

# HCM 6th Signalized Intersection Summary

## 3: Donaghey Ave & Robinson Ave

01/22/2021



| Movement                     | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations          | ↶    | ↷    |      | ↶    | ↷    |      | ↶    | ↷    |      | ↶    | ↷    |      |
| Traffic Volume (veh/h)       | 31   | 78   | 10   | 9    | 57   | 21   | 24   | 303  | 11   | 8    | 256  | 70   |
| Future Volume (veh/h)        | 31   | 78   | 10   | 9    | 57   | 21   | 24   | 303  | 11   | 8    | 256  | 70   |
| Initial Q (Qb), veh          | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          | 1.00 |      | 1.00 | 1.00 |      | 1.00 | 1.00 |      | 1.00 | 1.00 |      | 1.00 |
| Parking Bus, Adj             | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        |      | No   |      |      | No   |      |      | No   |      |      | No   |      |
| Adj Sat Flow, veh/h/ln       | 1870 | 1796 | 1870 | 1900 | 1976 | 1900 | 1885 | 1870 | 1900 | 1870 | 1885 | 1900 |
| Adj Flow Rate, veh/h         | 53   | 177  | 14   | 19   | 105  | 34   | 33   | 433  | 19   | 14   | 357  | 120  |
| Peak Hour Factor             | 0.70 | 0.53 | 0.83 | 0.56 | 0.65 | 0.75 | 0.86 | 0.84 | 0.69 | 0.67 | 0.86 | 0.70 |
| Percent Heavy Veh, %         | 2    | 2    | 2    | 0    | 0    | 0    | 1    | 2    | 0    | 2    | 1    | 0    |
| Cap, veh/h                   | 355  | 265  | 21   | 296  | 185  | 60   | 327  | 617  | 27   | 340  | 440  | 148  |
| Arrive On Green              | 0.06 | 0.16 | 0.16 | 0.02 | 0.13 | 0.13 | 0.04 | 0.35 | 0.35 | 0.02 | 0.33 | 0.33 |
| Sat Flow, veh/h              | 1781 | 1642 | 130  | 1810 | 1428 | 462  | 1795 | 1778 | 78   | 1781 | 1349 | 454  |
| Grp Volume(v), veh/h         | 53   | 0    | 191  | 19   | 0    | 139  | 33   | 0    | 452  | 14   | 0    | 477  |
| Grp Sat Flow(s),veh/h/ln     | 1781 | 0    | 1772 | 1810 | 0    | 1891 | 1795 | 0    | 1856 | 1781 | 0    | 1803 |
| Q Serve(g_s), s              | 1.0  | 0.0  | 4.1  | 0.3  | 0.0  | 2.8  | 0.5  | 0.0  | 8.4  | 0.2  | 0.0  | 9.7  |
| Cycle Q Clear(g_c), s        | 1.0  | 0.0  | 4.1  | 0.3  | 0.0  | 2.8  | 0.5  | 0.0  | 8.4  | 0.2  | 0.0  | 9.7  |
| Prop In Lane                 | 1.00 |      | 0.07 | 1.00 |      | 0.24 | 1.00 |      | 0.04 | 1.00 |      | 0.25 |
| Lane Grp Cap(c), veh/h       | 355  | 0    | 286  | 296  | 0    | 245  | 327  | 0    | 644  | 340  | 0    | 588  |
| V/C Ratio(X)                 | 0.15 | 0.00 | 0.67 | 0.06 | 0.00 | 0.57 | 0.10 | 0.00 | 0.70 | 0.04 | 0.00 | 0.81 |
| Avail Cap(c_a), veh/h        | 483  | 0    | 801  | 483  | 0    | 855  | 486  | 0    | 1192 | 535  | 0    | 1158 |
| HCM Platoon Ratio            | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I)           | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh     | 13.8 | 0.0  | 15.8 | 13.6 | 0.0  | 16.4 | 9.4  | 0.0  | 11.3 | 9.0  | 0.0  | 12.3 |
| Incr Delay (d2), s/veh       | 0.1  | 0.0  | 1.0  | 0.0  | 0.0  | 0.8  | 0.0  | 0.0  | 0.5  | 0.0  | 0.0  | 1.0  |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(50%),veh/ln     | 0.3  | 0.0  | 1.5  | 0.1  | 0.0  | 1.1  | 0.1  | 0.0  | 2.7  | 0.1  | 0.0  | 3.2  |
| Unsig. Movement Delay, s/veh |      |      |      |      |      |      |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 13.9 | 0.0  | 16.8 | 13.7 | 0.0  | 17.1 | 9.5  | 0.0  | 11.8 | 9.1  | 0.0  | 13.4 |
| LnGrp LOS                    | B    | A    | B    | B    | A    | B    | A    | A    | B    | A    | A    | B    |
| Approach Vol, veh/h          |      | 244  |      |      | 158  |      |      | 485  |      |      |      | 491  |
| Approach Delay, s/veh        |      | 16.1 |      |      | 16.7 |      |      | 11.7 |      |      |      | 13.3 |
| Approach LOS                 |      | B    |      |      | B    |      |      | B    |      |      |      | B    |
| Timer - Assigned Phs         | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    |      |      |      |      |
| Phs Duration (G+Y+Rc), s     | 5.2  | 18.4 | 5.5  | 11.0 | 6.0  | 17.6 | 6.7  | 9.7  |      |      |      |      |
| Change Period (Y+Rc), s      | 4.5  | 4.5  | 4.5  | 4.5  | 4.5  | 4.5  | 4.5  | 4.5  |      |      |      |      |
| Max Green Setting (Gmax), s  | 5.1  | 25.7 | 5.1  | 18.1 | 5.1  | 25.7 | 5.1  | 18.1 |      |      |      |      |
| Max Q Clear Time (g_c+I1), s | 2.2  | 10.4 | 2.3  | 6.1  | 2.5  | 11.7 | 3.0  | 4.8  |      |      |      |      |
| Green Ext Time (p_c), s      | 0.0  | 1.2  | 0.0  | 0.4  | 0.0  | 1.3  | 0.0  | 0.3  |      |      |      |      |






















### Intersection Summary

|                    |      |
|--------------------|------|
| HCM 6th Ctrl Delay | 13.6 |
| HCM 6th LOS        | B    |

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|                              |  |  |  |  |  |  |   |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement                     | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
| Lane Configurations          |  |  |   |  |  |   |  |  |   |  |  |  |
| Traffic Volume (veh/h)       | 39  | 65  | 21  | 8   | 56  | 16  | 22  | 353   | 16  | 9   | 307   | 41  |
| Future Volume (veh/h)        | 39  | 65  | 21  | 8   | 56  | 16  | 22  | 353   | 16  | 9   | 307   | 41  |
| Initial Q (Qb), veh          | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Ped-Bike Adj(A_pbT)          | 1.00  |   | 1.00  | 1.00  |   | 1.00  | 1.00  |   | 1.00  | 1.00  |   | 1.00  |
| Parking Bus, Adj             | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Work Zone On Approach        |   | No  |   |   | No  |   |   | No  |   |   | No  |   |
| Adj Sat Flow, veh/h/ln       | 1870  | 1796  | 1870  | 1900  | 1976  | 1900  | 1885  | 1870  | 1900  | 1870  | 1885  | 1900  |
| Adj Flow Rate, veh/h         | 67  | 110   | 57  | 19  | 91  | 24  | 29  | 460   | 34  | 19  | 614   | 58  |
| Peak Hour Factor             | 0.70  | 0.71  | 0.44  | 0.50  | 0.74  | 0.80  | 0.92  | 0.92  | 0.57  | 0.56  | 0.60  | 0.85  |
| Percent Heavy Veh, %         | 2   | 2   | 2   | 0   | 0   | 0   | 1   | 2   | 0   | 2   | 1   | 0   |
| Cap, veh/h                   | 326   | 162   | 84  | 259   | 162   | 43  | 279   | 735   | 54  | 390   | 707   | 67  |
| Arrive On Green              | 0.06  | 0.15  | 0.15  | 0.02  | 0.11  | 0.11  | 0.03  | 0.43  | 0.43  | 0.02  | 0.42  | 0.42  |
| Sat Flow, veh/h              | 1781  | 1113  | 577   | 1810  | 1505  | 397   | 1795  | 1720  | 127   | 1781  | 1696  | 160   |
| Grp Volume(v), veh/h         | 67  | 0   | 167   | 19  | 0   | 115   | 29  | 0   | 494   | 19  | 0   | 672   |
| Grp Sat Flow(s),veh/h/ln     | 1781  | 0   | 1689  | 1810  | 0   | 1902  | 1795  | 0   | 1847  | 1781  | 0   | 1856  |
| Q Serve(g_s), s              | 1.5   | 0.0   | 4.4   | 0.4   | 0.0   | 2.7   | 0.4   | 0.0   | 9.9   | 0.3   | 0.0   | 15.7  |
| Cycle Q Clear(g_c), s        | 1.5   | 0.0   | 4.4   | 0.4   | 0.0   | 2.7   | 0.4   | 0.0   | 9.9   | 0.3   | 0.0   | 15.7  |
| Prop In Lane                 | 1.00  |   | 0.34  | 1.00  |   | 0.21  | 1.00  |   | 0.07  | 1.00  |   | 0.09  |
| Lane Grp Cap(c), veh/h       | 326   | 0   | 246   | 259   | 0   | 204   | 279   | 0   | 789   | 390   | 0   | 774   |
| V/C Ratio(X)                 | 0.21  | 0.00  | 0.68  | 0.07  | 0.00  | 0.56  | 0.10  | 0.00  | 0.63  | 0.05  | 0.00  | 0.87  |
| Avail Cap(c_a), veh/h        | 408   | 0   | 646   | 412   | 0   | 728   | 412   | 0   | 1316  | 541   | 0   | 1322  |
| HCM Platoon Ratio            | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Upstream Filter(I)           | 1.00  | 0.00  | 1.00  | 1.00  | 0.00  | 1.00  | 1.00  | 0.00  | 1.00  | 1.00  | 0.00  | 1.00  |
| Uniform Delay (d), s/veh     | 17.1  | 0.0   | 19.2  | 16.7  | 0.0   | 20.1  | 10.0  | 0.0   | 10.6  | 8.3   | 0.0   | 12.6  |
| Incr Delay (d2), s/veh       | 0.1   | 0.0   | 1.2   | 0.1   | 0.0   | 0.9   | 0.1   | 0.0   | 0.3   | 0.0   | 0.0   | 1.4   |
| Initial Q Delay(d3),s/veh    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| %ile BackOfQ(50%),veh/ln     | 0.6   | 0.0   | 1.6   | 0.2   | 0.0   | 1.1   | 0.1   | 0.0   | 3.2   | 0.1   | 0.0   | 5.3   |
| Unsig. Movement Delay, s/veh |   |   |   |   |   |   |   |   |   |   |   |   |
| LnGrp Delay(d),s/veh         | 17.2  | 0.0   | 20.4  | 16.8  | 0.0   | 21.0  | 10.0  | 0.0   | 10.9  | 8.3   | 0.0   | 14.0  |
| LnGrp LOS                    | B   | A   | C   | B   | A   | C   | B   | A   | B   | A   | A   | B   |
| Approach Vol, veh/h          |   | 234   |   |   | 134   |   |   | 523   |   |   | 691   |   |
| Approach Delay, s/veh        |   | 19.5  |   |   | 20.4  |   |   | 10.9  |   |   | 13.9  |   |
| Approach LOS                 |   | B   |   |   | C   |   |   | B   |   |   | B   |   |
| Timer - Assigned Phs         | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   |   |   |   |   |
| Phs Duration (G+Y+Rc), s     | 5.6   | 24.7  | 5.6   | 11.4  | 6.1   | 24.2  | 7.4   | 9.6   |   |   |   |   |
| Change Period (Y+Rc), s      | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   |   |   |   |   |
| Max Green Setting (Gmax), s  | 5.1   | 33.7  | 5.1   | 18.1  | 5.1   | 33.7  | 5.1   | 18.1  |   |   |   |   |
| Max Q Clear Time (g_c+I1), s | 2.3   | 11.9  | 2.4   | 6.4   | 2.4   | 17.7  | 3.5   | 4.7   |   |   |   |   |
| Green Ext Time (p_c), s      | 0.0   | 1.5   | 0.0   | 0.3   | 0.0   | 2.1   | 0.0   | 0.2   |   |   |   |   |

### Intersection Summary

|                    |          |
|--------------------|----------|
| HCM 6th Ctrl Delay | 14.3     |
| HCM 6th LOS        | <b>B</b> |