |     |     |     |     |     |     |
| vCu, unblocked vol    | 389 | 547 | 1058| 989 | 232 | 1008| 1300| 384 |     |     |     |     |
| tC, single (s)        | 4.1 | 4.1 | 7.1 | 6.5 | 6.2 | 7.1 | 8.5 | 6.2 |     |     |     |     |
| tC, 2 stage (s)       | 6.1 | 5.5 | 6.1 | 5.5 |     |     |     |     |     |     |     |     |
| tF (s)                | 2.2 | 2.2 | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |     |     |     |     |
| p0 queue free %       | 98  | 85  | 82  | 100 | 94  | 74  | 99  | 76  |     |     |     |     |
| cM capacity (veh/h)   | 1169| 1022| 144 | 212 | 807 | 200 | 163 | 664 |     |     |     |     |

**Direction, Lane #**

<table>
<thead>
<tr>
<th>EB 1</th>
<th>EB 2</th>
<th>EB 3</th>
<th>WB 1</th>
<th>WB 2</th>
<th>NB 1</th>
<th>SB 1</th>
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<td>158</td>
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**Intersection Summary**

<p>| Average Delay | 4.7 |
| Intersection Capacity Utilization | 42.4% |
| ICU Level of Service | A |
| Analysis Period (min) | 15 |</p>
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<th>NBT</th>
<th>NBR</th>
<th>SBL</th>
<th>SBT</th>
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<td>Free</td>
<td>Stop</td>
<td>Stop</td>
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<td>0.95</td>
<td>0.95</td>
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Pedestrians
Lane Width (ft)
Walking Speed (ft/s)
Percent Blockage
Right turn flare (veh)
Median type
Median storage veh
Upstream signal (ft)
px, platoon unblocked
vc, conflicting volume
vc1, stage 1 conf vol
vc2, stage 2 conf vol
vcu, unblocked vol
tc, single (s)
tc, 2 stage (s)
tf (s)
p0 queue free %
cM capacity (veh/h)

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<tr>
<th>Direction, Lane #</th>
<th>EB 1</th>
<th>EB 2</th>
<th>EB 3</th>
<th>WB 1</th>
<th>WB 2</th>
<th>NB 1</th>
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<td>95</td>
<td>21</td>
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<td>Volume Right</td>
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<td>0</td>
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<td>26</td>
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<td>1700</td>
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<td>0.12</td>
<td>0.46</td>
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Intersection Summary
Average Delay 5.3
Intersection Capacity Utilization 54.2%
ICU Level of Service A
Analysis Period (min) 15

FEET Exits 6 & 7
VHB, Inc.
2035 PM Build - All-10
Page 1
### HCM Unsignalized Intersection Capacity Analysis

#### 8: Dunbarton Road & Connector Road

**Sign Control**
- Stop
- Free

**Grade**
- 0%

**Volume (veh/h)**
- WBL: 20
- WBR: 470
- NBT: 300
- NBR: 20
- SBL: 410
- SBT: 375

**Peak Hour Factor**
- 0.95

**Hourly flow rate (vph)**
- WBL: 21
- WBR: 495
- NBT: 316
- NBR: 21
- SBL: 432
- SBT: 395

**Pedestrians**
- Lane Width (ft)
- Walking Speed (ft/s)
- Percent Blockage
- Right turn flare (veh)

**Median type**
- TW LTL

**Median storage veh)**
- 0

**Upstream signal (ft)**
- PX, platoon unblocked: 1264

**vC, conflicting volume**
- vC1, stage 1 conf vol: 326
- vC2, stage 2 conf vol: 1258
- vCu, unblocked vol: 1584

**tC, single (s)**
- 6.4

**tC, 2 stage (s)**
- 5.4

**tF (s)**
- 3.5

**p0 queue free %**
- 81

**CM capacity (veh/h)**
- 109

**Direction, Lane #**

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<th>WB 1</th>
<th>WB 2</th>
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</tbody>
</table>

**Approach LOS**
- C

**Intersection Summary**

- Average Delay: 9.1
- Intersection Capacity Utilization: 53.0%
- ICU Level of Service: A
- Analysis Period (min): 15

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FEET Exits 6 & 7
VHB, Inc.