# APPENDIX D

## CALTRANS INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

*APPENDIX D-I*

# EXISTING TRAFFIC CONDITIONS

**Intersection Level Of Service Report**
**Intersection 1: Euclid Street at I-5 Ramps**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 47.6 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.826 |

**Intersection Setup**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | No | | | No | | | Yes | | | Yes | | |

**Volumes**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 417 | 1150 | 117 | 792 | 1145 | 235 | 184 | 31 | 297 | 274 | 2 | 461 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 417 | 1150 | 117 | 792 | 1145 | 235 | 184 | 31 | 297 | 274 | 2 | 461 |
| Peak Hour Factor | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 115 | 316 | 32 | 218 | 315 | 65 | 51 | 9 | 82 | 75 | 1 | 127 |
| Total Analysis Volume [veh/h] | 458 | 1264 | 129 | 870 | 1258 | 258 | 202 | 34 | 326 | 301 | 2 | 507 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Split | Split | Split | Split | Split | Split |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 1 | 6 | 0 | 5 | 2 | 0 | 0 | 8 | 0 | 0 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lag | - | - | Lead | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 6 | 6 | 0 | 6 | 6 | 0 | 0 | 6 | 0 | 0 | 6 | 0 |
| Maximum Green [s] | 30 | 30 | 0 | 30 | 30 | 0 | 0 | 30 | 0 | 0 | 30 | 0 |
| Amber [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 31 | 47 | 0 | 33 | 49 | 0 | 0 | 17 | 0 | 0 | 23 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Clearance [s] | 0 | 36 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | No | No | | No | No | | | No | | | No | |
| Maximum Recall | No | No | | No | No | | | No | | | No | |
| Pedestrian Recall | No | No | | No | No | | | No | | | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 19 | 37 | 37 | 29 | 47 | 47 | 16 | 16 | 16 | 23 | 23 | 23 |
| g / C, Green / Cycle | 0.15 | 0.31 | 0.31 | 0.24 | 0.39 | 0.39 | 0.13 | 0.13 | 0.13 | 0.19 | 0.19 | 0.19 |
| (v / s)_i Volume / Saturation Flow Rate | 0.13 | 0.19 | 0.08 | 0.25 | 0.25 | 0.16 | 0.11 | 0.11 | 0.11 | 0.16 | 0.17 | 0.17 |
| s, saturation flow rate [veh/h] | 3459 | 6792 | 1589 | 3459 | 5094 | 1589 | 1781 | 1637 | 1589 | 1781 | 1604 | 1589 |
| c, Capacity [veh/h] | 536 | 2079 | 487 | 835 | 2000 | 624 | 231 | 213 | 207 | 337 | 304 | 301 |
| d1, Uniform Delay [s] | 49.44 | 35.53 | 31.47 | 45.56 | 29.42 | 26.45 | 51.20 | 51.22 | 51.22 | 46.89 | 47.29 | 47.32 |
| k, delay calibration | 0.11 | 0.50 | 0.50 | 0.11 | 0.50 | 0.50 | 0.11 | 0.11 | 0.11 | 0.18 | 0.20 | 0.20 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 4.03 | 1.33 | 1.33 | 26.88 | 1.51 | 2.02 | 9.17 | 9.98 | 10.28 | 8.78 | 13.33 | 13.80 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.85 | 0.61 | 0.27 | 1.04 | 0.63 | 0.41 | 0.86 | 0.86 | 0.86 | 0.84 | 0.87 | 0.88 |
| d, Delay for Lane Group [s/veh] | 53.47 | 36.87 | 32.80 | 72.44 | 30.93 | 28.46 | 60.38 | 61.20 | 61.50 | 55.68 | 60.62 | 61.13 |
| Lane Group LOS | D | D | C | F | C | C | E | E | E | E | E | E |
| Critical Lane Group | No | Yes | No | Yes | No | No | No | No | Yes | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 6.98 | 8.06 | 3.03 | 15.46 | 9.95 | 5.70 | 6.46 | 6.00 | 5.84 | 8.90 | 8.79 | 8.78 |
| 50th-Percentile Queue Length [ft/ln] | 174.52 | 201.61 | 75.66 | 386.39 | 248.86 | 142.51 | 161.53 | 149.98 | 146.12 | 222.53 | 219.72 | 219.57 |
| 95th-Percentile Queue Length [veh/ln] | 11.31 | 12.72 | 5.45 | 22.43 | 15.13 | 9.62 | 10.63 | 10.02 | 9.81 | 13.79 | 13.65 | 13.64 |
| 95th-Percentile Queue Length [ft/ln] | 282.85 | 318.05 | 136.18 | 560.65 | 378.22 | 240.41 | 265.75 | 250.40 | 245.24 | 344.85 | 341.27 | 341.08 |

**Movement, Approach, & Intersection Results**

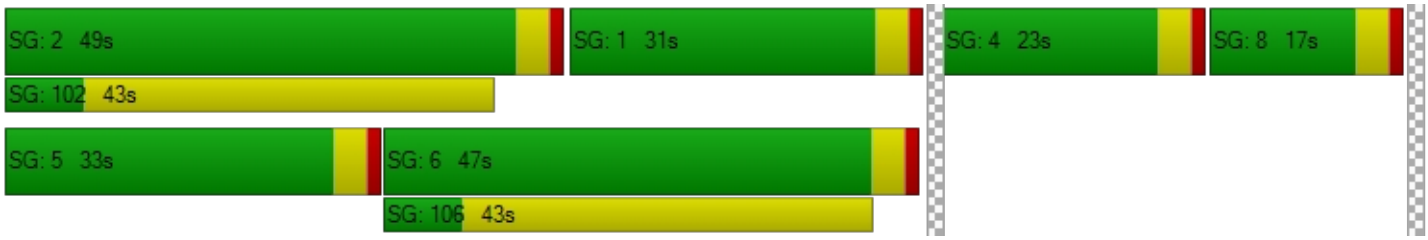
| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 53.47 | 36.87 | 32.80 | 72.44 | 30.93 | 28.46 | 60.43 | 61.20 | 61.37 | 56.16 | 60.62 | 60.89 |
| Movement LOS | D | D | C | F | C | C | E | E | E | E | E | E |
| d_A, Approach Delay [s/veh] | 40.69 | | | 45.80 | | | 61.00 | | | 59.06 | | |
| Approach LOS | D | | | D | | | E | | | E | | |
| d_I, Intersection Delay [s/veh] | 47.55 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.826 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 0.0 | 11.0 | 11.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 0.00 | 49.50 | 49.50 |
| I_p,int, Pedestrian LOS Score for Intersection | 0.000 | 0.000 | 2.563 | 2.673 |
| Crosswalk LOS | F | F | B | B |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 717 | 750 | 217 | 317 |
| d_b, Bicycle Delay [s] | 24.70 | 23.44 | 47.70 | 42.50 |
| I_b,int, Bicycle LOS Score for Intersection | 2.323 | 2.872 | 2.487 | 2.896 |
| Bicycle LOS | B | C | B | C |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 4 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**Intersection 4: I-5 SB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 24.3 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.694 |

**Intersection Setup**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Curb Present | No | | No | | No | |
| Crosswalk | Yes | | No | | No | |

**Volumes**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 332 | 35 | 698 | 881 | 703 | 438 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 332 | 35 | 698 | 881 | 703 | 438 |
| Peak Hour Factor | 0.9220 | 0.9220 | 0.9220 | 0.9220 | 0.9220 | 0.9220 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 90 | 9 | 189 | 239 | 191 | 119 |
| Total Analysis Volume [veh/h] | 360 | 38 | 757 | 956 | 762 | 475 |
| Presence of On-Street Parking | No | No | No | No | No | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | 0 | | 0 | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | 0 | | 0 | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 115 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 12.00 |

**Phasing & Timing**

| Control Type | Split | Split | Protected | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Signal Group | 7 | 4 | 5 | 2 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | Lead | - | - | - |
| Minimum Green [s] | 6 | 0 | 6 | 6 | 6 | 0 |
| Maximum Green [s] | 30 | 0 | 30 | 30 | 30 | 0 |
| Amber [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 0.0 | 1.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 18 | 0 | 43 | 97 | 54 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 43 | 0 |
| Rest In Walk | No | | | No | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | No | | No | No | No | |
| Maximum Recall | No | | No | No | No | |
| Pedestrian Recall | No | | No | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | R | L | C | C | R |
|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 115 | 115 | 115 | 115 | 115 | 115 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 14 | 14 | 28 | 93 | 61 | 61 |
| g / C, Green / Cycle | 0.12 | 0.12 | 0.25 | 0.81 | 0.53 | 0.53 |
| (v / s)_i Volume / Saturation Flow Rate | 0.10 | 0.02 | 0.22 | 0.19 | 0.21 | 0.30 |
| s, saturation flow rate [veh/h] | 3459 | 1589 | 3459 | 5094 | 3560 | 1589 |
| c, Capacity [veh/h] | 415 | 191 | 851 | 4128 | 1885 | 841 |
| d1, Uniform Delay [s] | 49.67 | 45.59 | 41.81 | 2.54 | 16.20 | 18.16 |
| k, delay calibration | 0.11 | 0.11 | 0.11 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 5.59 | 0.51 | 3.42 | 0.13 | 0.65 | 2.74 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| X, volume / capacity | 0.87 | 0.20 | 0.89 | 0.23 | 0.40 | 0.56 |
| d, Delay for Lane Group [s/veh] | 55.26 | 46.10 | 45.23 | 2.68 | 16.84 | 20.89 |
| Lane Group LOS | E | D | D | A | B | C |
| Critical Lane Group | Yes | No | Yes | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 5.39 | 1.01 | 10.67 | 1.29 | 6.06 | 8.87 |
| 50th-Percentile Queue Length [ft/ln] | 134.74 | 25.22 | 266.77 | 32.34 | 151.45 | 221.73 |
| 95th-Percentile Queue Length [veh/ln] | 9.20 | 1.82 | 16.03 | 2.33 | 10.09 | 13.75 |
| 95th-Percentile Queue Length [ft/ln] | 229.92 | 45.39 | 400.70 | 58.22 | 252.37 | 343.83 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 55.26 | 46.10 | 45.23 | 2.68 | 16.84 | 20.89 |
| Movement LOS | E | D | D | A | B | C |
| d_A, Approach Delay [s/veh] | 54.39 | | 21.48 | | 18.40 | |
| Approach LOS | D | | C | | B | |
| d_I, Intersection Delay [s/veh] | 24.25 | | | | | |
| Intersection LOS | C | | | | | |
| Intersection V/C | 0.694 | | | | | |

**Other Modes**

| | | | |
|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 47.03 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.629 | 0.000 | 0.000 |
| Crosswalk LOS | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 0 | 0 | 0 |
| d_b, Bicycle Delay [s] | 57.50 | 57.50 | 57.50 |
| I_b,int, Bicycle LOS Score for Intersection | 4.132 | 5.075 | 5.153 |
| Bicycle LOS | D | F | F |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 7 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 6: Wilshire Avenue/I-5 NB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 42.4 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.807 |

**Intersection Setup**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | No | | | No | | |

**Volumes**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 191 | 113 | 235 | 135 | 29 | 282 | 82 | 819 | 203 | 310 | 772 | 138 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 191 | 113 | 235 | 135 | 29 | 282 | 82 | 819 | 203 | 310 | 772 | 138 |
| Peak Hour Factor | 0.9150 | 0.9150 | 0.9150 | 0.9150 | 0.9150 | 0.9150 | 0.9150 | 0.9150 | 0.9150 | 0.9150 | 0.9150 | 0.9150 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 52 | 31 | 64 | 37 | 8 | 77 | 22 | 224 | 55 | 85 | 211 | 38 |
| Total Analysis Volume [veh/h] | 209 | 123 | 257 | 148 | 32 | 308 | 90 | 895 | 222 | 339 | 844 | 151 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 105 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Split | Split | Split | Split | Split | Split | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 6 | 0 | 0 | 2 | 0 | 3 | 8 | 0 | 7 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 0 | 6 | 0 | 0 | 6 | 0 | 6 | 6 | 0 | 6 | 6 | 0 |
| Maximum Green [s] | 0 | 30 | 0 | 0 | 30 | 0 | 30 | 30 | 0 | 30 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 0 | 20 | 0 | 0 | 24 | 0 | 15 | 47 | 0 | 14 | 46 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 0 | 0 | 25 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | | No | | | No | | No | No | | No | No | |
| Maximum Recall | | No | | | No | | No | No | | No | No | |
| Pedestrian Recall | | No | | | No | | No | No | | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | L | C | C | L | C | C |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 25 | 25 | 25 | 25 | 25 | 7 | 26 | 26 | 13 | 32 | 32 |
| g / C, Green / Cycle | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.06 | 0.24 | 0.24 | 0.12 | 0.30 | 0.30 |
| (v / s)_i Volume / Saturation Flow Rate | 0.09 | 0.09 | 0.16 | 0.08 | 0.21 | 0.05 | 0.21 | 0.21 | 0.10 | 0.19 | 0.19 |
| s, saturation flow rate [veh/h] | 1781 | 1845 | 1589 | 1781 | 1612 | 1781 | 3560 | 1686 | 3459 | 3560 | 1728 |
| c, Capacity [veh/h] | 428 | 443 | 382 | 428 | 387 | 116 | 867 | 411 | 428 | 1075 | 522 |
| d1, Uniform Delay [s] | 33.40 | 33.39 | 36.19 | 33.09 | 38.44 | 48.37 | 38.20 | 38.23 | 44.75 | 31.54 | 31.54 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.11 | 0.11 | 0.27 | 0.11 | 0.11 | 0.11 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 2.57 | 2.48 | 9.13 | 2.21 | 23.40 | 10.44 | 2.94 | 13.26 | 3.35 | 0.60 | 1.22 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.38 | 0.38 | 0.67 | 0.35 | 0.88 | 0.77 | 0.87 | 0.88 | 0.79 | 0.62 | 0.62 |
| d, Delay for Lane Group [s/veh] | 35.97 | 35.87 | 45.32 | 35.29 | 61.84 | 58.81 | 41.14 | 51.49 | 48.10 | 32.13 | 32.77 |
| Lane Group LOS | D | D | D | D | E | E | D | D | D | C | C |
| Critical Lane Group | No | No | Yes | No | Yes | No | No | Yes | Yes | No | No |
| 50th-Percentile Queue Length [veh/ln] | 3.77 | 3.89 | 6.88 | 3.37 | 10.82 | 2.65 | 9.59 | 10.29 | 4.47 | 7.30 | 7.19 |
| 50th-Percentile Queue Length [ft/ln] | 94.22 | 97.17 | 171.97 | 84.36 | 270.60 | 66.27 | 239.69 | 257.31 | 111.63 | 182.58 | 179.66 |
| 95th-Percentile Queue Length [veh/ln] | 6.78 | 7.00 | 11.18 | 6.07 | 16.22 | 4.77 | 14.67 | 15.55 | 7.93 | 11.73 | 11.58 |
| 95th-Percentile Queue Length [ft/ln] | 169.60 | 174.91 | 279.50 | 151.84 | 405.49 | 119.28 | 366.65 | 388.84 | 198.26 | 293.37 | 289.57 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 35.95 | 35.87 | 45.32 | 35.29 | 61.84 | 61.84 | 58.81 | 42.73 | 51.49 | 48.10 | 32.26 | 32.77 |
| Movement LOS | D | D | D | D | E | E | E | D | D | D | C | C |
| d_A, Approach Delay [s/veh] | 40.02 | | | 53.79 | | | 45.54 | | | 36.35 | | |
| Approach LOS | D | | | D | | | D | | | D | | |
| d_I, Intersection Delay [s/veh] | 42.36 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.807 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 42.08 | 42.08 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.538 | 2.224 | 0.000 | 0.000 |
| Crosswalk LOS | B | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 305 | 381 | 819 | 800 |
| d_b, Bicycle Delay [s] | 37.72 | 34.40 | 18.30 | 18.90 |
| I_b,int, Bicycle LOS Score for Intersection | 2.531 | 2.365 | 2.223 | 2.293 |
| Bicycle LOS | B | B | B | B |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | 6 | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | - | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 1: Euclid Street at I-5 Ramps**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 66.4 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | E |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.889 |

**Intersection Setup**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | No | | | No | | | Yes | | | Yes | | |

**Volumes**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 339 | 1240 | 123 | 562 | 1345 | 272 | 360 | 0 | 371 | 427 | 1 | 709 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 339 | 1240 | 123 | 562 | 1345 | 272 | 360 | 0 | 371 | 427 | 1 | 709 |
| Peak Hour Factor | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 87 | 320 | 32 | 145 | 347 | 70 | 93 | 0 | 96 | 110 | 0 | 183 |
| Total Analysis Volume [veh/h] | 349 | 1278 | 127 | 579 | 1387 | 280 | 371 | 0 | 382 | 440 | 1 | 731 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Split | Split | Split | Split | Split | Split |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 1 | 6 | 0 | 5 | 2 | 0 | 0 | 8 | 0 | 0 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 6 | 6 | 0 | 6 | 6 | 0 | 0 | 6 | 0 | 0 | 6 | 0 |
| Maximum Green [s] | 30 | 30 | 0 | 30 | 30 | 0 | 0 | 30 | 0 | 0 | 30 | 0 |
| Amber [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 18 | 47 | 0 | 22 | 51 | 0 | 0 | 21 | 0 | 0 | 30 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Clearance [s] | 0 | 36 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | No | No | | No | No | | | No | | | No | |
| Maximum Recall | No | No | | No | No | | | No | | | No | |
| Pedestrian Recall | No | No | | No | No | | | No | | | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 14 | 43 | 43 | 18 | 47 | 47 | 17 | 17 | 17 | 26 | 26 | 26 |
| g / C, Green / Cycle | 0.12 | 0.36 | 0.36 | 0.15 | 0.39 | 0.39 | 0.14 | 0.14 | 0.14 | 0.22 | 0.22 | 0.22 |
| (v / s)_i Volume / Saturation Flow Rate | 0.10 | 0.19 | 0.08 | 0.17 | 0.27 | 0.18 | 0.15 | 0.15 | 0.15 | 0.22 | 0.24 | 0.25 |
| s, saturation flow rate [veh/h] | 3459 | 6792 | 1589 | 3459 | 5094 | 1589 | 1781 | 1668 | 1589 | 1781 | 1612 | 1589 |
| c, Capacity [veh/h] | 404 | 2438 | 571 | 521 | 2000 | 624 | 250 | 234 | 223 | 386 | 349 | 344 |
| d1, Uniform Delay [s] | 52.10 | 30.40 | 26.83 | 51.02 | 30.45 | 26.89 | 51.62 | 51.62 | 51.62 | 47.05 | 47.05 | 47.05 |
| k, delay calibration | 0.11 | 0.50 | 0.50 | 0.11 | 0.50 | 0.50 | 0.15 | 0.16 | 0.16 | 0.36 | 0.43 | 0.44 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 5.56 | 0.81 | 0.90 | 56.73 | 2.01 | 2.32 | 43.83 | 51.94 | 57.97 | 42.06 | 80.81 | 87.25 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.86 | 0.52 | 0.22 | 1.11 | 0.69 | 0.45 | 1.05 | 1.07 | 1.08 | 1.01 | 1.12 | 1.13 |
| d, Delay for Lane Group [s/veh] | 57.66 | 31.22 | 27.73 | 107.75 | 32.45 | 29.22 | 95.45 | 103.56 | 109.59 | 89.10 | 127.86 | 134.30 |
| Lane Group LOS | E | C | C | F | C | C | F | F | F | F | F | F |
| Critical Lane Group | Yes | No | No | No | Yes | No | No | No | Yes | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 5.47 | 7.42 | 2.70 | 11.91 | 11.41 | 6.31 | 10.55 | 10.41 | 10.29 | 15.96 | 18.21 | 18.57 |
| 50th-Percentile Queue Length [ft/ln] | 136.80 | 185.46 | 67.41 | 297.76 | 285.21 | 157.68 | 263.77 | 260.21 | 257.36 | 398.97 | 455.14 | 464.19 |
| 95th-Percentile Queue Length [veh/ln] | 9.31 | 11.89 | 4.85 | 18.43 | 16.95 | 10.43 | 16.21 | 16.15 | 16.09 | 22.67 | 26.77 | 27.42 |
| 95th-Percentile Queue Length [ft/ln] | 232.70 | 297.14 | 121.34 | 460.76 | 423.70 | 260.65 | 405.21 | 403.86 | 402.37 | 566.71 | 669.21 | 685.42 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 57.66 | 31.22 | 27.73 | 107.75 | 32.45 | 29.22 | 97.99 | 103.56 | 107.48 | 93.45 | 127.86 | 131.30 |
| Movement LOS | E | C | C | F | C | C | F | F | F | F | F | F |
| d_A, Approach Delay [s/veh] | 36.22 | | | 51.46 | | | 102.67 | | | 117.09 | | |
| Approach LOS | D | | | D | | | F | | | F | | |
| d_I, Intersection Delay [s/veh] | 66.44 | | | | | | | | | | | |
| Intersection LOS | E | | | | | | | | | | | |
| Intersection V/C | 0.889 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 0.0 | 11.0 | 11.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 0.00 | 49.50 | 49.50 |
| I_p,int, Pedestrian LOS Score for Intersection | 0.000 | 0.000 | 2.583 | 2.680 |
| Crosswalk LOS | F | F | B | B |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 717 | 783 | 283 | 433 |
| d_b, Bicycle Delay [s] | 24.70 | 22.20 | 44.20 | 36.82 |
| I_b,int, Bicycle LOS Score for Intersection | 2.283 | 2.795 | 2.802 | 3.493 |
| Bicycle LOS | B | C | C | C |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 4 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 4: I-5 SB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 17.9 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.580 |

**Intersection Setup**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Curb Present | No | | No | | No | |
| Crosswalk | Yes | | No | | No | |

**Volumes**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 402 | 55 | 312 | 708 | 961 | 368 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 402 | 55 | 312 | 708 | 961 | 368 |
| Peak Hour Factor | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 107 | 15 | 83 | 188 | 256 | 98 |
| Total Analysis Volume [veh/h] | 428 | 59 | 332 | 753 | 1022 | 391 |
| Presence of On-Street Parking | No | No | No | No | No | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | 0 | | 0 | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | 0 | | 0 | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 95 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 12.00 |

**Phasing & Timing**

| Control Type | Split | Split | Protected | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Signal Group | 7 | 4 | 5 | 2 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | Lead | - | - | - |
| Minimum Green [s] | 6 | 0 | 6 | 6 | 6 | 0 |
| Maximum Green [s] | 30 | 0 | 30 | 30 | 30 | 0 |
| Amber [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 0.0 | 1.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 24 | 0 | 17 | 71 | 54 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 43 | 0 |
| Rest In Walk | No | | | No | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | No | | No | No | No | |
| Maximum Recall | No | | No | No | No | |
| Pedestrian Recall | No | | No | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | R | L | C | C | R |
|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 95 | 95 | 95 | 95 | 95 | 95 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 14 | 14 | 11 | 73 | 58 | 58 |
| g / C, Green / Cycle | 0.15 | 0.15 | 0.12 | 0.77 | 0.61 | 0.61 |
| (v / s)_i Volume / Saturation Flow Rate | 0.12 | 0.04 | 0.10 | 0.15 | 0.29 | 0.25 |
| s, saturation flow rate [veh/h] | 3459 | 1589 | 3459 | 5094 | 3560 | 1589 |
| c, Capacity [veh/h] | 521 | 239 | 407 | 3898 | 2156 | 962 |
| d1, Uniform Delay [s] | 39.12 | 35.60 | 40.92 | 3.07 | 10.37 | 9.81 |
| k, delay calibration | 0.11 | 0.11 | 0.11 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 3.30 | 0.53 | 4.04 | 0.11 | 0.75 | 1.27 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| X, volume / capacity | 0.82 | 0.25 | 0.82 | 0.19 | 0.47 | 0.41 |
| d, Delay for Lane Group [s/veh] | 42.42 | 36.13 | 44.96 | 3.18 | 11.12 | 11.08 |
| Lane Group LOS | D | D | D | A | B | B |
| Critical Lane Group | Yes | No | Yes | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 5.01 | 1.23 | 3.98 | 1.01 | 5.61 | 4.24 |
| 50th-Percentile Queue Length [ft/ln] | 125.26 | 30.81 | 99.41 | 25.36 | 140.32 | 105.97 |
| 95th-Percentile Queue Length [veh/ln] | 8.68 | 2.22 | 7.16 | 1.83 | 9.50 | 7.62 |
| 95th-Percentile Queue Length [ft/ln] | 217.04 | 55.46 | 178.93 | 45.65 | 237.46 | 190.39 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 42.42 | 36.13 | 44.96 | 3.18 | 11.12 | 11.08 |
| Movement LOS | D | D | D | A | B | B |
| d_A, Approach Delay [s/veh] | 41.66 | | 15.97 | | 11.11 | |
| Approach LOS | D | | B | | B | |
| d_I, Intersection Delay [s/veh] | 17.86 | | | | | |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.580 | | | | | |

**Other Modes**

| | | | |
|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 37.14 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.538 | 0.000 | 0.000 |
| Crosswalk LOS | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 0 | 0 | 0 |
| d_b, Bicycle Delay [s] | 47.50 | 47.50 | 47.50 |
| I_b,int, Bicycle LOS Score for Intersection | 4.132 | 4.729 | 5.298 |
| Bicycle LOS | D | E | F |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 7 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 6: Wilshire Avenue/I-5 NB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 35.5 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.692 |

**Intersection Setup**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | No | | | No | | |

**Volumes**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 215 | 243 | 213 | 154 | 20 | 223 | 120 | 795 | 143 | 289 | 923 | 204 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 215 | 243 | 213 | 154 | 20 | 223 | 120 | 795 | 143 | 289 | 923 | 204 |
| Peak Hour Factor | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 54 | 61 | 53 | 39 | 5 | 56 | 30 | 200 | 36 | 73 | 232 | 51 |
| Total Analysis Volume [veh/h] | 216 | 244 | 214 | 155 | 20 | 224 | 120 | 798 | 144 | 290 | 927 | 205 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 90 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Split | Split | Split | Split | Split | Split | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 6 | 0 | 0 | 2 | 0 | 3 | 8 | 0 | 7 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 0 | 6 | 0 | 0 | 6 | 0 | 6 | 6 | 0 | 6 | 6 | 0 |
| Maximum Green [s] | 0 | 30 | 0 | 0 | 30 | 0 | 30 | 30 | 0 | 30 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 0 | 10 | 0 | 0 | 10 | 0 | 25 | 46 | 0 | 24 | 45 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 0 | 0 | 25 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | | No | | | No | | No | No | | No | No | |
| Maximum Recall | | No | | | No | | No | No | | No | No | |
| Pedestrian Recall | | No | | | No | | No | No | | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | L | C | C | L | C | C |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 21 | 21 | 21 | 21 | 21 | 8 | 21 | 21 | 10 | 23 | 23 |
| g / C, Green / Cycle | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.09 | 0.23 | 0.23 | 0.11 | 0.26 | 0.26 |
| (v / s)_i Volume / Saturation Flow Rate | 0.12 | 0.13 | 0.13 | 0.09 | 0.15 | 0.07 | 0.18 | 0.18 | 0.08 | 0.22 | 0.22 |
| s, saturation flow rate [veh/h] | 1781 | 1870 | 1589 | 1781 | 1609 | 1781 | 3560 | 1728 | 3459 | 3560 | 1702 |
| c, Capacity [veh/h] | 422 | 443 | 377 | 422 | 382 | 155 | 837 | 406 | 392 | 930 | 445 |
| d1, Uniform Delay [s] | 29.86 | 30.18 | 30.32 | 28.74 | 30.93 | 40.29 | 32.08 | 32.12 | 38.70 | 31.35 | 31.35 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 4.38 | 4.85 | 6.08 | 2.45 | 7.97 | 7.96 | 1.42 | 3.04 | 2.77 | 1.90 | 3.89 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.51 | 0.55 | 0.57 | 0.37 | 0.64 | 0.77 | 0.76 | 0.76 | 0.74 | 0.82 | 0.82 |
| d, Delay for Lane Group [s/veh] | 34.24 | 35.03 | 36.41 | 31.19 | 38.90 | 48.25 | 33.51 | 35.16 | 41.47 | 33.25 | 35.24 |
| Lane Group LOS | C | D | D | C | D | D | C | D | D | C | D |
| Critical Lane Group | No | No | Yes | No | Yes | Yes | No | No | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 4.49 | 5.14 | 4.64 | 3.04 | 5.50 | 2.91 | 6.43 | 6.47 | 3.21 | 7.87 | 7.76 |
| 50th-Percentile Queue Length [ft/ln] | 112.35 | 128.54 | 116.04 | 75.92 | 137.57 | 72.83 | 160.75 | 161.64 | 80.22 | 196.64 | 194.12 |
| 95th-Percentile Queue Length [veh/ln] | 7.97 | 8.86 | 8.17 | 5.47 | 9.35 | 5.24 | 10.59 | 10.64 | 5.78 | 12.47 | 12.33 |
| 95th-Percentile Queue Length [ft/ln] | 199.26 | 221.51 | 204.37 | 136.66 | 233.74 | 131.10 | 264.72 | 265.89 | 144.39 | 311.63 | 308.37 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 34.24 | 35.03 | 36.41 | 31.19 | 38.90 | 38.90 | 48.25 | 33.85 | 35.16 | 41.47 | 33.60 | 35.24 |
| Movement LOS | C | D | D | C | D | D | D | C | D | D | C | D |
| d_A, Approach Delay [s/veh] | 35.21 | | | 35.91 | | | 35.65 | | | 35.44 | | |
| Approach LOS | D | | | D | | | D | | | D | | |
| d_I, Intersection Delay [s/veh] | 35.51 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.692 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 34.67 | 34.67 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.519 | 2.254 | 0.000 | 0.000 |
| Crosswalk LOS | B | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 133 | 133 | 933 | 911 |
| d_b, Bicycle Delay [s] | 39.20 | 39.20 | 12.80 | 13.34 |
| I_b,int, Bicycle LOS Score for Intersection | 2.672 | 2.218 | 2.144 | 2.342 |
| Bicycle LOS | B | B | B | B |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | 6 | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | - | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

*APPENDIX D-II*

# EXISTING PLUS PROJECT (SCENARIO NO. 2) TRAFFIC CONDITIONS

**Intersection Level Of Service Report**
**Intersection 1: Euclid Street at I-5 Ramps**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 47.7 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.827 |

**Intersection Setup**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | No | | | No | | | Yes | | | Yes | | |

**Volumes**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 427 | 1154 | 117 | 792 | 1146 | 235 | 184 | 31 | 299 | 274 | 2 | 461 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 427 | 1154 | 117 | 792 | 1146 | 235 | 184 | 31 | 299 | 274 | 2 | 461 |
| Peak Hour Factor | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 117 | 317 | 32 | 218 | 315 | 65 | 51 | 9 | 82 | 75 | 1 | 127 |
| Total Analysis Volume [veh/h] | 469 | 1268 | 129 | 870 | 1259 | 258 | 202 | 34 | 329 | 301 | 2 | 507 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Split | Split | Split | Split | Split | Split |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 1 | 6 | 0 | 5 | 2 | 0 | 0 | 8 | 0 | 0 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lag | - | - | Lead | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 6 | 6 | 0 | 6 | 6 | 0 | 0 | 6 | 0 | 0 | 6 | 0 |
| Maximum Green [s] | 30 | 30 | 0 | 30 | 30 | 0 | 0 | 30 | 0 | 0 | 30 | 0 |
| Amber [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 32 | 47 | 0 | 33 | 48 | 0 | 0 | 17 | 0 | 0 | 23 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Clearance [s] | 0 | 36 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | No | No | | No | No | | | No | | | No | |
| Maximum Recall | No | No | | No | No | | | No | | | No | |
| Pedestrian Recall | No | No | | No | No | | | No | | | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 19 | 36 | 36 | 29 | 47 | 47 | 16 | 16 | 16 | 23 | 23 | 23 |
| g / C, Green / Cycle | 0.16 | 0.30 | 0.30 | 0.24 | 0.39 | 0.39 | 0.13 | 0.13 | 0.13 | 0.19 | 0.19 | 0.19 |
| (v / s)_i Volume / Saturation Flow Rate | 0.14 | 0.19 | 0.08 | 0.25 | 0.25 | 0.16 | 0.11 | 0.11 | 0.11 | 0.16 | 0.17 | 0.17 |
| s, saturation flow rate [veh/h] | 3459 | 6792 | 1589 | 3459 | 5094 | 1589 | 1781 | 1636 | 1589 | 1781 | 1604 | 1589 |
| c, Capacity [veh/h] | 548 | 2067 | 484 | 835 | 1973 | 616 | 233 | 214 | 208 | 338 | 305 | 302 |
| d1, Uniform Delay [s] | 49.21 | 35.74 | 31.63 | 45.56 | 29.94 | 26.91 | 51.11 | 51.12 | 51.12 | 46.82 | 47.22 | 47.25 |
| k, delay calibration | 0.11 | 0.50 | 0.50 | 0.11 | 0.50 | 0.50 | 0.11 | 0.11 | 0.11 | 0.18 | 0.20 | 0.20 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 3.97 | 1.37 | 1.35 | 26.88 | 1.59 | 2.09 | 8.94 | 9.75 | 10.04 | 8.62 | 13.05 | 13.52 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.86 | 0.61 | 0.27 | 1.04 | 0.64 | 0.42 | 0.86 | 0.86 | 0.86 | 0.83 | 0.87 | 0.87 |
| d, Delay for Lane Group [s/veh] | 53.18 | 37.11 | 32.98 | 72.44 | 31.53 | 29.00 | 60.05 | 60.87 | 61.16 | 55.44 | 60.27 | 60.77 |
| Lane Group LOS | D | D | C | F | C | C | E | E | E | E | E | E |
| Critical Lane Group | No | Yes | No | Yes | No | No | No | No | Yes | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 7.14 | 8.12 | 3.04 | 15.46 | 10.07 | 5.76 | 6.48 | 6.01 | 5.86 | 8.88 | 8.76 | 8.76 |
| 50th-Percentile Queue Length [ft/ln] | 178.43 | 203.04 | 75.89 | 386.39 | 251.83 | 144.06 | 161.98 | 150.30 | 146.54 | 222.04 | 219.08 | 218.91 |
| 95th-Percentile Queue Length [veh/ln] | 11.52 | 12.80 | 5.46 | 22.43 | 15.28 | 9.70 | 10.65 | 10.03 | 9.83 | 13.77 | 13.62 | 13.61 |
| 95th-Percentile Queue Length [ft/ln] | 287.96 | 319.89 | 136.60 | 560.65 | 381.95 | 242.48 | 266.34 | 250.83 | 245.81 | 344.23 | 340.45 | 340.24 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 53.18 | 37.11 | 32.98 | 72.44 | 31.53 | 29.00 | 60.10 | 60.87 | 61.03 | 55.91 | 60.27 | 60.53 |
| Movement LOS | D | D | C | F | C | C | E | E | E | E | E | E |
| d_A, Approach Delay [s/veh] | 40.86 | | | 46.17 | | | 60.67 | | | 58.75 | | |
| Approach LOS | D | | | D | | | E | | | E | | |
| d_I, Intersection Delay [s/veh] | 47.68 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.827 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 0.0 | 11.0 | 11.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 0.00 | 49.50 | 49.50 |
| I_p,int, Pedestrian LOS Score for Intersection | 0.000 | 0.000 | 2.566 | 2.673 |
| Crosswalk LOS | F | F | B | B |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 717 | 733 | 217 | 317 |
| d_b, Bicycle Delay [s] | 24.70 | 24.07 | 47.70 | 42.50 |
| I_b,int, Bicycle LOS Score for Intersection | 2.329 | 2.872 | 2.492 | 2.896 |
| Bicycle LOS | B | C | B | C |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 4 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 4: I-5 SB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 25.2 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.695 |

**Intersection Setup**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Curb Present | No | | No | | No | |
| Crosswalk | Yes | | No | | No | |

**Volumes**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 332 | 35 | 710 | 886 | 706 | 438 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 332 | 35 | 710 | 886 | 706 | 438 |
| Peak Hour Factor | 0.9220 | 0.9220 | 0.9220 | 0.9220 | 0.9220 | 0.9220 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 90 | 9 | 193 | 240 | 191 | 119 |
| Total Analysis Volume [veh/h] | 360 | 38 | 770 | 961 | 766 | 475 |
| Presence of On-Street Parking | No | No | No | No | No | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | 0 | | 0 | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | 0 | | 0 | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 12.00 |

**Phasing & Timing**

| Control Type | Split | Split | Protected | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Signal Group | 7 | 4 | 5 | 2 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | Lead | - | - | - |
| Minimum Green [s] | 6 | 0 | 6 | 6 | 6 | 0 |
| Maximum Green [s] | 30 | 0 | 30 | 30 | 30 | 0 |
| Amber [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 0.0 | 1.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 18 | 0 | 48 | 102 | 54 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 43 | 0 |
| Rest In Walk | No | | | No | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | No | | No | No | No | |
| Maximum Recall | No | | No | No | No | |
| Pedestrian Recall | No | | No | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | R | L | C | C | R |
|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 14 | 14 | 30 | 98 | 64 | 64 |
| g / C, Green / Cycle | 0.12 | 0.12 | 0.25 | 0.82 | 0.53 | 0.53 |
| (v / s)_i Volume / Saturation Flow Rate | 0.10 | 0.02 | 0.22 | 0.19 | 0.22 | 0.30 |
| s, saturation flow rate [veh/h] | 3459 | 1589 | 3459 | 5094 | 3560 | 1589 |
| c, Capacity [veh/h] | 404 | 186 | 865 | 4159 | 1898 | 847 |
| d1, Uniform Delay [s] | 52.22 | 47.93 | 43.39 | 2.49 | 16.67 | 18.66 |
| k, delay calibration | 0.11 | 0.11 | 0.11 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 6.88 | 0.54 | 3.41 | 0.13 | 0.64 | 2.67 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| X, volume / capacity | 0.89 | 0.20 | 0.89 | 0.23 | 0.40 | 0.56 |
| d, Delay for Lane Group [s/veh] | 59.09 | 48.46 | 46.81 | 2.62 | 17.31 | 21.33 |
| Lane Group LOS | E | D | D | A | B | C |
| Critical Lane Group | Yes | No | Yes | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 5.72 | 1.06 | 11.36 | 1.33 | 6.36 | 9.22 |
| 50th-Percentile Queue Length [ft/ln] | 143.02 | 26.54 | 283.96 | 33.13 | 158.90 | 230.47 |
| 95th-Percentile Queue Length [veh/ln] | 9.64 | 1.91 | 16.89 | 2.39 | 10.49 | 14.20 |
| 95th-Percentile Queue Length [ft/ln] | 241.08 | 47.77 | 422.13 | 59.64 | 262.26 | 354.96 |

**Movement, Approach, & Intersection Results**

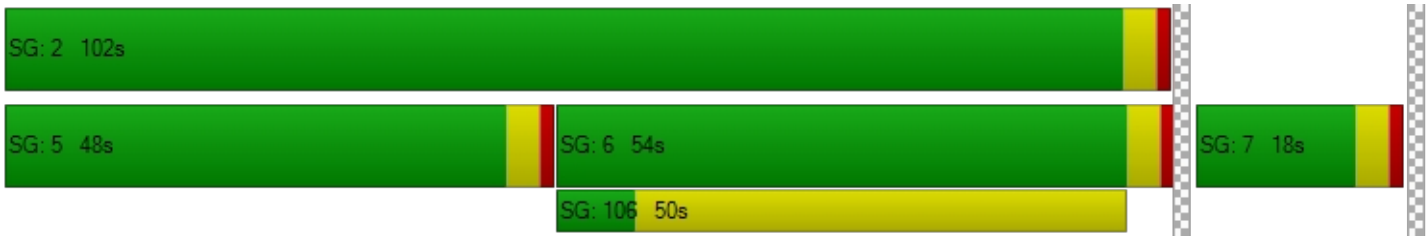
| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 59.09 | 48.46 | 46.81 | 2.62 | 17.31 | 21.33 |
| Movement LOS | E | D | D | A | B | C |
| d_A, Approach Delay [s/veh] | 58.08 | | 22.28 | | 18.85 | |
| Approach LOS | E | | C | | B | |
| d_I, Intersection Delay [s/veh] | 25.24 | | | | | |
| Intersection LOS | C | | | | | |
| Intersection V/C | 0.695 | | | | | |

**Other Modes**

| | | | |
|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 49.50 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.634 | 0.000 | 0.000 |
| Crosswalk LOS | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 0 | 0 | 0 |
| d_b, Bicycle Delay [s] | 60.00 | 60.00 | 60.00 |
| I_b,int, Bicycle LOS Score for Intersection | 4.132 | 5.084 | 5.156 |
| Bicycle LOS | D | F | F |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 7 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**Intersection 6: Wilshire Avenue/I-5 NB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 42.4 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.808 |

**Intersection Setup**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | No | | | No | | |

**Volumes**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 193 | 113 | 235 | 135 | 29 | 282 | 82 | 823 | 203 | 310 | 773 | 138 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 193 | 113 | 235 | 135 | 29 | 282 | 82 | 823 | 203 | 310 | 773 | 138 |
| Peak Hour Factor | 0.9150 | 0.9150 | 0.9150 | 0.9150 | 0.9150 | 0.9150 | 0.9150 | 0.9150 | 0.9150 | 0.9150 | 0.9150 | 0.9150 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 53 | 31 | 64 | 37 | 8 | 77 | 22 | 225 | 55 | 85 | 211 | 38 |
| Total Analysis Volume [veh/h] | 211 | 123 | 257 | 148 | 32 | 308 | 90 | 899 | 222 | 339 | 845 | 151 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 105 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Split | Split | Split | Split | Split | Split | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 6 | 0 | 0 | 2 | 0 | 3 | 8 | 0 | 7 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 0 | 6 | 0 | 0 | 6 | 0 | 6 | 6 | 0 | 6 | 6 | 0 |
| Maximum Green [s] | 0 | 30 | 0 | 0 | 30 | 0 | 30 | 30 | 0 | 30 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 0 | 20 | 0 | 0 | 24 | 0 | 15 | 47 | 0 | 14 | 46 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 0 | 0 | 25 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | | No | | | No | | No | No | | No | No | |
| Maximum Recall | | No | | | No | | No | No | | No | No | |
| Pedestrian Recall | | No | | | No | | No | No | | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | L | C | C | L | C | C |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 25 | 25 | 25 | 25 | 25 | 7 | 26 | 26 | 13 | 32 | 32 |
| g / C, Green / Cycle | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.06 | 0.24 | 0.24 | 0.12 | 0.30 | 0.30 |
| (v / s)_i Volume / Saturation Flow Rate | 0.09 | 0.09 | 0.16 | 0.08 | 0.21 | 0.05 | 0.21 | 0.21 | 0.10 | 0.19 | 0.19 |
| s, saturation flow rate [veh/h] | 1781 | 1845 | 1589 | 1781 | 1612 | 1781 | 3560 | 1687 | 3459 | 3560 | 1729 |
| c, Capacity [veh/h] | 427 | 443 | 381 | 427 | 387 | 116 | 870 | 412 | 428 | 1078 | 523 |
| d1, Uniform Delay [s] | 33.45 | 33.44 | 36.22 | 33.12 | 38.48 | 48.37 | 38.17 | 38.20 | 44.75 | 31.49 | 31.49 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.11 | 0.11 | 0.27 | 0.11 | 0.11 | 0.11 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 2.60 | 2.51 | 9.18 | 2.22 | 23.57 | 10.44 | 2.95 | 13.35 | 3.35 | 0.59 | 1.22 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.38 | 0.38 | 0.67 | 0.35 | 0.88 | 0.77 | 0.87 | 0.88 | 0.79 | 0.62 | 0.62 |
| d, Delay for Lane Group [s/veh] | 36.05 | 35.95 | 45.40 | 35.33 | 62.05 | 58.81 | 41.12 | 51.55 | 48.10 | 32.08 | 32.71 |
| Lane Group LOS | D | D | D | D | E | E | D | D | D | C | C |
| Critical Lane Group | No | No | Yes | No | Yes | No | No | Yes | Yes | No | No |
| 50th-Percentile Queue Length [veh/ln] | 3.80 | 3.92 | 6.89 | 3.38 | 10.84 | 2.65 | 9.62 | 10.34 | 4.47 | 7.30 | 7.19 |
| 50th-Percentile Queue Length [ft/ln] | 94.95 | 97.89 | 172.13 | 84.41 | 271.09 | 66.27 | 240.54 | 258.50 | 111.63 | 182.59 | 179.67 |
| 95th-Percentile Queue Length [veh/ln] | 6.84 | 7.05 | 11.19 | 6.08 | 16.24 | 4.77 | 14.71 | 15.61 | 7.93 | 11.74 | 11.58 |
| 95th-Percentile Queue Length [ft/ln] | 170.91 | 176.20 | 279.72 | 151.93 | 406.10 | 119.28 | 367.71 | 390.34 | 198.26 | 293.39 | 289.59 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 36.03 | 35.95 | 45.40 | 35.33 | 62.05 | 62.05 | 58.81 | 42.73 | 51.55 | 48.10 | 32.21 | 32.71 |
| Movement LOS | D | D | D | D | E | E | E | D | D | D | C | C |
| d_A, Approach Delay [s/veh] | 40.09 | | | 53.95 | | | 45.54 | | | 36.30 | | |
| Approach LOS | D | | | D | | | D | | | D | | |
| d_I, Intersection Delay [s/veh] | 42.38 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.808 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 42.08 | 42.08 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.538 | 2.224 | 0.000 | 0.000 |
| Crosswalk LOS | B | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 305 | 381 | 819 | 800 |
| d_b, Bicycle Delay [s] | 37.72 | 34.40 | 18.30 | 18.90 |
| I_b,int, Bicycle LOS Score for Intersection | 2.535 | 2.365 | 2.226 | 2.294 |
| Bicycle LOS | B | B | B | B |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | 6 | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | - | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 1: Euclid Street at I-5 Ramps**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 67.3 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | E |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.895 |

**Intersection Setup**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | No | | | No | | | Yes | | | Yes | | |

**Volumes**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 344 | 1242 | 123 | 562 | 1349 | 272 | 360 | 0 | 381 | 427 | 1 | 709 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 344 | 1242 | 123 | 562 | 1349 | 272 | 360 | 0 | 381 | 427 | 1 | 709 |
| Peak Hour Factor | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 89 | 320 | 32 | 145 | 348 | 70 | 93 | 0 | 98 | 110 | 0 | 183 |
| Total Analysis Volume [veh/h] | 355 | 1280 | 127 | 579 | 1391 | 280 | 371 | 0 | 393 | 440 | 1 | 731 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Split | Split | Split | Split | Split | Split |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 1 | 6 | 0 | 5 | 2 | 0 | 0 | 8 | 0 | 0 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 6 | 6 | 0 | 6 | 6 | 0 | 0 | 6 | 0 | 0 | 6 | 0 |
| Maximum Green [s] | 30 | 30 | 0 | 30 | 30 | 0 | 0 | 30 | 0 | 0 | 30 | 0 |
| Amber [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 18 | 47 | 0 | 22 | 51 | 0 | 0 | 21 | 0 | 0 | 30 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Clearance [s] | 0 | 36 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | No | No | | No | No | | | No | | | No | |
| Maximum Recall | No | No | | No | No | | | No | | | No | |
| Pedestrian Recall | No | No | | No | No | | | No | | | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 14 | 43 | 43 | 18 | 47 | 47 | 17 | 17 | 17 | 26 | 26 | 26 |
| g / C, Green / Cycle | 0.12 | 0.36 | 0.36 | 0.15 | 0.39 | 0.39 | 0.14 | 0.14 | 0.14 | 0.22 | 0.22 | 0.22 |
| (v / s)_i Volume / Saturation Flow Rate | 0.10 | 0.19 | 0.08 | 0.17 | 0.27 | 0.18 | 0.15 | 0.15 | 0.15 | 0.22 | 0.24 | 0.25 |
| s, saturation flow rate [veh/h] | 3459 | 6792 | 1589 | 3459 | 5094 | 1589 | 1781 | 1664 | 1589 | 1781 | 1612 | 1589 |
| c, Capacity [veh/h] | 407 | 2438 | 571 | 521 | 1997 | 623 | 250 | 234 | 223 | 386 | 349 | 344 |
| d1, Uniform Delay [s] | 52.12 | 30.42 | 26.83 | 51.02 | 30.55 | 26.95 | 51.62 | 51.62 | 51.62 | 47.05 | 47.05 | 47.05 |
| k, delay calibration | 0.11 | 0.50 | 0.50 | 0.11 | 0.50 | 0.50 | 0.15 | 0.16 | 0.17 | 0.36 | 0.43 | 0.44 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 5.95 | 0.81 | 0.90 | 56.73 | 2.04 | 2.34 | 48.98 | 58.42 | 64.88 | 42.06 | 80.81 | 87.25 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.87 | 0.53 | 0.22 | 1.11 | 0.70 | 0.45 | 1.06 | 1.08 | 1.10 | 1.01 | 1.12 | 1.13 |
| d, Delay for Lane Group [s/veh] | 58.07 | 31.23 | 27.73 | 107.75 | 32.59 | 29.29 | 100.60 | 110.04 | 116.50 | 89.10 | 127.86 | 134.30 |
| Lane Group LOS | E | C | C | F | C | C | F | F | F | F | F | F |
| Critical Lane Group | Yes | No | No | No | Yes | No | No | No | Yes | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 5.59 | 7.43 | 2.70 | 11.91 | 11.47 | 6.32 | 10.91 | 10.81 | 10.72 | 15.96 | 18.21 | 18.57 |
| 50th-Percentile Queue Length [ft/ln] | 139.74 | 185.83 | 67.41 | 297.76 | 286.81 | 157.91 | 272.72 | 270.15 | 268.07 | 398.97 | 455.14 | 464.19 |
| 95th-Percentile Queue Length [veh/ln] | 9.47 | 11.90 | 4.85 | 18.43 | 17.03 | 10.44 | 16.77 | 16.78 | 16.77 | 22.67 | 26.77 | 27.42 |
| 95th-Percentile Queue Length [ft/ln] | 236.68 | 297.61 | 121.34 | 460.76 | 425.68 | 260.95 | 419.16 | 419.56 | 419.19 | 566.71 | 669.21 | 685.42 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 58.07 | 31.23 | 27.73 | 107.75 | 32.59 | 29.29 | 103.47 | 110.04 | 114.18 | 93.45 | 127.86 | 131.30 |
| Movement LOS | E | C | C | F | C | C | F | F | F | F | F | F |
| d_A, Approach Delay [s/veh] | 36.38 | | | 51.52 | | | 108.83 | | | 117.09 | | |
| Approach LOS | D | | | D | | | F | | | F | | |
| d_I, Intersection Delay [s/veh] | 67.32 | | | | | | | | | | | |
| Intersection LOS | E | | | | | | | | | | | |
| Intersection V/C | 0.895 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 0.0 | 11.0 | 11.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 0.00 | 49.50 | 49.50 |
| I_p,int, Pedestrian LOS Score for Intersection | 0.000 | 0.000 | 2.587 | 2.680 |
| Crosswalk LOS | F | F | B | B |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 717 | 783 | 283 | 433 |
| d_b, Bicycle Delay [s] | 24.70 | 22.20 | 44.20 | 36.82 |
| I_b,int, Bicycle LOS Score for Intersection | 2.286 | 2.797 | 2.820 | 3.493 |
| Bicycle LOS | B | C | C | C |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 4 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 4: I-5 SB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 17.9 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.588 |

**Intersection Setup**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Curb Present | No | | No | | No | |
| Crosswalk | Yes | | No | | No | |

**Volumes**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 402 | 55 | 318 | 711 | 978 | 368 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 402 | 55 | 318 | 711 | 978 | 368 |
| Peak Hour Factor | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 | 0.9400 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 107 | 15 | 85 | 189 | 260 | 98 |
| Total Analysis Volume [veh/h] | 428 | 59 | 338 | 756 | 1040 | 391 |
| Presence of On-Street Parking | No | No | No | No | No | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | 0 | | 0 | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | 0 | | 0 | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 95 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 12.00 |

**Phasing & Timing**

| Control Type | Split | Split | Protected | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Signal Group | 7 | 4 | 5 | 2 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | Lead | - | - | - |
| Minimum Green [s] | 6 | 0 | 6 | 6 | 6 | 0 |
| Maximum Green [s] | 30 | 0 | 30 | 30 | 30 | 0 |
| Amber [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 0.0 | 1.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 24 | 0 | 17 | 71 | 54 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 43 | 0 |
| Rest In Walk | No | | | No | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | No | | No | No | No | |
| Maximum Recall | No | | No | No | No | |
| Pedestrian Recall | No | | No | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | R | L | C | C | R |
|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 95 | 95 | 95 | 95 | 95 | 95 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 14 | 14 | 11 | 73 | 57 | 57 |
| g / C, Green / Cycle | 0.15 | 0.15 | 0.12 | 0.77 | 0.60 | 0.60 |
| (v / s)_i Volume / Saturation Flow Rate | 0.12 | 0.04 | 0.10 | 0.15 | 0.29 | 0.25 |
| s, saturation flow rate [veh/h] | 3459 | 1589 | 3459 | 5094 | 3560 | 1589 |
| c, Capacity [veh/h] | 521 | 239 | 412 | 3898 | 2150 | 960 |
| d1, Uniform Delay [s] | 39.12 | 35.60 | 40.85 | 3.08 | 10.53 | 9.89 |
| k, delay calibration | 0.11 | 0.11 | 0.11 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 3.30 | 0.53 | 4.08 | 0.11 | 0.78 | 1.28 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| X, volume / capacity | 0.82 | 0.25 | 0.82 | 0.19 | 0.48 | 0.41 |
| d, Delay for Lane Group [s/veh] | 42.42 | 36.13 | 44.93 | 3.19 | 11.31 | 11.17 |
| Lane Group LOS | D | D | D | A | B | B |
| Critical Lane Group | Yes | No | Yes | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 5.01 | 1.23 | 4.05 | 1.02 | 5.79 | 4.26 |
| 50th-Percentile Queue Length [ft/ln] | 125.26 | 30.81 | 101.22 | 25.48 | 144.67 | 106.56 |
| 95th-Percentile Queue Length [veh/ln] | 8.68 | 2.22 | 7.29 | 1.83 | 9.73 | 7.65 |
| 95th-Percentile Queue Length [ft/ln] | 217.04 | 55.46 | 182.19 | 45.86 | 243.29 | 191.20 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 42.42 | 36.13 | 44.93 | 3.19 | 11.31 | 11.17 |
| Movement LOS | D | D | D | A | B | B |
| d_A, Approach Delay [s/veh] | 41.66 | | 16.08 | | 11.28 | |
| Approach LOS | D | | B | | B | |
| d_I, Intersection Delay [s/veh] | 17.93 | | | | | |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.588 | | | | | |

**Other Modes**

| | | | |
|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 37.14 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.539 | 0.000 | 0.000 |
| Crosswalk LOS | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 0 | 0 | 0 |
| d_b, Bicycle Delay [s] | 47.50 | 47.50 | 47.50 |
| I_b,int, Bicycle LOS Score for Intersection | 4.132 | 4.734 | 5.313 |
| Bicycle LOS | D | E | F |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 7 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 6: Wilshire Avenue/I-5 NB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 35.5 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.692 |

**Intersection Setup**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | No | | | No | | |

**Volumes**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 227 | 243 | 213 | 154 | 20 | 223 | 120 | 797 | 143 | 289 | 927 | 204 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 227 | 243 | 213 | 154 | 20 | 223 | 120 | 797 | 143 | 289 | 927 | 204 |
| Peak Hour Factor | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 57 | 61 | 53 | 39 | 5 | 56 | 30 | 200 | 36 | 73 | 233 | 51 |
| Total Analysis Volume [veh/h] | 228 | 244 | 214 | 155 | 20 | 224 | 120 | 800 | 144 | 290 | 931 | 205 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 90 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Split | Split | Split | Split | Split | Split | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 6 | 0 | 0 | 2 | 0 | 3 | 8 | 0 | 7 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 0 | 6 | 0 | 0 | 6 | 0 | 6 | 6 | 0 | 6 | 6 | 0 |
| Maximum Green [s] | 0 | 30 | 0 | 0 | 30 | 0 | 30 | 30 | 0 | 30 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 0 | 10 | 0 | 0 | 10 | 0 | 25 | 46 | 0 | 24 | 45 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 0 | 0 | 25 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | | No | | | No | | No | No | | No | No | |
| Maximum Recall | | No | | | No | | No | No | | No | No | |
| Pedestrian Recall | | No | | | No | | No | No | | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | L | C | C | L | C | C |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 21 | 21 | 21 | 21 | 21 | 8 | 21 | 21 | 10 | 24 | 24 |
| g / C, Green / Cycle | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.09 | 0.24 | 0.24 | 0.11 | 0.26 | 0.26 |
| (v / s)_i Volume / Saturation Flow Rate | 0.13 | 0.13 | 0.13 | 0.09 | 0.15 | 0.07 | 0.18 | 0.18 | 0.08 | 0.22 | 0.22 |
| s, saturation flow rate [veh/h] | 1781 | 1870 | 1589 | 1781 | 1609 | 1781 | 3560 | 1728 | 3459 | 3560 | 1702 |
| c, Capacity [veh/h] | 422 | 443 | 376 | 422 | 381 | 155 | 840 | 408 | 392 | 933 | 446 |
| d1, Uniform Delay [s] | 30.13 | 30.21 | 30.36 | 28.77 | 30.97 | 40.29 | 32.03 | 32.07 | 38.70 | 31.31 | 31.31 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 4.91 | 4.88 | 6.12 | 2.46 | 8.02 | 7.96 | 1.41 | 3.03 | 2.77 | 1.90 | 3.88 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.54 | 0.55 | 0.57 | 0.37 | 0.64 | 0.77 | 0.76 | 0.76 | 0.74 | 0.82 | 0.82 |
| d, Delay for Lane Group [s/veh] | 35.04 | 35.09 | 36.48 | 31.24 | 38.99 | 48.25 | 33.44 | 35.10 | 41.47 | 33.21 | 35.19 |
| Lane Group LOS | D | D | D | C | D | D | C | D | D | C | D |
| Critical Lane Group | No | No | Yes | No | Yes | Yes | No | No | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 4.81 | 5.15 | 4.65 | 3.04 | 5.51 | 2.91 | 6.44 | 6.47 | 3.21 | 7.89 | 7.79 |
| 50th-Percentile Queue Length [ft/ln] | 120.31 | 128.67 | 116.16 | 75.98 | 137.73 | 72.83 | 160.93 | 161.85 | 80.22 | 197.23 | 194.75 |
| 95th-Percentile Queue Length [veh/ln] | 8.41 | 8.87 | 8.18 | 5.47 | 9.36 | 5.24 | 10.60 | 10.65 | 5.78 | 12.50 | 12.37 |
| 95th-Percentile Queue Length [ft/ln] | 210.25 | 221.69 | 204.54 | 136.77 | 233.97 | 131.10 | 264.95 | 266.17 | 144.39 | 312.39 | 309.18 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 35.04 | 35.09 | 36.48 | 31.24 | 38.99 | 38.99 | 48.25 | 33.78 | 35.10 | 41.47 | 33.55 | 35.19 |
| Movement LOS | D | D | D | C | D | D | D | C | D | D | C | D |
| d_A, Approach Delay [s/veh] | 35.51 | | | 35.98 | | | 35.59 | | | 35.40 | | |
| Approach LOS | D | | | D | | | D | | | D | | |
| d_I, Intersection Delay [s/veh] | 35.54 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.692 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 34.67 | 34.67 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.522 | 2.254 | 0.000 | 0.000 |
| Crosswalk LOS | B | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 133 | 133 | 933 | 911 |
| d_b, Bicycle Delay [s] | 39.20 | 39.20 | 12.80 | 13.34 |
| I_b,int, Bicycle LOS Score for Intersection | 2.692 | 2.218 | 2.145 | 2.344 |
| Bicycle LOS | B | B | B | B |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | 6 | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | - | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

*APPENDIX D-III*

# EXISTING PLUS CUMULATIVE PROJECTS TRAFFIC CONDITIONS

**Intersection Level Of Service Report**
**Intersection 1: Euclid Street at I-5 Ramps**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 49.1 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.808 |

**Intersection Setup**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | No | | | No | | | Yes | | | Yes | | |

**Volumes**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 465 | 1208 | 121 | 793 | 1200 | 236 | 186 | 31 | 314 | 273 | 2 | 463 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 465 | 1208 | 121 | 793 | 1200 | 236 | 186 | 31 | 314 | 273 | 2 | 463 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 122 | 318 | 32 | 209 | 316 | 62 | 49 | 8 | 83 | 72 | 1 | 122 |
| Total Analysis Volume [veh/h] | 489 | 1272 | 127 | 835 | 1263 | 248 | 196 | 33 | 331 | 287 | 2 | 487 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Split | Split | Split | Split | Split | Split |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 1 | 6 | 0 | 5 | 2 | 0 | 0 | 8 | 0 | 0 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 6 | 6 | 0 | 6 | 6 | 0 | 0 | 6 | 0 | 0 | 6 | 0 |
| Maximum Green [s] | 30 | 30 | 0 | 30 | 30 | 0 | 0 | 30 | 0 | 0 | 30 | 0 |
| Amber [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 32 | 47 | 0 | 32 | 47 | 0 | 0 | 18 | 0 | 0 | 23 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Clearance [s] | 0 | 36 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | No | No | | No | No | | | No | | | No | |
| Maximum Recall | No | No | | No | No | | | No | | | No | |
| Pedestrian Recall | No | No | | No | No | | | No | | | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 20 | 43 | 43 | 28 | 51 | 51 | 14 | 14 | 14 | 19 | 19 | 19 |
| g / C, Green / Cycle | 0.16 | 0.36 | 0.36 | 0.23 | 0.43 | 0.43 | 0.12 | 0.12 | 0.12 | 0.16 | 0.16 | 0.16 |
| (v / s)_i Volume / Saturation Flow Rate | 0.14 | 0.19 | 0.08 | 0.24 | 0.25 | 0.16 | 0.11 | 0.11 | 0.11 | 0.15 | 0.16 | 0.16 |
| s, saturation flow rate [veh/h] | 3459 | 6792 | 1589 | 3459 | 5094 | 1589 | 1781 | 1633 | 1589 | 1781 | 1602 | 1589 |
| c, Capacity [veh/h] | 566 | 2443 | 572 | 807 | 2187 | 682 | 205 | 188 | 183 | 282 | 254 | 252 |
| d1, Uniform Delay [s] | 48.89 | 30.28 | 26.75 | 46.01 | 26.00 | 23.16 | 52.78 | 52.95 | 52.96 | 50.15 | 50.47 | 50.49 |
| k, delay calibration | 0.11 | 0.50 | 0.50 | 0.11 | 0.50 | 0.50 | 0.11 | 0.11 | 0.11 | 0.16 | 0.18 | 0.18 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 4.08 | 0.80 | 0.90 | 24.74 | 1.12 | 1.50 | 20.09 | 25.90 | 26.42 | 22.76 | 33.04 | 33.87 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.86 | 0.52 | 0.22 | 1.03 | 0.58 | 0.36 | 0.95 | 0.98 | 0.98 | 0.96 | 1.00 | 1.00 |
| d, Delay for Lane Group [s/veh] | 52.97 | 31.08 | 27.64 | 70.75 | 27.11 | 24.66 | 72.87 | 78.85 | 79.37 | 72.90 | 83.51 | 84.37 |
| Lane Group LOS | D | C | C | F | C | C | E | E | E | E | F | F |
| Critical Lane Group | No | Yes | No | Yes | No | No | No | No | Yes | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 7.44 | 7.37 | 2.69 | 14.70 | 9.27 | 5.03 | 7.00 | 6.88 | 6.73 | 9.85 | 9.89 | 9.89 |
| 50th-Percentile Queue Length [ft/ln] | 186.00 | 184.18 | 67.34 | 367.62 | 231.80 | 125.80 | 175.05 | 172.07 | 168.19 | 246.18 | 247.26 | 247.35 |
| 95th-Percentile Queue Length [veh/ln] | 11.91 | 11.82 | 4.85 | 21.41 | 14.27 | 8.71 | 11.34 | 11.19 | 10.98 | 14.99 | 15.05 | 15.05 |
| 95th-Percentile Queue Length [ft/ln] | 297.84 | 295.47 | 121.21 | 535.18 | 356.64 | 217.77 | 283.54 | 279.63 | 274.53 | 374.84 | 376.20 | 376.32 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 52.97 | 31.08 | 27.64 | 70.75 | 27.11 | 24.66 | 73.14 | 78.85 | 79.14 | 73.88 | 83.51 | 83.97 |
| Movement LOS | D | C | C | F | C | C | E | E | E | E | F | F |
| d_A, Approach Delay [s/veh] | 36.52 | | | 42.39 | | | 76.93 | | | 80.08 | | |
| Approach LOS | D | | | D | | | E | | | F | | |
| d_I, Intersection Delay [s/veh] | 49.12 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.808 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 0.0 | 11.0 | 11.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 0.00 | 49.50 | 49.50 |
| I_p,int, Pedestrian LOS Score for Intersection | 0.000 | 0.000 | 2.567 | 2.659 |
| Crosswalk LOS | F | F | B | B |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 717 | 717 | 233 | 317 |
| d_b, Bicycle Delay [s] | 24.70 | 24.70 | 46.82 | 42.50 |
| I_b,int, Bicycle LOS Score for Intersection | 2.338 | 2.850 | 2.484 | 2.840 |
| Bicycle LOS | B | C | B | C |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 4 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 4: I-5 SB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 25.6 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.714 |

**Intersection Setup**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Curb Present | No | | No | | No | |
| Crosswalk | Yes | | No | | No | |

**Volumes**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 347 | 79 | 767 | 981 | 850 | 459 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 347 | 79 | 767 | 981 | 850 | 459 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 91 | 21 | 202 | 258 | 224 | 121 |
| Total Analysis Volume [veh/h] | 365 | 83 | 807 | 1033 | 895 | 483 |
| Presence of On-Street Parking | No | No | No | No | No | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | 0 | | 0 | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | 0 | | 0 | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 12.00 |

**Phasing & Timing**

| Control Type | Split | Split | Protected | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Signal Group | 7 | 4 | 5 | 2 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | Lead | - | - | - |
| Minimum Green [s] | 6 | 0 | 6 | 6 | 6 | 0 |
| Maximum Green [s] | 30 | 0 | 30 | 30 | 30 | 0 |
| Amber [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 0.0 | 1.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 19 | 0 | 47 | 101 | 54 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 43 | 0 |
| Rest In Walk | No | | | No | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | No | | No | No | No | |
| Maximum Recall | No | | No | No | No | |
| Pedestrian Recall | No | | No | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | R | L | C | C | R |
|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 15 | 15 | 31 | 97 | 62 | 62 |
| g / C, Green / Cycle | 0.12 | 0.12 | 0.26 | 0.81 | 0.52 | 0.52 |
| (v / s)_i Volume / Saturation Flow Rate | 0.11 | 0.05 | 0.23 | 0.20 | 0.25 | 0.30 |
| s, saturation flow rate [veh/h] | 3459 | 1589 | 3459 | 5094 | 3560 | 1589 |
| c, Capacity [veh/h] | 419 | 193 | 901 | 4137 | 1845 | 824 |
| d1, Uniform Delay [s] | 51.80 | 48.88 | 42.77 | 2.65 | 18.60 | 20.00 |
| k, delay calibration | 0.11 | 0.11 | 0.11 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 5.71 | 1.52 | 3.44 | 0.14 | 0.92 | 3.05 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| X, volume / capacity | 0.87 | 0.43 | 0.90 | 0.25 | 0.49 | 0.59 |
| d, Delay for Lane Group [s/veh] | 57.51 | 50.40 | 46.21 | 2.80 | 19.51 | 23.05 |
| Lane Group LOS | E | D | D | A | B | C |
| Critical Lane Group | Yes | No | Yes | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 5.72 | 2.39 | 11.88 | 1.51 | 8.11 | 9.84 |
| 50th-Percentile Queue Length [ft/ln] | 143.01 | 59.85 | 297.02 | 37.84 | 202.76 | 245.98 |
| 95th-Percentile Queue Length [veh/ln] | 9.64 | 4.31 | 17.53 | 2.72 | 12.78 | 14.98 |
| 95th-Percentile Queue Length [ft/ln] | 241.07 | 107.72 | 438.34 | 68.10 | 319.52 | 374.58 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 57.51 | 50.40 | 46.21 | 2.80 | 19.51 | 23.05 |
| Movement LOS | E | D | D | A | B | C |
| d_A, Approach Delay [s/veh] | 56.19 | | 21.84 | | 20.75 | |
| Approach LOS | E | | C | | C | |
| d_I, Intersection Delay [s/veh] | 25.63 | | | | | |
| Intersection LOS | C | | | | | |
| Intersection V/C | 0.714 | | | | | |

**Other Modes**

| | | | |
|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 49.50 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.653 | 0.000 | 0.000 |
| Crosswalk LOS | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 0 | 0 | 0 |
| d_b, Bicycle Delay [s] | 60.00 | 60.00 | 60.00 |
| I_b,int, Bicycle LOS Score for Intersection | 4.132 | 5.144 | 5.269 |
| Bicycle LOS | D | F | F |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 7 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 6: Wilshire Avenue/I-5 NB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 42.4 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.824 |

**Intersection Setup**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | No | | | No | | |

**Volumes**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 253 | 113 | 250 | 136 | 30 | 283 | 82 | 909 | 225 | 330 | 873 | 138 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 253 | 113 | 250 | 136 | 30 | 283 | 82 | 909 | 225 | 330 | 873 | 138 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 67 | 30 | 66 | 36 | 8 | 74 | 22 | 239 | 59 | 87 | 230 | 36 |
| Total Analysis Volume [veh/h] | 266 | 119 | 263 | 143 | 32 | 298 | 86 | 957 | 237 | 347 | 919 | 145 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 105 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Split | Split | Split | Split | Split | Split | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 6 | 0 | 0 | 2 | 0 | 3 | 8 | 0 | 7 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 0 | 6 | 0 | 0 | 6 | 0 | 6 | 6 | 0 | 6 | 6 | 0 |
| Maximum Green [s] | 0 | 30 | 0 | 0 | 30 | 0 | 30 | 30 | 0 | 30 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 0 | 21 | 0 | 0 | 24 | 0 | 10 | 46 | 0 | 14 | 50 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 0 | 0 | 25 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | | No | | | No | | No | No | | No | No | |
| Maximum Recall | | No | | | No | | No | No | | No | No | |
| Pedestrian Recall | | No | | | No | | No | No | | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | L | C | C | L | C | C |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 24 | 24 | 24 | 24 | 24 | 6 | 27 | 27 | 13 | 34 | 34 |
| g / C, Green / Cycle | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.06 | 0.26 | 0.26 | 0.13 | 0.32 | 0.32 |
| (v / s)_i Volume / Saturation Flow Rate | 0.11 | 0.11 | 0.17 | 0.08 | 0.20 | 0.05 | 0.23 | 0.23 | 0.10 | 0.20 | 0.20 |
| s, saturation flow rate [veh/h] | 1781 | 1834 | 1589 | 1781 | 1613 | 1781 | 3560 | 1686 | 3459 | 3560 | 1742 |
| c, Capacity [veh/h] | 413 | 426 | 369 | 413 | 374 | 105 | 914 | 433 | 439 | 1157 | 566 |
| d1, Uniform Delay [s] | 34.73 | 34.71 | 37.17 | 33.73 | 39.00 | 48.98 | 37.62 | 37.64 | 44.60 | 30.01 | 30.01 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.11 | 0.11 | 0.30 | 0.11 | 0.11 | 0.11 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 3.64 | 3.52 | 11.14 | 2.28 | 24.46 | 14.47 | 3.11 | 15.24 | 3.25 | 0.54 | 1.10 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.46 | 0.46 | 0.71 | 0.35 | 0.88 | 0.82 | 0.89 | 0.89 | 0.79 | 0.62 | 0.62 |
| d, Delay for Lane Group [s/veh] | 38.37 | 38.23 | 48.31 | 36.01 | 63.46 | 63.45 | 40.73 | 52.88 | 47.84 | 30.55 | 31.11 |
| Lane Group LOS | D | D | D | D | E | E | D | D | D | C | C |
| Critical Lane Group | No | No | Yes | No | Yes | No | No | Yes | Yes | No | No |
| 50th-Percentile Queue Length [veh/ln] | 4.57 | 4.68 | 7.29 | 3.30 | 10.64 | 2.65 | 10.27 | 11.20 | 4.56 | 7.61 | 7.54 |
| 50th-Percentile Queue Length [ft/ln] | 114.25 | 116.92 | 182.34 | 82.44 | 266.09 | 66.15 | 256.64 | 280.04 | 114.07 | 190.32 | 188.51 |
| 95th-Percentile Queue Length [veh/ln] | 8.08 | 8.22 | 11.72 | 5.94 | 15.99 | 4.76 | 15.52 | 16.69 | 8.07 | 12.14 | 12.04 |
| 95th-Percentile Queue Length [ft/ln] | 201.89 | 205.59 | 293.07 | 148.39 | 399.85 | 119.07 | 388.01 | 417.26 | 201.65 | 303.45 | 301.10 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 38.33 | 38.23 | 48.31 | 36.01 | 63.46 | 63.46 | 63.45 | 42.60 | 52.88 | 47.84 | 30.68 | 31.11 |
| Movement LOS | D | D | D | D | E | E | E | D | D | D | C | C |
| d_A, Approach Delay [s/veh] | 42.36 | | | 55.16 | | | 45.90 | | | 34.94 | | |
| Approach LOS | D | | | E | | | D | | | C | | |
| d_I, Intersection Delay [s/veh] | 42.39 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.824 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 42.08 | 42.08 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.554 | 2.215 | 0.000 | 0.000 |
| Crosswalk LOS | B | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 324 | 381 | 800 | 876 |
| d_b, Bicycle Delay [s] | 36.88 | 34.40 | 18.90 | 16.58 |
| I_b,int, Bicycle LOS Score for Intersection | 2.629 | 2.340 | 2.264 | 2.336 |
| Bicycle LOS | B | B | B | B |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | 6 | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | - | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 1: Euclid Street at I-5 Ramps**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 70.5 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | E |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.930 |

**Intersection Setup**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | No | | | No | | | Yes | | | Yes | | |

**Volumes**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 385 | 1295 | 124 | 565 | 1399 | 275 | 363 | 0 | 408 | 430 | 1 | 712 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 385 | 1295 | 124 | 565 | 1399 | 275 | 363 | 0 | 408 | 430 | 1 | 712 |
| Peak Hour Factor | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 99 | 334 | 32 | 146 | 361 | 71 | 94 | 0 | 105 | 111 | 0 | 184 |
| Total Analysis Volume [veh/h] | 397 | 1335 | 128 | 582 | 1442 | 284 | 374 | 0 | 421 | 443 | 1 | 734 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Split | Split | Split | Split | Split | Split |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 1 | 6 | 0 | 5 | 2 | 0 | 0 | 8 | 0 | 0 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 6 | 6 | 0 | 6 | 6 | 0 | 0 | 6 | 0 | 0 | 6 | 0 |
| Maximum Green [s] | 30 | 30 | 0 | 30 | 30 | 0 | 0 | 30 | 0 | 0 | 30 | 0 |
| Amber [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 19 | 47 | 0 | 22 | 50 | 0 | 0 | 21 | 0 | 0 | 30 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Clearance [s] | 0 | 36 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | No | No | | No | No | | | No | | | No | |
| Maximum Recall | No | No | | No | No | | | No | | | No | |
| Pedestrian Recall | No | No | | No | No | | | No | | | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 15 | 43 | 43 | 18 | 46 | 46 | 17 | 17 | 17 | 26 | 26 | 26 |
| g / C, Green / Cycle | 0.13 | 0.36 | 0.36 | 0.15 | 0.38 | 0.38 | 0.14 | 0.14 | 0.14 | 0.22 | 0.22 | 0.22 |
| (v / s)_i Volume / Saturation Flow Rate | 0.11 | 0.20 | 0.08 | 0.17 | 0.28 | 0.18 | 0.15 | 0.16 | 0.16 | 0.22 | 0.24 | 0.25 |
| s, saturation flow rate [veh/h] | 3459 | 6792 | 1589 | 3459 | 5094 | 1589 | 1781 | 1656 | 1589 | 1781 | 1612 | 1589 |
| c, Capacity [veh/h] | 435 | 2438 | 571 | 521 | 1955 | 610 | 250 | 233 | 223 | 386 | 349 | 344 |
| d1, Uniform Delay [s] | 51.85 | 30.72 | 26.85 | 51.02 | 31.82 | 27.77 | 51.62 | 51.62 | 51.62 | 47.05 | 47.05 | 47.05 |
| k, delay calibration | 0.11 | 0.50 | 0.50 | 0.11 | 0.50 | 0.50 | 0.17 | 0.18 | 0.19 | 0.36 | 0.43 | 0.44 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 7.75 | 0.89 | 0.91 | 59.09 | 2.54 | 2.54 | 63.98 | 77.52 | 85.28 | 43.60 | 82.93 | 89.53 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.91 | 0.55 | 0.22 | 1.12 | 0.74 | 0.47 | 1.10 | 1.13 | 1.15 | 1.02 | 1.12 | 1.14 |
| d, Delay for Lane Group [s/veh] | 59.60 | 31.61 | 27.76 | 110.11 | 34.36 | 30.32 | 115.60 | 129.14 | 136.90 | 90.65 | 129.98 | 136.58 |
| Lane Group LOS | E | C | C | F | C | C | F | F | F | F | F | F |
| Critical Lane Group | Yes | No | No | No | Yes | No | No | No | Yes | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 6.36 | 7.84 | 2.72 | 12.08 | 12.31 | 6.54 | 11.95 | 11.99 | 11.99 | 16.12 | 18.41 | 18.79 |
| 50th-Percentile Queue Length [ft/ln] | 159.06 | 195.90 | 68.00 | 302.03 | 307.68 | 163.54 | 298.79 | 299.76 | 299.72 | 403.11 | 460.37 | 469.65 |
| 95th-Percentile Queue Length [veh/ln] | 10.50 | 12.43 | 4.90 | 18.69 | 18.06 | 10.74 | 18.39 | 18.65 | 18.75 | 22.94 | 27.10 | 27.77 |
| 95th-Percentile Queue Length [ft/ln] | 262.48 | 310.68 | 122.39 | 467.35 | 451.51 | 268.40 | 459.68 | 466.16 | 468.87 | 573.38 | 677.51 | 694.14 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 59.60 | 31.61 | 27.76 | 110.11 | 34.36 | 30.32 | 119.42 | 129.14 | 133.98 | 95.12 | 129.98 | 133.51 |
| Movement LOS | E | C | C | F | C | C | F | F | F | F | F | F |
| d_A, Approach Delay [s/veh] | 37.32 | | | 52.96 | | | 126.95 | | | 119.07 | | |
| Approach LOS | D | | | D | | | F | | | F | | |
| d_I, Intersection Delay [s/veh] | 70.48 | | | | | | | | | | | |
| Intersection LOS | E | | | | | | | | | | | |
| Intersection V/C | 0.930 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 0.0 | 11.0 | 11.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 0.00 | 49.50 | 49.50 |
| I_p,int, Pedestrian LOS Score for Intersection | 0.000 | 0.000 | 2.602 | 2.682 |
| Crosswalk LOS | F | F | B | B |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 717 | 767 | 283 | 433 |
| d_b, Bicycle Delay [s] | 24.70 | 22.82 | 44.20 | 36.82 |
| I_b,int, Bicycle LOS Score for Intersection | 2.327 | 2.829 | 2.871 | 3.503 |
| Bicycle LOS | B | C | C | D |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 4 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 4: I-5 SB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 19.5 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.643 |

**Intersection Setup**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Curb Present | No | | No | | No | |
| Crosswalk | Yes | | No | | No | |

**Volumes**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 420 | 82 | 371 | 782 | 1099 | 384 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 420 | 82 | 371 | 782 | 1099 | 384 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 111 | 22 | 98 | 206 | 289 | 101 |
| Total Analysis Volume [veh/h] | 442 | 86 | 391 | 823 | 1157 | 404 |
| Presence of On-Street Parking | No | No | No | No | No | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | 0 | | 0 | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | 0 | | 0 | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 100 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 12.00 |

**Phasing & Timing**

| Control Type | Split | Split | Protected | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Signal Group | 7 | 4 | 5 | 2 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | Lead | - | - | - |
| Minimum Green [s] | 6 | 0 | 6 | 6 | 6 | 0 |
| Maximum Green [s] | 30 | 0 | 30 | 30 | 30 | 0 |
| Amber [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 0.0 | 1.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 24 | 0 | 22 | 76 | 54 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 43 | 0 |
| Rest In Walk | No | | | No | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | No | | No | No | No | |
| Maximum Recall | No | | No | No | No | |
| Pedestrian Recall | No | | No | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | R | L | C | C | R |
|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 100 | 100 | 100 | 100 | 100 | 100 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 15 | 15 | 14 | 77 | 59 | 59 |
| g / C, Green / Cycle | 0.15 | 0.15 | 0.14 | 0.77 | 0.59 | 0.59 |
| (v / s)_i Volume / Saturation Flow Rate | 0.13 | 0.05 | 0.11 | 0.16 | 0.32 | 0.25 |
| s, saturation flow rate [veh/h] | 3459 | 1589 | 3459 | 5094 | 3560 | 1589 |
| c, Capacity [veh/h] | 529 | 243 | 471 | 3907 | 2104 | 939 |
| d1, Uniform Delay [s] | 41.13 | 37.92 | 42.08 | 3.24 | 12.40 | 11.22 |
| k, delay calibration | 0.11 | 0.11 | 0.11 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 3.55 | 0.87 | 3.87 | 0.12 | 1.04 | 1.44 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| X, volume / capacity | 0.84 | 0.35 | 0.83 | 0.21 | 0.55 | 0.43 |
| d, Delay for Lane Group [s/veh] | 44.68 | 38.80 | 45.95 | 3.36 | 13.44 | 12.66 |
| Lane Group LOS | D | D | D | A | B | B |
| Critical Lane Group | Yes | No | Yes | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 5.49 | 1.94 | 4.91 | 1.22 | 7.56 | 4.96 |
| 50th-Percentile Queue Length [ft/ln] | 137.32 | 48.40 | 122.69 | 30.44 | 189.09 | 124.10 |
| 95th-Percentile Queue Length [veh/ln] | 9.34 | 3.49 | 8.54 | 2.19 | 12.07 | 8.62 |
| 95th-Percentile Queue Length [ft/ln] | 233.42 | 87.13 | 213.52 | 54.79 | 301.85 | 215.45 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 44.68 | 38.80 | 45.95 | 3.36 | 13.44 | 12.66 |
| Movement LOS | D | D | D | A | B | B |
| d_A, Approach Delay [s/veh] | 43.72 | | 17.08 | | 13.23 | |
| Approach LOS | D | | B | | B | |
| d_I, Intersection Delay [s/veh] | 19.52 | | | | | |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.643 | | | | | |

**Other Modes**

| | | | |
|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 39.61 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.563 | 0.000 | 0.000 |
| Crosswalk LOS | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 0 | 0 | 0 |
| d_b, Bicycle Delay [s] | 50.00 | 50.00 | 50.00 |
| I_b,int, Bicycle LOS Score for Intersection | 4.132 | 4.800 | 5.420 |
| Bicycle LOS | D | E | F |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 7 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 6: Wilshire Avenue/I-5 NB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 36.1 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.728 |

**Intersection Setup**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | No | | | No | | |

**Volumes**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 285 | 244 | 230 | 155 | 21 | 225 | 122 | 873 | 151 | 304 | 1004 | 205 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 285 | 244 | 230 | 155 | 21 | 225 | 122 | 873 | 151 | 304 | 1004 | 205 |
| Peak Hour Factor | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 72 | 61 | 58 | 39 | 5 | 56 | 31 | 219 | 38 | 76 | 252 | 51 |
| Total Analysis Volume [veh/h] | 286 | 245 | 231 | 156 | 21 | 226 | 122 | 877 | 152 | 305 | 1008 | 206 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 90 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Split | Split | Split | Split | Split | Split | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 6 | 0 | 0 | 2 | 0 | 3 | 8 | 0 | 7 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 0 | 6 | 0 | 0 | 6 | 0 | 6 | 6 | 0 | 6 | 6 | 0 |
| Maximum Green [s] | 0 | 30 | 0 | 0 | 30 | 0 | 30 | 30 | 0 | 30 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 0 | 10 | 0 | 0 | 10 | 0 | 25 | 47 | 0 | 23 | 45 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 0 | 0 | 25 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | | No | | | No | | No | No | | No | No | |
| Maximum Recall | | No | | | No | | No | No | | No | No | |
| Pedestrian Recall | | No | | | No | | No | No | | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | L | C | C | L | C | C |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 21 | 21 | 21 | 21 | 21 | 8 | 22 | 22 | 11 | 25 | 25 |
| g / C, Green / Cycle | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.09 | 0.25 | 0.25 | 0.12 | 0.28 | 0.28 |
| (v / s)_i Volume / Saturation Flow Rate | 0.15 | 0.14 | 0.15 | 0.09 | 0.15 | 0.07 | 0.19 | 0.19 | 0.09 | 0.23 | 0.23 |
| s, saturation flow rate [veh/h] | 1781 | 1862 | 1589 | 1781 | 1610 | 1781 | 3560 | 1732 | 3459 | 3560 | 1712 |
| c, Capacity [veh/h] | 406 | 424 | 362 | 406 | 367 | 157 | 886 | 431 | 408 | 991 | 477 |
| d1, Uniform Delay [s] | 31.51 | 31.43 | 31.45 | 29.46 | 31.75 | 40.23 | 31.56 | 31.59 | 38.48 | 30.49 | 30.50 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.11 | 0.11 | 0.15 | 0.11 | 0.11 | 0.11 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 7.67 | 7.09 | 8.32 | 2.74 | 9.50 | 7.91 | 1.53 | 4.22 | 2.77 | 1.83 | 3.72 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.64 | 0.64 | 0.64 | 0.38 | 0.67 | 0.78 | 0.78 | 0.78 | 0.75 | 0.83 | 0.83 |
| d, Delay for Lane Group [s/veh] | 39.17 | 38.52 | 39.78 | 32.20 | 41.25 | 48.14 | 33.10 | 35.81 | 41.25 | 32.32 | 34.22 |
| Lane Group LOS | D | D | D | C | D | D | C | D | D | C | C |
| Critical Lane Group | Yes | No | No | No | Yes | Yes | No | No | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 5.90 | 6.01 | 5.28 | 3.12 | 5.76 | 2.96 | 7.02 | 7.18 | 3.37 | 8.34 | 8.27 |
| 50th-Percentile Queue Length [ft/ln] | 147.45 | 150.29 | 131.92 | 77.94 | 144.00 | 73.95 | 175.56 | 179.57 | 84.22 | 208.46 | 206.78 |
| 95th-Percentile Queue Length [veh/ln] | 9.88 | 10.03 | 9.04 | 5.61 | 9.70 | 5.32 | 11.37 | 11.58 | 6.06 | 13.07 | 12.99 |
| 95th-Percentile Queue Length [ft/ln] | 247.03 | 250.82 | 226.11 | 140.29 | 242.40 | 133.11 | 284.20 | 289.45 | 151.59 | 326.85 | 324.69 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 39.13 | 38.52 | 39.78 | 32.20 | 41.25 | 41.25 | 48.14 | 33.67 | 35.81 | 41.25 | 32.68 | 34.22 |
| Movement LOS | D | D | D | C | D | D | D | C | D | D | C | C |
| d_A, Approach Delay [s/veh] | 39.13 | | | 37.75 | | | 35.49 | | | 34.61 | | |
| Approach LOS | D | | | D | | | D | | | C | | |
| d_I, Intersection Delay [s/veh] | 36.10 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.728 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 34.67 | 34.67 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.541 | 2.257 | 0.000 | 0.000 |
| Crosswalk LOS | B | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 133 | 133 | 956 | 911 |
| d_b, Bicycle Delay [s] | 39.20 | 39.20 | 12.27 | 13.34 |
| I_b,int, Bicycle LOS Score for Intersection | 2.817 | 2.225 | 2.193 | 2.395 |
| Bicycle LOS | C | B | B | B |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | 6 | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | - | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

*APPENDIX D-IV*

# EXISTING PLUS CUMULATIVE PROJECTS PLUS PROJECT (SCENARIO NO.1) TRAFFIC CONDITIONS

**Intersection Level Of Service Report**
**Intersection 1: Euclid Street at I-5 Ramps**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 49.3 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.809 |

**Intersection Setup**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | No | | | No | | | Yes | | | Yes | | |

**Volumes**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 474 | 1212 | 121 | 793 | 1201 | 236 | 186 | 31 | 316 | 273 | 2 | 463 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 474 | 1212 | 121 | 793 | 1201 | 236 | 186 | 31 | 316 | 273 | 2 | 463 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 125 | 319 | 32 | 209 | 316 | 62 | 49 | 8 | 83 | 72 | 1 | 122 |
| Total Analysis Volume [veh/h] | 499 | 1276 | 127 | 835 | 1264 | 248 | 196 | 33 | 333 | 287 | 2 | 487 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Split | Split | Split | Split | Split | Split |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 1 | 6 | 0 | 5 | 2 | 0 | 0 | 8 | 0 | 0 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 6 | 6 | 0 | 6 | 6 | 0 | 0 | 6 | 0 | 0 | 6 | 0 |
| Maximum Green [s] | 30 | 30 | 0 | 30 | 30 | 0 | 0 | 30 | 0 | 0 | 30 | 0 |
| Amber [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 32 | 47 | 0 | 32 | 47 | 0 | 0 | 18 | 0 | 0 | 23 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Clearance [s] | 0 | 36 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | No | No | | No | No | | | No | | | No | |
| Maximum Recall | No | No | | No | No | | | No | | | No | |
| Pedestrian Recall | No | No | | No | No | | | No | | | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 20 | 43 | 43 | 28 | 51 | 51 | 14 | 14 | 14 | 19 | 19 | 19 |
| g / C, Green / Cycle | 0.17 | 0.36 | 0.36 | 0.23 | 0.43 | 0.43 | 0.12 | 0.12 | 0.12 | 0.16 | 0.16 | 0.16 |
| (v / s)_i Volume / Saturation Flow Rate | 0.14 | 0.19 | 0.08 | 0.24 | 0.25 | 0.16 | 0.11 | 0.11 | 0.11 | 0.15 | 0.16 | 0.16 |
| s, saturation flow rate [veh/h] | 3459 | 6792 | 1589 | 3459 | 5094 | 1589 | 1781 | 1633 | 1589 | 1781 | 1602 | 1589 |
| c, Capacity [veh/h] | 576 | 2443 | 572 | 807 | 2172 | 678 | 205 | 188 | 183 | 282 | 254 | 252 |
| d1, Uniform Delay [s] | 48.72 | 30.30 | 26.75 | 46.01 | 26.26 | 23.40 | 52.78 | 52.99 | 53.00 | 50.15 | 50.47 | 50.49 |
| k, delay calibration | 0.11 | 0.50 | 0.50 | 0.11 | 0.50 | 0.50 | 0.11 | 0.11 | 0.11 | 0.16 | 0.18 | 0.18 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 4.10 | 0.80 | 0.90 | 24.74 | 1.15 | 1.52 | 20.09 | 27.05 | 27.58 | 22.76 | 33.04 | 33.87 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.87 | 0.52 | 0.22 | 1.03 | 0.58 | 0.37 | 0.95 | 0.98 | 0.99 | 0.96 | 1.00 | 1.00 |
| d, Delay for Lane Group [s/veh] | 52.81 | 31.11 | 27.64 | 70.75 | 27.41 | 24.92 | 72.87 | 80.04 | 80.57 | 72.90 | 83.51 | 84.37 |
| Lane Group LOS | D | C | C | F | C | C | E | F | F | E | F | F |
| Critical Lane Group | No | Yes | No | Yes | No | No | No | No | Yes | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 7.59 | 7.40 | 2.69 | 14.70 | 9.34 | 5.06 | 7.00 | 6.98 | 6.82 | 9.85 | 9.89 | 9.89 |
| 50th-Percentile Queue Length [ft/ln] | 189.72 | 184.90 | 67.34 | 367.62 | 233.48 | 126.58 | 175.05 | 174.41 | 170.51 | 246.18 | 247.26 | 247.35 |
| 95th-Percentile Queue Length [veh/ln] | 12.11 | 11.86 | 4.85 | 21.41 | 14.35 | 8.75 | 11.34 | 11.31 | 11.10 | 14.99 | 15.05 | 15.05 |
| 95th-Percentile Queue Length [ft/ln] | 302.67 | 296.41 | 121.21 | 535.18 | 358.77 | 218.83 | 283.54 | 282.70 | 277.59 | 374.84 | 376.20 | 376.32 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 52.81 | 31.11 | 27.64 | 70.75 | 27.41 | 24.92 | 73.17 | 80.04 | 80.33 | 73.88 | 83.51 | 83.97 |
| Movement LOS | D | C | C | F | C | C | E | F | F | E | F | F |
| d_A, Approach Delay [s/veh] | 36.57 | | | 42.57 | | | 77.71 | | | 80.08 | | |
| Approach LOS | D | | | D | | | E | | | F | | |
| d_I, Intersection Delay [s/veh] | 49.27 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.809 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 0.0 | 11.0 | 11.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 0.00 | 49.50 | 49.50 |
| I_p,int, Pedestrian LOS Score for Intersection | 0.000 | 0.000 | 2.569 | 2.659 |
| Crosswalk LOS | F | F | B | B |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 717 | 717 | 233 | 317 |
| d_b, Bicycle Delay [s] | 24.70 | 24.70 | 46.82 | 42.50 |
| I_b,int, Bicycle LOS Score for Intersection | 2.344 | 2.850 | 2.487 | 2.840 |
| Bicycle LOS | B | C | B | C |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 4 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 4: I-5 SB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 25.7 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.718 |

**Intersection Setup**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Curb Present | No | | No | | No | |
| Crosswalk | Yes | | No | | No | |

**Volumes**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 347 | 79 | 778 | 986 | 853 | 459 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 347 | 79 | 778 | 986 | 853 | 459 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 91 | 21 | 205 | 259 | 224 | 121 |
| Total Analysis Volume [veh/h] | 365 | 83 | 819 | 1038 | 898 | 483 |
| Presence of On-Street Parking | No | No | No | No | No | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | 0 | | 0 | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | 0 | | 0 | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 12.00 |

**Phasing & Timing**

| Control Type | Split | Split | Protected | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Signal Group | 7 | 4 | 5 | 2 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | Lead | - | - | - |
| Minimum Green [s] | 6 | 0 | 6 | 6 | 6 | 0 |
| Maximum Green [s] | 30 | 0 | 30 | 30 | 30 | 0 |
| Amber [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 0.0 | 1.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 19 | 0 | 47 | 101 | 54 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 43 | 0 |
| Rest In Walk | No | | | No | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | No | | No | No | No | |
| Maximum Recall | No | | No | No | No | |
| Pedestrian Recall | No | | No | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | R | L | C | C | R |
|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 15 | 15 | 32 | 97 | 62 | 62 |
| g / C, Green / Cycle | 0.12 | 0.12 | 0.26 | 0.81 | 0.51 | 0.51 |
| (v / s)_i Volume / Saturation Flow Rate | 0.11 | 0.05 | 0.24 | 0.20 | 0.25 | 0.30 |
| s, saturation flow rate [veh/h] | 3459 | 1589 | 3459 | 5094 | 3560 | 1589 |
| c, Capacity [veh/h] | 419 | 193 | 913 | 4137 | 1833 | 818 |
| d1, Uniform Delay [s] | 51.80 | 48.88 | 42.57 | 2.66 | 18.89 | 20.29 |
| k, delay calibration | 0.11 | 0.11 | 0.11 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 5.71 | 1.52 | 3.44 | 0.15 | 0.94 | 3.12 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| X, volume / capacity | 0.87 | 0.43 | 0.90 | 0.25 | 0.49 | 0.59 |
| d, Delay for Lane Group [s/veh] | 57.51 | 50.40 | 46.01 | 2.80 | 19.83 | 23.41 |
| Lane Group LOS | E | D | D | A | B | C |
| Critical Lane Group | Yes | No | Yes | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 5.72 | 2.39 | 12.05 | 1.52 | 8.22 | 9.93 |
| 50th-Percentile Queue Length [ft/ln] | 143.01 | 59.85 | 301.19 | 38.07 | 205.49 | 248.26 |
| 95th-Percentile Queue Length [veh/ln] | 9.64 | 4.31 | 17.74 | 2.74 | 12.92 | 15.10 |
| 95th-Percentile Queue Length [ft/ln] | 241.07 | 107.72 | 443.51 | 68.52 | 323.04 | 377.46 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 57.51 | 50.40 | 46.01 | 2.80 | 19.83 | 23.41 |
| Movement LOS | E | D | D | A | B | C |
| d_A, Approach Delay [s/veh] | 56.19 | | 21.86 | | 21.08 | |
| Approach LOS | E | | C | | C | |
| d_I, Intersection Delay [s/veh] | 25.74 | | | | | |
| Intersection LOS | C | | | | | |
| Intersection V/C | 0.718 | | | | | |

**Other Modes**

| | | | |
|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 49.50 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.655 | 0.000 | 0.000 |
| Crosswalk LOS | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 0 | 0 | 0 |
| d_b, Bicycle Delay [s] | 60.00 | 60.00 | 60.00 |
| I_b,int, Bicycle LOS Score for Intersection | 4.132 | 5.154 | 5.272 |
| Bicycle LOS | D | F | F |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 7 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 6: Wilshire Avenue/I-5 NB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 42.4 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.824 |

**Intersection Setup**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | No | | | No | | |

**Volumes**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 255 | 113 | 250 | 136 | 30 | 283 | 82 | 913 | 225 | 330 | 874 | 138 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 255 | 113 | 250 | 136 | 30 | 283 | 82 | 913 | 225 | 330 | 874 | 138 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 67 | 30 | 66 | 36 | 8 | 74 | 22 | 240 | 59 | 87 | 230 | 36 |
| Total Analysis Volume [veh/h] | 268 | 119 | 263 | 143 | 32 | 298 | 86 | 961 | 237 | 347 | 920 | 145 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 105 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Split | Split | Split | Split | Split | Split | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 6 | 0 | 0 | 2 | 0 | 3 | 8 | 0 | 7 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 0 | 6 | 0 | 0 | 6 | 0 | 6 | 6 | 0 | 6 | 6 | 0 |
| Maximum Green [s] | 0 | 30 | 0 | 0 | 30 | 0 | 30 | 30 | 0 | 30 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 0 | 21 | 0 | 0 | 24 | 0 | 10 | 46 | 0 | 14 | 50 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 0 | 0 | 25 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | | No | | | No | | No | No | | No | No | |
| Maximum Recall | | No | | | No | | No | No | | No | No | |
| Pedestrian Recall | | No | | | No | | No | No | | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | L | C | C | L | C | C |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 24 | 24 | 24 | 24 | 24 | 6 | 27 | 27 | 13 | 34 | 34 |
| g / C, Green / Cycle | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.06 | 0.26 | 0.26 | 0.13 | 0.33 | 0.33 |
| (v / s)_i Volume / Saturation Flow Rate | 0.11 | 0.11 | 0.17 | 0.08 | 0.20 | 0.05 | 0.23 | 0.23 | 0.10 | 0.20 | 0.20 |
| s, saturation flow rate [veh/h] | 1781 | 1834 | 1589 | 1781 | 1613 | 1781 | 3560 | 1687 | 3459 | 3560 | 1743 |
| c, Capacity [veh/h] | 413 | 425 | 369 | 413 | 374 | 105 | 916 | 434 | 439 | 1159 | 567 |
| d1, Uniform Delay [s] | 34.78 | 34.76 | 37.20 | 33.76 | 39.03 | 48.98 | 37.60 | 37.61 | 44.60 | 29.96 | 29.96 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.11 | 0.11 | 0.31 | 0.11 | 0.11 | 0.11 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 3.69 | 3.57 | 11.20 | 2.29 | 24.63 | 14.47 | 3.12 | 15.35 | 3.25 | 0.54 | 1.10 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.46 | 0.46 | 0.71 | 0.35 | 0.88 | 0.82 | 0.89 | 0.89 | 0.79 | 0.62 | 0.62 |
| d, Delay for Lane Group [s/veh] | 38.47 | 38.33 | 48.40 | 36.05 | 63.67 | 63.45 | 40.72 | 52.97 | 47.84 | 30.50 | 31.06 |
| Lane Group LOS | D | D | D | D | E | E | D | D | D | C | C |
| Critical Lane Group | No | No | Yes | No | Yes | No | No | Yes | Yes | No | No |
| 50th-Percentile Queue Length [veh/ln] | 4.60 | 4.71 | 7.30 | 3.30 | 10.66 | 2.65 | 10.30 | 11.25 | 4.56 | 7.61 | 7.54 |
| 50th-Percentile Queue Length [ft/ln] | 115.04 | 117.70 | 182.53 | 82.49 | 266.55 | 66.15 | 257.52 | 281.34 | 114.07 | 190.33 | 188.53 |
| 95th-Percentile Queue Length [veh/ln] | 8.12 | 8.27 | 11.73 | 5.94 | 16.02 | 4.76 | 15.56 | 16.75 | 8.07 | 12.14 | 12.04 |
| 95th-Percentile Queue Length [ft/ln] | 202.98 | 206.66 | 293.31 | 148.48 | 400.43 | 119.07 | 389.11 | 418.87 | 201.65 | 303.46 | 301.12 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 38.43 | 38.33 | 48.40 | 36.05 | 63.67 | 63.67 | 63.45 | 42.61 | 52.97 | 47.84 | 30.63 | 31.06 |
| Movement LOS | D | D | D | D | E | E | E | D | D | D | C | C |
| d_A, Approach Delay [s/veh] | 42.45 | | | 55.32 | | | 45.92 | | | 34.90 | | |
| Approach LOS | D | | | E | | | D | | | C | | |
| d_I, Intersection Delay [s/veh] | 42.42 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.824 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 42.08 | 42.08 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.554 | 2.215 | 0.000 | 0.000 |
| Crosswalk LOS | B | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 324 | 381 | 800 | 876 |
| d_b, Bicycle Delay [s] | 36.88 | 34.40 | 18.90 | 16.58 |
| I_b,int, Bicycle LOS Score for Intersection | 2.632 | 2.340 | 2.266 | 2.336 |
| Bicycle LOS | B | B | B | B |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | 6 | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | - | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 1: Euclid Street at I-5 Ramps**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 71.2 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | E |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.935 |

**Intersection Setup**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | No | | | No | | | Yes | | | Yes | | |

**Volumes**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 390 | 1297 | 124 | 565 | 1403 | 275 | 363 | 0 | 417 | 430 | 1 | 712 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 390 | 1297 | 124 | 565 | 1403 | 275 | 363 | 0 | 417 | 430 | 1 | 712 |
| Peak Hour Factor | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 101 | 334 | 32 | 146 | 362 | 71 | 94 | 0 | 107 | 111 | 0 | 184 |
| Total Analysis Volume [veh/h] | 402 | 1337 | 128 | 582 | 1446 | 284 | 374 | 0 | 430 | 443 | 1 | 734 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Split | Split | Split | Split | Split | Split |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 1 | 6 | 0 | 5 | 2 | 0 | 0 | 8 | 0 | 0 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 6 | 6 | 0 | 6 | 6 | 0 | 0 | 6 | 0 | 0 | 6 | 0 |
| Maximum Green [s] | 30 | 30 | 0 | 30 | 30 | 0 | 0 | 30 | 0 | 0 | 30 | 0 |
| Amber [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 21 | 47 | 0 | 21 | 47 | 0 | 0 | 22 | 0 | 0 | 30 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Clearance [s] | 0 | 36 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | No | No | | No | No | | | No | | | No | |
| Maximum Recall | No | No | | No | No | | | No | | | No | |
| Pedestrian Recall | No | No | | No | No | | | No | | | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 16 | 43 | 43 | 17 | 44 | 44 | 18 | 18 | 18 | 26 | 26 | 26 |
| g / C, Green / Cycle | 0.13 | 0.36 | 0.36 | 0.14 | 0.37 | 0.37 | 0.15 | 0.15 | 0.15 | 0.22 | 0.22 | 0.22 |
| (v / s)_i Volume / Saturation Flow Rate | 0.12 | 0.20 | 0.08 | 0.17 | 0.28 | 0.18 | 0.16 | 0.16 | 0.16 | 0.22 | 0.24 | 0.25 |
| s, saturation flow rate [veh/h] | 3459 | 6792 | 1589 | 3459 | 5094 | 1589 | 1781 | 1654 | 1589 | 1781 | 1612 | 1589 |
| c, Capacity [veh/h] | 461 | 2438 | 571 | 492 | 1875 | 585 | 265 | 246 | 237 | 386 | 349 | 344 |
| d1, Uniform Delay [s] | 51.06 | 30.73 | 26.85 | 51.51 | 33.49 | 29.20 | 51.13 | 51.13 | 51.13 | 47.05 | 47.05 | 47.05 |
| k, delay calibration | 0.11 | 0.50 | 0.50 | 0.11 | 0.50 | 0.50 | 0.18 | 0.19 | 0.20 | 0.36 | 0.43 | 0.44 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 5.29 | 0.89 | 0.91 | 86.75 | 3.14 | 2.87 | 46.49 | 59.40 | 66.54 | 43.60 | 82.93 | 89.53 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.87 | 0.55 | 0.22 | 1.18 | 0.77 | 0.49 | 1.05 | 1.08 | 1.10 | 1.02 | 1.12 | 1.14 |
| d, Delay for Lane Group [s/veh] | 56.35 | 31.63 | 27.76 | 138.26 | 36.63 | 32.07 | 97.62 | 110.53 | 117.66 | 90.65 | 129.98 | 136.58 |
| Lane Group LOS | E | C | C | F | D | C | F | F | F | F | F | F |
| Critical Lane Group | Yes | No | No | No | Yes | No | No | No | Yes | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 6.26 | 7.85 | 2.72 | 13.32 | 12.79 | 6.76 | 11.36 | 11.43 | 11.45 | 16.12 | 18.41 | 18.79 |
| 50th-Percentile Queue Length [ft/ln] | 156.51 | 196.28 | 68.00 | 332.96 | 319.77 | 168.92 | 283.94 | 285.70 | 286.34 | 403.11 | 460.37 | 469.65 |
| 95th-Percentile Queue Length [veh/ln] | 10.36 | 12.45 | 4.90 | 20.75 | 18.66 | 11.02 | 17.27 | 17.59 | 17.74 | 22.94 | 27.10 | 27.77 |
| 95th-Percentile Queue Length [ft/ln] | 259.10 | 311.16 | 122.39 | 518.64 | 466.40 | 275.50 | 431.76 | 439.80 | 443.54 | 573.38 | 677.51 | 694.14 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 56.35 | 31.63 | 27.76 | 138.26 | 36.63 | 32.07 | 101.16 | 110.53 | 114.93 | 95.12 | 129.98 | 133.51 |
| Movement LOS | E | C | C | F | D | C | F | F | F | F | F | F |
| d_A, Approach Delay [s/veh] | 36.69 | | | 61.65 | | | 108.37 | | | 119.07 | | |
| Approach LOS | D | | | E | | | F | | | F | | |
| d_I, Intersection Delay [s/veh] | 71.16 | | | | | | | | | | | |
| Intersection LOS | E | | | | | | | | | | | |
| Intersection V/C | 0.935 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 0.0 | 11.0 | 11.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 0.00 | 49.50 | 49.50 |
| I_p,int, Pedestrian LOS Score for Intersection | 0.000 | 0.000 | 2.604 | 2.682 |
| Crosswalk LOS | F | F | B | B |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 717 | 717 | 300 | 433 |
| d_b, Bicycle Delay [s] | 24.70 | 24.70 | 43.35 | 36.82 |
| I_b,int, Bicycle LOS Score for Intersection | 2.330 | 2.831 | 2.886 | 3.503 |
| Bicycle LOS | B | C | C | D |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 4 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 4: I-5 SB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 20.3 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.646 |

**Intersection Setup**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Curb Present | No | | No | | No | |
| Crosswalk | Yes | | No | | No | |

**Volumes**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 420 | 82 | 376 | 784 | 1114 | 384 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 420 | 82 | 376 | 784 | 1114 | 384 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 111 | 22 | 99 | 206 | 293 | 101 |
| Total Analysis Volume [veh/h] | 442 | 86 | 396 | 825 | 1173 | 404 |
| Presence of On-Street Parking | No | No | No | No | No | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | 0 | | 0 | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | 0 | | 0 | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 105 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 12.00 |

**Phasing & Timing**

| Control Type | Split | Split | Protected | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Signal Group | 7 | 4 | 5 | 2 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | Lead | - | - | - |
| Minimum Green [s] | 6 | 0 | 6 | 6 | 6 | 0 |
| Maximum Green [s] | 30 | 0 | 30 | 30 | 30 | 0 |
| Amber [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 0.0 | 1.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 27 | 0 | 24 | 78 | 54 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 43 | 0 |
| Rest In Walk | No | | | No | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | No | | No | No | No | |
| Maximum Recall | No | | No | No | No | |
| Pedestrian Recall | No | | No | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | R | L | C | C | R |
|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 105 | 105 | 105 | 105 | 105 | 105 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 16 | 16 | 14 | 81 | 63 | 63 |
| g / C, Green / Cycle | 0.15 | 0.15 | 0.14 | 0.77 | 0.60 | 0.60 |
| (v / s)_i Volume / Saturation Flow Rate | 0.13 | 0.05 | 0.11 | 0.16 | 0.33 | 0.25 |
| s, saturation flow rate [veh/h] | 3459 | 1589 | 3459 | 5094 | 3560 | 1589 |
| c, Capacity [veh/h] | 531 | 244 | 474 | 3924 | 2119 | 946 |
| d1, Uniform Delay [s] | 43.14 | 39.78 | 44.13 | 3.30 | 12.83 | 11.54 |
| k, delay calibration | 0.11 | 0.11 | 0.11 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 3.50 | 0.87 | 3.93 | 0.12 | 1.05 | 1.41 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| X, volume / capacity | 0.83 | 0.35 | 0.83 | 0.21 | 0.55 | 0.43 |
| d, Delay for Lane Group [s/veh] | 46.63 | 40.64 | 48.07 | 3.42 | 13.88 | 12.95 |
| Lane Group LOS | D | D | D | A | B | B |
| Critical Lane Group | Yes | No | Yes | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 5.78 | 2.04 | 5.24 | 1.29 | 8.11 | 5.20 |
| 50th-Percentile Queue Length [ft/ln] | 144.59 | 51.04 | 131.05 | 32.36 | 202.72 | 130.04 |
| 95th-Percentile Queue Length [veh/ln] | 9.73 | 3.67 | 9.00 | 2.33 | 12.78 | 8.94 |
| 95th-Percentile Queue Length [ft/ln] | 243.19 | 91.87 | 224.92 | 58.26 | 319.48 | 223.55 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 46.63 | 40.64 | 48.07 | 3.42 | 13.88 | 12.95 |
| Movement LOS | D | D | D | A | B | B |
| d_A, Approach Delay [s/veh] | 45.66 | | 17.90 | | 13.64 | |
| Approach LOS | D | | B | | B | |
| d_I, Intersection Delay [s/veh] | 20.29 | | | | | |
| Intersection LOS | C | | | | | |
| Intersection V/C | 0.646 | | | | | |

**Other Modes**

| | | | |
|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 42.08 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.566 | 0.000 | 0.000 |
| Crosswalk LOS | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 0 | 0 | 0 |
| d_b, Bicycle Delay [s] | 52.50 | 52.50 | 52.50 |
| I_b,int, Bicycle LOS Score for Intersection | 4.132 | 4.804 | 5.433 |
| Bicycle LOS | D | E | F |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 7 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 6: Wilshire Avenue/I-5 NB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 36.2 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.733 |

**Intersection Setup**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | No | | | No | | |

**Volumes**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 296 | 244 | 230 | 155 | 21 | 225 | 122 | 875 | 151 | 304 | 1008 | 205 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 296 | 244 | 230 | 155 | 21 | 225 | 122 | 875 | 151 | 304 | 1008 | 205 |
| Peak Hour Factor | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 74 | 61 | 58 | 39 | 5 | 56 | 31 | 220 | 38 | 76 | 253 | 51 |
| Total Analysis Volume [veh/h] | 297 | 245 | 231 | 156 | 21 | 226 | 122 | 879 | 152 | 305 | 1012 | 206 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 90 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Split | Split | Split | Split | Split | Split | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 6 | 0 | 0 | 2 | 0 | 3 | 8 | 0 | 7 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 0 | 6 | 0 | 0 | 6 | 0 | 6 | 6 | 0 | 6 | 6 | 0 |
| Maximum Green [s] | 0 | 30 | 0 | 0 | 30 | 0 | 30 | 30 | 0 | 30 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 0 | 10 | 0 | 0 | 10 | 0 | 25 | 47 | 0 | 23 | 45 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 0 | 0 | 25 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | | No | | | No | | No | No | | No | No | |
| Maximum Recall | | No | | | No | | No | No | | No | No | |
| Pedestrian Recall | | No | | | No | | No | No | | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | L | C | C | L | C | C |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 21 | 21 | 21 | 21 | 21 | 8 | 22 | 22 | 11 | 25 | 25 |
| g / C, Green / Cycle | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.09 | 0.25 | 0.25 | 0.12 | 0.28 | 0.28 |
| (v / s)_i Volume / Saturation Flow Rate | 0.15 | 0.15 | 0.15 | 0.09 | 0.15 | 0.07 | 0.19 | 0.20 | 0.09 | 0.23 | 0.23 |
| s, saturation flow rate [veh/h] | 1781 | 1860 | 1589 | 1781 | 1610 | 1781 | 3560 | 1733 | 3459 | 3560 | 1713 |
| c, Capacity [veh/h] | 405 | 423 | 362 | 405 | 366 | 157 | 889 | 433 | 408 | 994 | 478 |
| d1, Uniform Delay [s] | 31.66 | 31.58 | 31.49 | 29.49 | 31.79 | 40.23 | 31.51 | 31.53 | 38.48 | 30.45 | 30.45 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.11 | 0.11 | 0.15 | 0.11 | 0.11 | 0.11 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 8.17 | 7.53 | 8.38 | 2.76 | 9.56 | 7.91 | 1.52 | 4.20 | 2.77 | 1.83 | 3.71 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.66 | 0.65 | 0.64 | 0.39 | 0.67 | 0.78 | 0.78 | 0.78 | 0.75 | 0.83 | 0.83 |
| d, Delay for Lane Group [s/veh] | 39.83 | 39.11 | 39.87 | 32.25 | 41.35 | 48.14 | 33.02 | 35.73 | 41.25 | 32.28 | 34.17 |
| Lane Group LOS | D | D | D | C | D | D | C | D | D | C | C |
| Critical Lane Group | Yes | No | No | No | Yes | Yes | No | No | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 6.08 | 6.19 | 5.28 | 3.12 | 5.77 | 2.96 | 7.03 | 7.19 | 3.37 | 8.36 | 8.30 |
| 50th-Percentile Queue Length [ft/ln] | 152.11 | 154.66 | 132.09 | 78.01 | 144.20 | 73.95 | 175.70 | 179.74 | 84.22 | 209.02 | 207.39 |
| 95th-Percentile Queue Length [veh/ln] | 10.13 | 10.27 | 9.05 | 5.62 | 9.71 | 5.32 | 11.38 | 11.59 | 6.06 | 13.10 | 13.02 |
| 95th-Percentile Queue Length [ft/ln] | 253.24 | 256.64 | 226.34 | 140.41 | 242.67 | 133.11 | 284.40 | 289.68 | 151.59 | 327.58 | 325.48 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 39.76 | 39.11 | 39.87 | 32.25 | 41.35 | 41.35 | 48.14 | 33.60 | 35.73 | 41.25 | 32.63 | 34.17 |
| Movement LOS | D | D | D | C | D | D | D | C | D | D | C | C |
| d_A, Approach Delay [s/veh] | 39.59 | | | 37.83 | | | 35.42 | | | 34.56 | | |
| Approach LOS | D | | | D | | | D | | | C | | |
| d_I, Intersection Delay [s/veh] | 36.17 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.733 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 34.67 | 34.67 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.543 | 2.257 | 0.000 | 0.000 |
| Crosswalk LOS | B | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 133 | 133 | 956 | 911 |
| d_b, Bicycle Delay [s] | 39.20 | 39.20 | 12.27 | 13.34 |
| I_b,int, Bicycle LOS Score for Intersection | 2.835 | 2.225 | 2.194 | 2.397 |
| Bicycle LOS | C | B | B | B |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | 6 | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | - | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

*APPENDIX D-V*

# EXISTING PLUS CUMULATIVE PROJECTS PLUS PROJECT (SCENARIO NO.2) TRAFFIC CONDITIONS

**Intersection Level Of Service Report**
**Intersection 1: Euclid Street at I-5 Ramps**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 49.3 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.809 |

**Intersection Setup**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | No | | | No | | | Yes | | | Yes | | |

**Volumes**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 475 | 1212 | 121 | 793 | 1201 | 236 | 186 | 31 | 316 | 273 | 2 | 463 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 475 | 1212 | 121 | 793 | 1201 | 236 | 186 | 31 | 316 | 273 | 2 | 463 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 125 | 319 | 32 | 209 | 316 | 62 | 49 | 8 | 83 | 72 | 1 | 122 |
| Total Analysis Volume [veh/h] | 500 | 1276 | 127 | 835 | 1264 | 248 | 196 | 33 | 333 | 287 | 2 | 487 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Split | Split | Split | Split | Split | Split |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 1 | 6 | 0 | 5 | 2 | 0 | 0 | 8 | 0 | 0 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 6 | 6 | 0 | 6 | 6 | 0 | 0 | 6 | 0 | 0 | 6 | 0 |
| Maximum Green [s] | 30 | 30 | 0 | 30 | 30 | 0 | 0 | 30 | 0 | 0 | 30 | 0 |
| Amber [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 32 | 47 | 0 | 32 | 47 | 0 | 0 | 18 | 0 | 0 | 23 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Clearance [s] | 0 | 36 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | No | No | | No | No | | | No | | | No | |
| Maximum Recall | No | No | | No | No | | | No | | | No | |
| Pedestrian Recall | No | No | | No | No | | | No | | | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 20 | 43 | 43 | 28 | 51 | 51 | 14 | 14 | 14 | 19 | 19 | 19 |
| g / C, Green / Cycle | 0.17 | 0.36 | 0.36 | 0.23 | 0.43 | 0.43 | 0.12 | 0.12 | 0.12 | 0.16 | 0.16 | 0.16 |
| (v / s)_i Volume / Saturation Flow Rate | 0.14 | 0.19 | 0.08 | 0.24 | 0.25 | 0.16 | 0.11 | 0.11 | 0.11 | 0.15 | 0.16 | 0.16 |
| s, saturation flow rate [veh/h] | 3459 | 6792 | 1589 | 3459 | 5094 | 1589 | 1781 | 1633 | 1589 | 1781 | 1602 | 1589 |
| c, Capacity [veh/h] | 577 | 2443 | 572 | 807 | 2171 | 677 | 205 | 188 | 183 | 282 | 254 | 252 |
| d1, Uniform Delay [s] | 48.70 | 30.30 | 26.75 | 46.01 | 26.29 | 23.42 | 52.78 | 52.99 | 53.00 | 50.15 | 50.47 | 50.49 |
| k, delay calibration | 0.11 | 0.50 | 0.50 | 0.11 | 0.50 | 0.50 | 0.11 | 0.11 | 0.11 | 0.16 | 0.18 | 0.18 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 4.10 | 0.80 | 0.90 | 24.74 | 1.15 | 1.53 | 20.09 | 27.05 | 27.58 | 22.76 | 33.04 | 33.87 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.87 | 0.52 | 0.22 | 1.03 | 0.58 | 0.37 | 0.95 | 0.98 | 0.99 | 0.96 | 1.00 | 1.00 |
| d, Delay for Lane Group [s/veh] | 52.80 | 31.11 | 27.64 | 70.75 | 27.44 | 24.95 | 72.87 | 80.04 | 80.57 | 72.90 | 83.51 | 84.37 |
| Lane Group LOS | D | C | C | F | C | C | E | F | F | E | F | F |
| Critical Lane Group | No | Yes | No | Yes | No | No | No | No | Yes | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 7.60 | 7.40 | 2.69 | 14.70 | 9.34 | 5.07 | 7.00 | 6.98 | 6.82 | 9.85 | 9.89 | 9.89 |
| 50th-Percentile Queue Length [ft/ln] | 190.09 | 184.90 | 67.34 | 367.62 | 233.62 | 126.66 | 175.05 | 174.41 | 170.51 | 246.18 | 247.26 | 247.35 |
| 95th-Percentile Queue Length [veh/ln] | 12.13 | 11.86 | 4.85 | 21.41 | 14.36 | 8.76 | 11.34 | 11.31 | 11.10 | 14.99 | 15.05 | 15.05 |
| 95th-Percentile Queue Length [ft/ln] | 303.15 | 296.41 | 121.21 | 535.18 | 358.95 | 218.94 | 283.54 | 282.70 | 277.59 | 374.84 | 376.20 | 376.32 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 52.80 | 31.11 | 27.64 | 70.75 | 27.44 | 24.95 | 73.17 | 80.04 | 80.33 | 73.88 | 83.51 | 83.97 |
| Movement LOS | D | C | C | F | C | C | E | F | F | E | F | F |
| d_A, Approach Delay [s/veh] | 36.57 | | | 42.59 | | | 77.71 | | | 80.08 | | |
| Approach LOS | D | | | D | | | E | | | F | | |
| d_I, Intersection Delay [s/veh] | 49.28 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.809 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 0.0 | 11.0 | 11.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 0.00 | 49.50 | 49.50 |
| I_p,int, Pedestrian LOS Score for Intersection | 0.000 | 0.000 | 2.569 | 2.659 |
| Crosswalk LOS | F | F | B | B |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 717 | 717 | 233 | 317 |
| d_b, Bicycle Delay [s] | 24.70 | 24.70 | 46.82 | 42.50 |
| I_b,int, Bicycle LOS Score for Intersection | 2.345 | 2.850 | 2.487 | 2.840 |
| Bicycle LOS | B | C | B | C |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 4 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 4: I-5 SB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 25.8 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.718 |

**Intersection Setup**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Curb Present | No | | No | | No | |
| Crosswalk | Yes | | No | | No | |

**Volumes**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 347 | 79 | 779 | 986 | 853 | 459 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 347 | 79 | 779 | 986 | 853 | 459 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 91 | 21 | 205 | 259 | 224 | 121 |
| Total Analysis Volume [veh/h] | 365 | 83 | 820 | 1038 | 898 | 483 |
| Presence of On-Street Parking | No | No | No | No | No | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | 0 | | 0 | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | 0 | | 0 | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 12.00 |

**Phasing & Timing**

| Control Type | Split | Split | Protected | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Signal Group | 7 | 4 | 5 | 2 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | Lead | - | - | - |
| Minimum Green [s] | 6 | 0 | 6 | 6 | 6 | 0 |
| Maximum Green [s] | 30 | 0 | 30 | 30 | 30 | 0 |
| Amber [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 0.0 | 1.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 19 | 0 | 47 | 101 | 54 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 43 | 0 |
| Rest In Walk | No | | | No | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | No | | No | No | No | |
| Maximum Recall | No | | No | No | No | |
| Pedestrian Recall | No | | No | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | R | L | C | C | R |
|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 15 | 15 | 32 | 97 | 62 | 62 |
| g / C, Green / Cycle | 0.12 | 0.12 | 0.26 | 0.81 | 0.51 | 0.51 |
| (v / s)_i Volume / Saturation Flow Rate | 0.11 | 0.05 | 0.24 | 0.20 | 0.25 | 0.30 |
| s, saturation flow rate [veh/h] | 3459 | 1589 | 3459 | 5094 | 3560 | 1589 |
| c, Capacity [veh/h] | 419 | 193 | 914 | 4137 | 1832 | 818 |
| d1, Uniform Delay [s] | 51.80 | 48.88 | 42.55 | 2.66 | 18.91 | 20.31 |
| k, delay calibration | 0.11 | 0.11 | 0.11 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 5.71 | 1.52 | 3.44 | 0.15 | 0.94 | 3.12 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| X, volume / capacity | 0.87 | 0.43 | 0.90 | 0.25 | 0.49 | 0.59 |
| d, Delay for Lane Group [s/veh] | 57.51 | 50.40 | 45.99 | 2.80 | 19.85 | 23.44 |
| Lane Group LOS | E | D | D | A | B | C |
| Critical Lane Group | Yes | No | Yes | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 5.72 | 2.39 | 12.06 | 1.52 | 8.23 | 9.94 |
| 50th-Percentile Queue Length [ft/ln] | 143.01 | 59.85 | 301.54 | 38.07 | 205.64 | 248.45 |
| 95th-Percentile Queue Length [veh/ln] | 9.64 | 4.31 | 17.76 | 2.74 | 12.93 | 15.11 |
| 95th-Percentile Queue Length [ft/ln] | 241.07 | 107.72 | 443.94 | 68.52 | 323.23 | 377.70 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 57.51 | 50.40 | 45.99 | 2.80 | 19.85 | 23.44 |
| Movement LOS | E | D | D | A | B | C |
| d_A, Approach Delay [s/veh] | 56.19 | | 21.86 | | 21.10 | |
| Approach LOS | E | | C | | C | |
| d_I, Intersection Delay [s/veh] | 25.75 | | | | | |
| Intersection LOS | C | | | | | |
| Intersection V/C | 0.718 | | | | | |

**Other Modes**

| | | | |
|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 49.50 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.655 | 0.000 | 0.000 |
| Crosswalk LOS | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 0 | 0 | 0 |
| d_b, Bicycle Delay [s] | 60.00 | 60.00 | 60.00 |
| I_b,int, Bicycle LOS Score for Intersection | 4.132 | 5.154 | 5.272 |
| Bicycle LOS | D | F | F |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 7 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 6: Wilshire Avenue/I-5 NB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 42.4 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.824 |

**Intersection Setup**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | No | | | No | | |

**Volumes**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 255 | 113 | 250 | 136 | 30 | 283 | 82 | 913 | 225 | 330 | 874 | 138 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 255 | 113 | 250 | 136 | 30 | 283 | 82 | 913 | 225 | 330 | 874 | 138 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 67 | 30 | 66 | 36 | 8 | 74 | 22 | 240 | 59 | 87 | 230 | 36 |
| Total Analysis Volume [veh/h] | 268 | 119 | 263 | 143 | 32 | 298 | 86 | 961 | 237 | 347 | 920 | 145 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 105 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Split | Split | Split | Split | Split | Split | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 6 | 0 | 0 | 2 | 0 | 3 | 8 | 0 | 7 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 0 | 6 | 0 | 0 | 6 | 0 | 6 | 6 | 0 | 6 | 6 | 0 |
| Maximum Green [s] | 0 | 30 | 0 | 0 | 30 | 0 | 30 | 30 | 0 | 30 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 0 | 21 | 0 | 0 | 24 | 0 | 10 | 46 | 0 | 14 | 50 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 0 | 0 | 25 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | | No | | | No | | No | No | | No | No | |
| Maximum Recall | | No | | | No | | No | No | | No | No | |
| Pedestrian Recall | | No | | | No | | No | No | | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | L | C | C | L | C | C |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 24 | 24 | 24 | 24 | 24 | 6 | 27 | 27 | 13 | 34 | 34 |
| g / C, Green / Cycle | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.06 | 0.26 | 0.26 | 0.13 | 0.33 | 0.33 |
| (v / s)_i Volume / Saturation Flow Rate | 0.11 | 0.11 | 0.17 | 0.08 | 0.20 | 0.05 | 0.23 | 0.23 | 0.10 | 0.20 | 0.20 |
| s, saturation flow rate [veh/h] | 1781 | 1834 | 1589 | 1781 | 1613 | 1781 | 3560 | 1687 | 3459 | 3560 | 1743 |
| c, Capacity [veh/h] | 413 | 425 | 369 | 413 | 374 | 105 | 916 | 434 | 439 | 1159 | 567 |
| d1, Uniform Delay [s] | 34.78 | 34.76 | 37.20 | 33.76 | 39.03 | 48.98 | 37.60 | 37.61 | 44.60 | 29.96 | 29.96 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.11 | 0.11 | 0.31 | 0.11 | 0.11 | 0.11 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 3.69 | 3.57 | 11.20 | 2.29 | 24.63 | 14.47 | 3.12 | 15.35 | 3.25 | 0.54 | 1.10 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.46 | 0.46 | 0.71 | 0.35 | 0.88 | 0.82 | 0.89 | 0.89 | 0.79 | 0.62 | 0.62 |
| d, Delay for Lane Group [s/veh] | 38.47 | 38.33 | 48.40 | 36.05 | 63.67 | 63.45 | 40.72 | 52.97 | 47.84 | 30.50 | 31.06 |
| Lane Group LOS | D | D | D | D | E | E | D | D | D | C | C |
| Critical Lane Group | No | No | Yes | No | Yes | No | No | Yes | Yes | No | No |
| 50th-Percentile Queue Length [veh/ln] | 4.60 | 4.71 | 7.30 | 3.30 | 10.66 | 2.65 | 10.30 | 11.25 | 4.56 | 7.61 | 7.54 |
| 50th-Percentile Queue Length [ft/ln] | 115.04 | 117.70 | 182.53 | 82.49 | 266.55 | 66.15 | 257.52 | 281.34 | 114.07 | 190.33 | 188.53 |
| 95th-Percentile Queue Length [veh/ln] | 8.12 | 8.27 | 11.73 | 5.94 | 16.02 | 4.76 | 15.56 | 16.75 | 8.07 | 12.14 | 12.04 |
| 95th-Percentile Queue Length [ft/ln] | 202.98 | 206.66 | 293.31 | 148.48 | 400.43 | 119.07 | 389.11 | 418.87 | 201.65 | 303.46 | 301.12 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 38.43 | 38.33 | 48.40 | 36.05 | 63.67 | 63.67 | 63.45 | 42.61 | 52.97 | 47.84 | 30.63 | 31.06 |
| Movement LOS | D | D | D | D | E | E | E | D | D | D | C | C |
| d_A, Approach Delay [s/veh] | 42.45 | | | 55.32 | | | 45.92 | | | 34.90 | | |
| Approach LOS | D | | | E | | | D | | | C | | |
| d_I, Intersection Delay [s/veh] | 42.42 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.824 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 42.08 | 42.08 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.554 | 2.215 | 0.000 | 0.000 |
| Crosswalk LOS | B | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 324 | 381 | 800 | 876 |
| d_b, Bicycle Delay [s] | 36.88 | 34.40 | 18.90 | 16.58 |
| I_b,int, Bicycle LOS Score for Intersection | 2.632 | 2.340 | 2.266 | 2.336 |
| Bicycle LOS | B | B | B | B |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | 6 | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | - | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 1: Euclid Street at I-5 Ramps**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 71.2 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | E |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.935 |

**Intersection Setup**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | No | | | No | | | Yes | | | Yes | | |

**Volumes**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 390 | 1297 | 124 | 565 | 1403 | 275 | 363 | 0 | 418 | 430 | 1 | 712 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 390 | 1297 | 124 | 565 | 1403 | 275 | 363 | 0 | 418 | 430 | 1 | 712 |
| Peak Hour Factor | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 101 | 334 | 32 | 146 | 362 | 71 | 94 | 0 | 108 | 111 | 0 | 184 |
| Total Analysis Volume [veh/h] | 402 | 1337 | 128 | 582 | 1446 | 284 | 374 | 0 | 431 | 443 | 1 | 734 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Split | Split | Split | Split | Split | Split |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 1 | 6 | 0 | 5 | 2 | 0 | 0 | 8 | 0 | 0 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 6 | 6 | 0 | 6 | 6 | 0 | 0 | 6 | 0 | 0 | 6 | 0 |
| Maximum Green [s] | 30 | 30 | 0 | 30 | 30 | 0 | 0 | 30 | 0 | 0 | 30 | 0 |
| Amber [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 21 | 47 | 0 | 21 | 47 | 0 | 0 | 22 | 0 | 0 | 30 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Clearance [s] | 0 | 36 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | No | No | | No | No | | | No | | | No | |
| Maximum Recall | No | No | | No | No | | | No | | | No | |
| Pedestrian Recall | No | No | | No | No | | | No | | | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 16 | 43 | 43 | 17 | 44 | 44 | 18 | 18 | 18 | 26 | 26 | 26 |
| g / C, Green / Cycle | 0.13 | 0.36 | 0.36 | 0.14 | 0.37 | 0.37 | 0.15 | 0.15 | 0.15 | 0.22 | 0.22 | 0.22 |
| (v / s)_i Volume / Saturation Flow Rate | 0.12 | 0.20 | 0.08 | 0.17 | 0.28 | 0.18 | 0.16 | 0.16 | 0.16 | 0.22 | 0.24 | 0.25 |
| s, saturation flow rate [veh/h] | 3459 | 6792 | 1589 | 3459 | 5094 | 1589 | 1781 | 1653 | 1589 | 1781 | 1612 | 1589 |
| c, Capacity [veh/h] | 461 | 2438 | 571 | 492 | 1875 | 585 | 265 | 246 | 237 | 386 | 349 | 344 |
| d1, Uniform Delay [s] | 51.06 | 30.73 | 26.85 | 51.51 | 33.49 | 29.20 | 51.13 | 51.13 | 51.13 | 47.05 | 47.05 | 47.05 |
| k, delay calibration | 0.11 | 0.50 | 0.50 | 0.11 | 0.50 | 0.50 | 0.18 | 0.19 | 0.20 | 0.36 | 0.43 | 0.44 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 5.29 | 0.89 | 0.91 | 86.75 | 3.14 | 2.87 | 46.90 | 59.98 | 67.14 | 43.60 | 82.93 | 89.53 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.87 | 0.55 | 0.22 | 1.18 | 0.77 | 0.49 | 1.05 | 1.08 | 1.10 | 1.02 | 1.12 | 1.14 |
| d, Delay for Lane Group [s/veh] | 56.35 | 31.63 | 27.76 | 138.26 | 36.63 | 32.07 | 98.03 | 111.10 | 118.27 | 90.65 | 129.98 | 136.58 |
| Lane Group LOS | E | C | C | F | D | C | F | F | F | F | F | F |
| Critical Lane Group | Yes | No | No | No | Yes | No | No | No | Yes | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 6.26 | 7.85 | 2.72 | 13.32 | 12.79 | 6.76 | 11.39 | 11.46 | 11.49 | 16.12 | 18.41 | 18.79 |
| 50th-Percentile Queue Length [ft/ln] | 156.51 | 196.28 | 68.00 | 332.96 | 319.77 | 168.92 | 284.70 | 286.62 | 287.34 | 403.11 | 460.37 | 469.65 |
| 95th-Percentile Queue Length [veh/ln] | 10.36 | 12.45 | 4.90 | 20.75 | 18.66 | 11.02 | 17.32 | 17.65 | 17.80 | 22.94 | 27.10 | 27.77 |
| 95th-Percentile Queue Length [ft/ln] | 259.10 | 311.16 | 122.39 | 518.64 | 466.40 | 275.50 | 432.95 | 441.26 | 445.11 | 573.38 | 677.51 | 694.14 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 56.35 | 31.63 | 27.76 | 138.26 | 36.63 | 32.07 | 101.61 | 111.10 | 115.52 | 95.12 | 129.98 | 133.51 |
| Movement LOS | E | C | C | F | D | C | F | F | F | F | F | F |
| d_A, Approach Delay [s/veh] | 36.69 | | | 61.65 | | | 108.89 | | | 119.07 | | |
| Approach LOS | D | | | E | | | F | | | F | | |
| d_I, Intersection Delay [s/veh] | 71.24 | | | | | | | | | | | |
| Intersection LOS | E | | | | | | | | | | | |
| Intersection V/C | 0.935 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 0.0 | 11.0 | 11.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 0.00 | 49.50 | 49.50 |
| I_p,int, Pedestrian LOS Score for Intersection | 0.000 | 0.000 | 2.605 | 2.682 |
| Crosswalk LOS | F | F | B | B |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 717 | 717 | 300 | 433 |
| d_b, Bicycle Delay [s] | 24.70 | 24.70 | 43.35 | 36.82 |
| I_b,int, Bicycle LOS Score for Intersection | 2.330 | 2.831 | 2.888 | 3.503 |
| Bicycle LOS | B | C | C | D |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 4 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 4: I-5 SB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 20.3 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.646 |

**Intersection Setup**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Curb Present | No | | No | | No | |
| Crosswalk | Yes | | No | | No | |

**Volumes**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 420 | 82 | 377 | 785 | 1116 | 384 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 420 | 82 | 377 | 785 | 1116 | 384 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 111 | 22 | 99 | 207 | 294 | 101 |
| Total Analysis Volume [veh/h] | 442 | 86 | 397 | 826 | 1175 | 404 |
| Presence of On-Street Parking | No | No | No | No | No | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | 0 | | 0 | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | 0 | | 0 | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 105 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 12.00 |

**Phasing & Timing**

| Control Type | Split | Split | Protected | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Signal Group | 7 | 4 | 5 | 2 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | Lead | - | - | - |
| Minimum Green [s] | 6 | 0 | 6 | 6 | 6 | 0 |
| Maximum Green [s] | 30 | 0 | 30 | 30 | 30 | 0 |
| Amber [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 0.0 | 1.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 27 | 0 | 24 | 78 | 54 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 43 | 0 |
| Rest In Walk | No | | | No | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | No | | No | No | No | |
| Maximum Recall | No | | No | No | No | |
| Pedestrian Recall | No | | No | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | R | L | C | C | R |
|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 105 | 105 | 105 | 105 | 105 | 105 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 16 | 16 | 14 | 81 | 62 | 62 |
| g / C, Green / Cycle | 0.15 | 0.15 | 0.14 | 0.77 | 0.60 | 0.60 |
| (v / s)_i Volume / Saturation Flow Rate | 0.13 | 0.05 | 0.11 | 0.16 | 0.33 | 0.25 |
| s, saturation flow rate [veh/h] | 3459 | 1589 | 3459 | 5094 | 3560 | 1589 |
| c, Capacity [veh/h] | 531 | 244 | 475 | 3924 | 2118 | 946 |
| d1, Uniform Delay [s] | 43.14 | 39.78 | 44.12 | 3.30 | 12.86 | 11.55 |
| k, delay calibration | 0.11 | 0.11 | 0.11 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 3.50 | 0.87 | 3.94 | 0.12 | 1.05 | 1.41 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| X, volume / capacity | 0.83 | 0.35 | 0.84 | 0.21 | 0.55 | 0.43 |
| d, Delay for Lane Group [s/veh] | 46.63 | 40.64 | 48.06 | 3.43 | 13.91 | 12.97 |
| Lane Group LOS | D | D | D | A | B | B |
| Critical Lane Group | Yes | No | Yes | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 5.78 | 2.04 | 5.25 | 1.30 | 8.14 | 5.21 |
| 50th-Percentile Queue Length [ft/ln] | 144.59 | 51.04 | 131.37 | 32.41 | 203.44 | 130.16 |
| 95th-Percentile Queue Length [veh/ln] | 9.73 | 3.67 | 9.01 | 2.33 | 12.82 | 8.95 |
| 95th-Percentile Queue Length [ft/ln] | 243.19 | 91.87 | 225.36 | 58.34 | 320.40 | 223.71 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 46.63 | 40.64 | 48.06 | 3.43 | 13.91 | 12.97 |
| Movement LOS | D | D | D | A | B | B |
| d_A, Approach Delay [s/veh] | 45.66 | | 17.91 | | 13.67 | |
| Approach LOS | D | | B | | B | |
| d_I, Intersection Delay [s/veh] | 20.30 | | | | | |
| Intersection LOS | C | | | | | |
| Intersection V/C | 0.646 | | | | | |

**Other Modes**

| | | | |
|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 42.08 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.566 | 0.000 | 0.000 |
| Crosswalk LOS | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 0 | 0 | 0 |
| d_b, Bicycle Delay [s] | 52.50 | 52.50 | 52.50 |
| I_b,int, Bicycle LOS Score for Intersection | 4.132 | 4.805 | 5.435 |
| Bicycle LOS | D | E | F |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 7 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 6: Wilshire Avenue/I-5 NB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 36.2 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.733 |

**Intersection Setup**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | No | | | No | | |

**Volumes**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 297 | 244 | 230 | 155 | 21 | 225 | 122 | 875 | 151 | 304 | 1008 | 205 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 297 | 244 | 230 | 155 | 21 | 225 | 122 | 875 | 151 | 304 | 1008 | 205 |
| Peak Hour Factor | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 75 | 61 | 58 | 39 | 5 | 56 | 31 | 220 | 38 | 76 | 253 | 51 |
| Total Analysis Volume [veh/h] | 298 | 245 | 231 | 156 | 21 | 226 | 122 | 879 | 152 | 305 | 1012 | 206 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 90 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Split | Split | Split | Split | Split | Split | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 6 | 0 | 0 | 2 | 0 | 3 | 8 | 0 | 7 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 0 | 6 | 0 | 0 | 6 | 0 | 6 | 6 | 0 | 6 | 6 | 0 |
| Maximum Green [s] | 0 | 30 | 0 | 0 | 30 | 0 | 30 | 30 | 0 | 30 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 0 | 10 | 0 | 0 | 10 | 0 | 25 | 47 | 0 | 23 | 45 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 0 | 0 | 25 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | | No | | | No | | No | No | | No | No | |
| Maximum Recall | | No | | | No | | No | No | | No | No | |
| Pedestrian Recall | | No | | | No | | No | No | | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | L | C | C | L | C | C |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 21 | 21 | 21 | 21 | 21 | 8 | 22 | 22 | 11 | 25 | 25 |
| g / C, Green / Cycle | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.09 | 0.25 | 0.25 | 0.12 | 0.28 | 0.28 |
| (v / s)_i Volume / Saturation Flow Rate | 0.15 | 0.15 | 0.15 | 0.09 | 0.15 | 0.07 | 0.19 | 0.20 | 0.09 | 0.23 | 0.23 |
| s, saturation flow rate [veh/h] | 1781 | 1860 | 1589 | 1781 | 1610 | 1781 | 3560 | 1733 | 3459 | 3560 | 1713 |
| c, Capacity [veh/h] | 405 | 423 | 362 | 405 | 366 | 157 | 889 | 433 | 408 | 994 | 478 |
| d1, Uniform Delay [s] | 31.67 | 31.59 | 31.49 | 29.49 | 31.79 | 40.23 | 31.51 | 31.53 | 38.48 | 30.45 | 30.45 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.11 | 0.11 | 0.15 | 0.11 | 0.11 | 0.11 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 8.21 | 7.57 | 8.38 | 2.76 | 9.56 | 7.91 | 1.52 | 4.20 | 2.77 | 1.83 | 3.71 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.66 | 0.65 | 0.64 | 0.39 | 0.67 | 0.78 | 0.78 | 0.78 | 0.75 | 0.83 | 0.83 |
| d, Delay for Lane Group [s/veh] | 39.88 | 39.16 | 39.87 | 32.25 | 41.35 | 48.14 | 33.02 | 35.73 | 41.25 | 32.28 | 34.17 |
| Lane Group LOS | D | D | D | C | D | D | C | D | D | C | C |
| Critical Lane Group | Yes | No | No | No | Yes | Yes | No | No | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 6.10 | 6.20 | 5.28 | 3.12 | 5.77 | 2.96 | 7.03 | 7.19 | 3.37 | 8.36 | 8.30 |
| 50th-Percentile Queue Length [ft/ln] | 152.52 | 155.05 | 132.09 | 78.01 | 144.20 | 73.95 | 175.70 | 179.74 | 84.22 | 209.02 | 207.39 |
| 95th-Percentile Queue Length [veh/ln] | 10.15 | 10.29 | 9.05 | 5.62 | 9.71 | 5.32 | 11.38 | 11.59 | 6.06 | 13.10 | 13.02 |
| 95th-Percentile Queue Length [ft/ln] | 253.79 | 257.16 | 226.34 | 140.41 | 242.67 | 133.11 | 284.40 | 289.68 | 151.59 | 327.58 | 325.48 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 39.82 | 39.16 | 39.87 | 32.25 | 41.35 | 41.35 | 48.14 | 33.60 | 35.73 | 41.25 | 32.63 | 34.17 |
| Movement LOS | D | D | D | C | D | D | D | C | D | D | C | C |
| d_A, Approach Delay [s/veh] | 39.62 | | | 37.83 | | | 35.42 | | | 34.56 | | |
| Approach LOS | D | | | D | | | D | | | C | | |
| d_I, Intersection Delay [s/veh] | 36.18 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.733 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 34.67 | 34.67 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.543 | 2.257 | 0.000 | 0.000 |
| Crosswalk LOS | B | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 133 | 133 | 956 | 911 |
| d_b, Bicycle Delay [s] | 39.20 | 39.20 | 12.27 | 13.34 |
| I_b,int, Bicycle LOS Score for Intersection | 2.837 | 2.225 | 2.194 | 2.397 |
| Bicycle LOS | C | B | B | B |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | 6 | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | - | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

*APPENDIX D-VI*

# YEAR 2023 CUMULATIVE TRAFFIC CONDITIONS

**Intersection Level Of Service Report**
**Intersection 1: Euclid Street at I-5 Ramps**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 54.1 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.839 |

**Intersection Setup**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | No | | | No | | | Yes | | | Yes | | |

**Volumes**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 482 | 1254 | 126 | 825 | 1246 | 245 | 193 | 32 | 326 | 284 | 2 | 481 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 482 | 1254 | 126 | 825 | 1246 | 245 | 193 | 32 | 326 | 284 | 2 | 481 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 127 | 330 | 33 | 217 | 328 | 64 | 51 | 8 | 86 | 75 | 1 | 127 |
| Total Analysis Volume [veh/h] | 507 | 1320 | 133 | 868 | 1312 | 258 | 203 | 34 | 343 | 299 | 2 | 506 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Split | Split | Split | Split | Split | Split |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 1 | 6 | 0 | 5 | 2 | 0 | 0 | 8 | 0 | 0 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 6 | 6 | 0 | 6 | 6 | 0 | 0 | 6 | 0 | 0 | 6 | 0 |
| Maximum Green [s] | 30 | 30 | 0 | 30 | 30 | 0 | 0 | 30 | 0 | 0 | 30 | 0 |
| Amber [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 30 | 47 | 0 | 32 | 49 | 0 | 0 | 18 | 0 | 0 | 23 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Clearance [s] | 0 | 36 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | No | No | | No | No | | | No | | | No | |
| Maximum Recall | No | No | | No | No | | | No | | | No | |
| Pedestrian Recall | No | No | | No | No | | | No | | | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 20 | 43 | 43 | 28 | 51 | 51 | 14 | 14 | 14 | 19 | 19 | 19 |
| g / C, Green / Cycle | 0.17 | 0.36 | 0.36 | 0.23 | 0.42 | 0.42 | 0.12 | 0.12 | 0.12 | 0.16 | 0.16 | 0.16 |
| (v / s)_i Volume / Saturation Flow Rate | 0.15 | 0.19 | 0.08 | 0.25 | 0.26 | 0.16 | 0.11 | 0.12 | 0.12 | 0.16 | 0.16 | 0.17 |
| s, saturation flow rate [veh/h] | 3459 | 6792 | 1589 | 3459 | 5094 | 1589 | 1781 | 1633 | 1589 | 1781 | 1603 | 1589 |
| c, Capacity [veh/h] | 580 | 2443 | 572 | 807 | 2166 | 676 | 205 | 188 | 183 | 282 | 254 | 252 |
| d1, Uniform Delay [s] | 48.70 | 30.55 | 26.86 | 46.01 | 26.71 | 23.68 | 53.02 | 53.10 | 53.10 | 50.45 | 50.50 | 50.50 |
| k, delay calibration | 0.11 | 0.50 | 0.50 | 0.11 | 0.50 | 0.50 | 0.11 | 0.11 | 0.11 | 0.18 | 0.20 | 0.20 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 4.31 | 0.86 | 0.95 | 39.92 | 1.27 | 1.64 | 26.60 | 34.10 | 34.75 | 30.84 | 46.04 | 47.39 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.87 | 0.54 | 0.23 | 1.08 | 0.61 | 0.38 | 0.99 | 1.01 | 1.02 | 0.99 | 1.04 | 1.04 |
| d, Delay for Lane Group [s/veh] | 53.01 | 31.41 | 27.81 | 85.93 | 27.98 | 25.31 | 79.62 | 87.19 | 87.84 | 81.30 | 96.54 | 97.89 |
| Lane Group LOS | D | C | C | F | C | C | E | F | F | F | F | F |
| Critical Lane Group | No | Yes | No | Yes | No | No | No | No | Yes | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 7.73 | 7.72 | 2.83 | 16.41 | 9.85 | 5.33 | 7.61 | 7.44 | 7.28 | 10.81 | 10.85 | 10.85 |
| 50th-Percentile Queue Length [ft/ln] | 193.31 | 192.93 | 70.85 | 410.14 | 246.33 | 133.14 | 190.24 | 186.04 | 181.90 | 270.17 | 271.22 | 271.26 |
| 95th-Percentile Queue Length [veh/ln] | 12.29 | 12.27 | 5.10 | 24.01 | 15.00 | 9.11 | 12.13 | 11.99 | 11.77 | 16.20 | 16.55 | 16.57 |
| 95th-Percentile Queue Length [ft/ln] | 307.32 | 306.82 | 127.52 | 600.30 | 375.02 | 227.76 | 303.34 | 299.63 | 294.30 | 404.95 | 413.64 | 414.34 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 53.01 | 31.41 | 27.81 | 85.93 | 27.98 | 25.31 | 79.96 | 87.19 | 87.56 | 82.74 | 96.54 | 97.26 |
| Movement LOS | D | C | C | F | C | C | E | F | F | F | F | F |
| d_A, Approach Delay [s/veh] | 36.75 | | | 48.33 | | | 84.75 | | | 91.68 | | |
| Approach LOS | D | | | D | | | F | | | F | | |
| d_I, Intersection Delay [s/veh] | 54.11 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.839 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 0.0 | 11.0 | 11.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 0.00 | 49.50 | 49.50 |
| I_p,int, Pedestrian LOS Score for Intersection | 0.000 | 0.000 | 2.576 | 2.673 |
| Crosswalk LOS | F | F | B | B |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 717 | 750 | 233 | 317 |
| d_b, Bicycle Delay [s] | 24.70 | 23.44 | 46.82 | 42.50 |
| I_b,int, Bicycle LOS Score for Intersection | 2.368 | 2.901 | 2.517 | 2.891 |
| Bicycle LOS | B | C | B | C |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 4 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 4: I-5 SB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 26.1 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.742 |

**Intersection Setup**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Curb Present | No | | No | | No | |
| Crosswalk | Yes | | No | | No | |

**Volumes**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 360 | 80 | 795 | 1016 | 878 | 477 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 360 | 80 | 795 | 1016 | 878 | 477 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 95 | 21 | 209 | 267 | 231 | 126 |
| Total Analysis Volume [veh/h] | 379 | 84 | 837 | 1069 | 924 | 502 |
| Presence of On-Street Parking | No | No | No | No | No | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | 0 | | 0 | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | 0 | | 0 | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 12.00 |

**Phasing & Timing**

| Control Type | Split | Split | Protected | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Signal Group | 7 | 4 | 5 | 2 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | Lead | - | - | - |
| Minimum Green [s] | 6 | 0 | 6 | 6 | 6 | 0 |
| Maximum Green [s] | 30 | 0 | 30 | 30 | 30 | 0 |
| Amber [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 0.0 | 1.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 19 | 0 | 47 | 101 | 54 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 43 | 0 |
| Rest In Walk | No | | | No | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | No | | No | No | No | |
| Maximum Recall | No | | No | No | No | |
| Pedestrian Recall | No | | No | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | R | L | C | C | R |
|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 15 | 15 | 32 | 97 | 61 | 61 |
| g / C, Green / Cycle | 0.12 | 0.12 | 0.27 | 0.81 | 0.51 | 0.51 |
| (v / s)_i Volume / Saturation Flow Rate | 0.11 | 0.05 | 0.24 | 0.21 | 0.26 | 0.32 |
| s, saturation flow rate [veh/h] | 3459 | 1589 | 3459 | 5094 | 3560 | 1589 |
| c, Capacity [veh/h] | 431 | 198 | 931 | 4120 | 1802 | 805 |
| d1, Uniform Delay [s] | 51.64 | 48.54 | 42.26 | 2.77 | 19.75 | 21.38 |
| k, delay calibration | 0.11 | 0.11 | 0.11 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 5.97 | 1.44 | 3.45 | 0.15 | 1.05 | 3.63 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| X, volume / capacity | 0.88 | 0.42 | 0.90 | 0.26 | 0.51 | 0.62 |
| d, Delay for Lane Group [s/veh] | 57.61 | 49.98 | 45.71 | 2.93 | 20.80 | 25.01 |
| Lane Group LOS | E | D | D | A | C | C |
| Critical Lane Group | Yes | No | Yes | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 5.95 | 2.41 | 12.30 | 1.63 | 8.73 | 10.77 |
| 50th-Percentile Queue Length [ft/ln] | 148.84 | 60.28 | 307.46 | 40.78 | 218.29 | 269.31 |
| 95th-Percentile Queue Length [veh/ln] | 9.96 | 4.34 | 18.05 | 2.94 | 13.58 | 16.16 |
| 95th-Percentile Queue Length [ft/ln] | 248.88 | 108.51 | 451.25 | 73.40 | 339.44 | 403.88 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 57.61 | 49.98 | 45.71 | 2.93 | 20.80 | 25.01 |
| Movement LOS | E | D | D | A | C | C |
| d_A, Approach Delay [s/veh] | 56.23 | | 21.71 | | 22.28 | |
| Approach LOS | E | | C | | C | |
| d_I, Intersection Delay [s/veh] | 26.14 | | | | | |
| Intersection LOS | C | | | | | |
| Intersection V/C | 0.742 | | | | | |

**Other Modes**

| | | | |
|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 49.50 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.665 | 0.000 | 0.000 |
| Crosswalk LOS | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 0 | 0 | 0 |
| d_b, Bicycle Delay [s] | 60.00 | 60.00 | 60.00 |
| I_b,int, Bicycle LOS Score for Intersection | 4.132 | 5.181 | 5.309 |
| Bicycle LOS | D | F | F |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 7 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 6: Wilshire Avenue/I-5 NB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 45.3 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.847 |

**Intersection Setup**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | No | | | No | | |

**Volumes**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 261 | 118 | 259 | 141 | 31 | 294 | 85 | 942 | 233 | 342 | 904 | 144 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 261 | 118 | 259 | 141 | 31 | 294 | 85 | 942 | 233 | 342 | 904 | 144 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 69 | 31 | 68 | 37 | 8 | 77 | 22 | 248 | 61 | 90 | 238 | 38 |
| Total Analysis Volume [veh/h] | 275 | 124 | 273 | 148 | 33 | 309 | 89 | 992 | 245 | 360 | 952 | 152 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 110 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Split | Split | Split | Split | Split | Split | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 6 | 0 | 0 | 2 | 0 | 3 | 8 | 0 | 7 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 0 | 6 | 0 | 0 | 6 | 0 | 6 | 6 | 0 | 6 | 6 | 0 |
| Maximum Green [s] | 0 | 30 | 0 | 0 | 30 | 0 | 30 | 30 | 0 | 30 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 0 | 22 | 0 | 0 | 27 | 0 | 11 | 46 | 0 | 15 | 50 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 0 | 0 | 25 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | | No | | | No | | No | No | | No | No | |
| Maximum Recall | | No | | | No | | No | No | | No | No | |
| Pedestrian Recall | | No | | | No | | No | No | | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | L | C | C | L | C | C |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 26 | 26 | 26 | 26 | 26 | 7 | 28 | 28 | 14 | 36 | 36 |
| g / C, Green / Cycle | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.06 | 0.26 | 0.26 | 0.13 | 0.32 | 0.32 |
| (v / s)_i Volume / Saturation Flow Rate | 0.11 | 0.11 | 0.17 | 0.08 | 0.21 | 0.05 | 0.24 | 0.24 | 0.10 | 0.21 | 0.21 |
| s, saturation flow rate [veh/h] | 1781 | 1835 | 1589 | 1781 | 1613 | 1781 | 3560 | 1687 | 3459 | 3560 | 1741 |
| c, Capacity [veh/h] | 415 | 428 | 371 | 415 | 376 | 115 | 922 | 437 | 447 | 1152 | 564 |
| d1, Uniform Delay [s] | 36.43 | 36.41 | 39.12 | 35.33 | 41.12 | 50.74 | 39.58 | 39.59 | 46.62 | 31.83 | 31.83 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.11 | 0.11 | 0.35 | 0.11 | 0.11 | 0.11 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 3.85 | 3.71 | 12.29 | 2.38 | 28.31 | 10.41 | 3.88 | 19.83 | 3.45 | 0.61 | 1.24 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.47 | 0.47 | 0.74 | 0.36 | 0.91 | 0.77 | 0.91 | 0.91 | 0.80 | 0.64 | 0.64 |
| d, Delay for Lane Group [s/veh] | 40.27 | 40.11 | 51.41 | 37.71 | 69.43 | 61.15 | 43.46 | 59.42 | 50.07 | 32.44 | 33.07 |
| Lane Group LOS | D | D | D | D | E | E | D | E | D | C | C |
| Critical Lane Group | No | No | Yes | No | Yes | No | No | Yes | Yes | No | No |
| 50th-Percentile Queue Length [veh/ln] | 5.00 | 5.11 | 8.04 | 3.59 | 11.88 | 2.75 | 11.36 | 12.71 | 4.99 | 8.43 | 8.35 |
| 50th-Percentile Queue Length [ft/ln] | 124.89 | 127.68 | 201.02 | 89.81 | 296.99 | 68.63 | 283.99 | 317.74 | 124.71 | 210.82 | 208.66 |
| 95th-Percentile Queue Length [veh/ln] | 8.66 | 8.81 | 12.69 | 6.47 | 17.53 | 4.94 | 16.89 | 18.56 | 8.65 | 13.20 | 13.08 |
| 95th-Percentile Queue Length [ft/ln] | 216.53 | 220.34 | 317.28 | 161.65 | 438.30 | 123.53 | 422.18 | 463.91 | 216.29 | 329.88 | 327.11 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 40.23 | 40.11 | 51.41 | 37.71 | 69.43 | 69.43 | 61.15 | 45.92 | 59.42 | 50.07 | 32.58 | 33.07 |
| Movement LOS | D | D | D | D | E | E | E | D | E | D | C | C |
| d_A, Approach Delay [s/veh] | 44.75 | | | 59.85 | | | 49.44 | | | 36.93 | | |
| Approach LOS | D | | | E | | | D | | | D | | |
| d_I, Intersection Delay [s/veh] | 45.30 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.847 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 44.55 | 44.55 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.565 | 2.228 | 0.000 | 0.000 |
| Crosswalk LOS | B | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 327 | 418 | 764 | 836 |
| d_b, Bicycle Delay [s] | 38.47 | 34.40 | 21.02 | 18.62 |
| I_b,int, Bicycle LOS Score for Intersection | 2.668 | 2.368 | 2.289 | 2.365 |
| Bicycle LOS | B | B | B | B |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | 6 | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | - | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 1: Euclid Street at I-5 Ramps**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 78.1 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | E |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.967 |

**Intersection Setup**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | No | | | No | | | Yes | | | Yes | | |

**Volumes**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 399 | 1345 | 129 | 587 | 1453 | 286 | 377 | 0 | 423 | 447 | 1 | 740 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 399 | 1345 | 129 | 587 | 1453 | 286 | 377 | 0 | 423 | 447 | 1 | 740 |
| Peak Hour Factor | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 103 | 347 | 33 | 151 | 374 | 74 | 97 | 0 | 109 | 115 | 0 | 191 |
| Total Analysis Volume [veh/h] | 411 | 1387 | 133 | 605 | 1498 | 295 | 389 | 0 | 436 | 461 | 1 | 763 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Split | Split | Split | Split | Split | Split |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 1 | 6 | 0 | 5 | 2 | 0 | 0 | 8 | 0 | 0 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 6 | 6 | 0 | 6 | 6 | 0 | 0 | 6 | 0 | 0 | 6 | 0 |
| Maximum Green [s] | 30 | 30 | 0 | 30 | 30 | 0 | 0 | 30 | 0 | 0 | 30 | 0 |
| Amber [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 20 | 47 | 0 | 22 | 49 | 0 | 0 | 21 | 0 | 0 | 30 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Clearance [s] | 0 | 36 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | No | No | | No | No | | | No | | | No | |
| Maximum Recall | No | No | | No | No | | | No | | | No | |
| Pedestrian Recall | No | No | | No | No | | | No | | | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 16 | 43 | 43 | 18 | 45 | 45 | 17 | 17 | 17 | 26 | 26 | 26 |
| g / C, Green / Cycle | 0.13 | 0.36 | 0.36 | 0.15 | 0.38 | 0.38 | 0.14 | 0.14 | 0.14 | 0.22 | 0.22 | 0.22 |
| (v / s)_i Volume / Saturation Flow Rate | 0.12 | 0.20 | 0.08 | 0.17 | 0.29 | 0.19 | 0.16 | 0.16 | 0.17 | 0.23 | 0.25 | 0.26 |
| s, saturation flow rate [veh/h] | 3459 | 6792 | 1589 | 3459 | 5094 | 1589 | 1781 | 1658 | 1589 | 1781 | 1612 | 1589 |
| c, Capacity [veh/h] | 464 | 2438 | 571 | 521 | 1913 | 597 | 250 | 233 | 223 | 386 | 349 | 344 |
| d1, Uniform Delay [s] | 51.11 | 31.02 | 26.94 | 51.02 | 33.19 | 28.77 | 51.62 | 51.62 | 51.62 | 47.05 | 47.05 | 47.05 |
| k, delay calibration | 0.11 | 0.50 | 0.50 | 0.11 | 0.50 | 0.50 | 0.19 | 0.20 | 0.21 | 0.39 | 0.46 | 0.47 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 5.86 | 0.97 | 0.96 | 77.63 | 3.29 | 2.91 | 78.43 | 95.50 | 105.65 | 56.72 | 100.70 | 107.87 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.89 | 0.57 | 0.23 | 1.16 | 0.78 | 0.49 | 1.14 | 1.17 | 1.20 | 1.06 | 1.17 | 1.19 |
| d, Delay for Lane Group [s/veh] | 56.96 | 31.99 | 27.89 | 128.65 | 36.48 | 31.68 | 130.05 | 147.13 | 157.28 | 103.77 | 147.74 | 154.92 |
| Lane Group LOS | E | C | C | F | D | C | F | F | F | F | F | F |
| Critical Lane Group | Yes | No | No | No | Yes | No | No | No | Yes | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 6.44 | 8.23 | 2.84 | 13.42 | 13.28 | 6.98 | 12.96 | 13.17 | 13.25 | 17.53 | 20.14 | 20.54 |
| 50th-Percentile Queue Length [ft/ln] | 161.06 | 205.65 | 70.92 | 335.57 | 331.96 | 174.60 | 323.92 | 329.13 | 331.33 | 438.27 | 503.52 | 513.51 |
| 95th-Percentile Queue Length [veh/ln] | 10.61 | 12.93 | 5.11 | 20.77 | 19.25 | 11.32 | 19.95 | 20.49 | 20.75 | 25.18 | 29.85 | 30.57 |
| 95th-Percentile Queue Length [ft/ln] | 265.13 | 323.24 | 127.66 | 519.24 | 481.36 | 282.95 | 498.73 | 512.13 | 518.67 | 629.54 | 746.31 | 764.24 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 56.96 | 31.99 | 27.89 | 128.65 | 36.48 | 31.68 | 134.92 | 147.13 | 153.47 | 108.79 | 147.74 | 151.58 |
| Movement LOS | E | C | C | F | D | C | F | F | F | F | F | F |
| d_A, Approach Delay [s/veh] | 37.02 | | | 59.14 | | | 144.53 | | | 135.48 | | |
| Approach LOS | D | | | E | | | F | | | F | | |
| d_I, Intersection Delay [s/veh] | 78.15 | | | | | | | | | | | |
| Intersection LOS | E | | | | | | | | | | | |
| Intersection V/C | 0.967 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 0.0 | 11.0 | 11.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 0.00 | 49.50 | 49.50 |
| I_p,int, Pedestrian LOS Score for Intersection | 0.000 | 0.000 | 2.612 | 2.696 |
| Crosswalk LOS | F | F | B | B |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 717 | 750 | 283 | 433 |
| d_b, Bicycle Delay [s] | 24.70 | 23.44 | 44.20 | 36.82 |
| I_b,int, Bicycle LOS Score for Intersection | 2.356 | 2.879 | 2.921 | 3.581 |
| Bicycle LOS | B | C | C | D |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 4 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 4: I-5 SB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 19.9 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.665 |

**Intersection Setup**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Curb Present | No | | No | | No | |
| Crosswalk | Yes | | No | | No | |

**Volumes**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 436 | 84 | 383 | 810 | 1137 | 399 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 436 | 84 | 383 | 810 | 1137 | 399 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 115 | 22 | 101 | 213 | 299 | 105 |
| Total Analysis Volume [veh/h] | 459 | 88 | 403 | 853 | 1197 | 420 |
| Presence of On-Street Parking | No | No | No | No | No | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | 0 | | 0 | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | 0 | | 0 | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 100 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 12.00 |

**Phasing & Timing**

| Control Type | Split | Split | Protected | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Signal Group | 7 | 4 | 5 | 2 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | Lead | - | - | - |
| Minimum Green [s] | 6 | 0 | 6 | 6 | 6 | 0 |
| Maximum Green [s] | 30 | 0 | 30 | 30 | 30 | 0 |
| Amber [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 0.0 | 1.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 25 | 0 | 21 | 75 | 54 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 43 | 0 |
| Rest In Walk | No | | | No | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | No | | No | No | No | |
| Maximum Recall | No | | No | No | No | |
| Pedestrian Recall | No | | No | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | R | L | C | C | R |
|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 100 | 100 | 100 | 100 | 100 | 100 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 16 | 16 | 14 | 76 | 58 | 58 |
| g / C, Green / Cycle | 0.16 | 0.16 | 0.14 | 0.76 | 0.58 | 0.58 |
| (v / s)_i Volume / Saturation Flow Rate | 0.13 | 0.06 | 0.12 | 0.17 | 0.34 | 0.26 |
| s, saturation flow rate [veh/h] | 3459 | 1589 | 3459 | 5094 | 3560 | 1589 |
| c, Capacity [veh/h] | 548 | 252 | 479 | 3879 | 2075 | 926 |
| d1, Uniform Delay [s] | 40.82 | 37.48 | 42.00 | 3.42 | 13.11 | 11.82 |
| k, delay calibration | 0.11 | 0.11 | 0.11 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 3.47 | 0.83 | 4.06 | 0.13 | 1.17 | 1.60 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| X, volume / capacity | 0.84 | 0.35 | 0.84 | 0.22 | 0.58 | 0.45 |
| d, Delay for Lane Group [s/veh] | 44.29 | 38.30 | 46.06 | 3.55 | 14.28 | 13.43 |
| Lane Group LOS | D | D | D | A | B | B |
| Critical Lane Group | Yes | No | Yes | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 5.69 | 1.97 | 5.07 | 1.32 | 8.18 | 5.38 |
| 50th-Percentile Queue Length [ft/ln] | 142.19 | 49.17 | 126.79 | 33.10 | 204.46 | 134.39 |
| 95th-Percentile Queue Length [veh/ln] | 9.60 | 3.54 | 8.76 | 2.38 | 12.87 | 9.18 |
| 95th-Percentile Queue Length [ft/ln] | 239.97 | 88.51 | 219.12 | 59.59 | 321.71 | 229.44 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 44.29 | 38.30 | 46.06 | 3.55 | 14.28 | 13.43 |
| Movement LOS | D | D | D | A | B | B |
| d_A, Approach Delay [s/veh] | 43.33 | | 17.19 | | 14.06 | |
| Approach LOS | D | | B | | B | |
| d_I, Intersection Delay [s/veh] | 19.89 | | | | | |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.665 | | | | | |

**Other Modes**

| | | | |
|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 39.61 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.572 | 0.000 | 0.000 |
| Crosswalk LOS | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 0 | 0 | 0 |
| d_b, Bicycle Delay [s] | 50.00 | 50.00 | 50.00 |
| I_b,int, Bicycle LOS Score for Intersection | 4.132 | 4.823 | 5.466 |
| Bicycle LOS | D | E | F |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 7 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 6: Wilshire Avenue/I-5 NB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 36.5 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.757 |

**Intersection Setup**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | No | | | No | | |

**Volumes**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 294 | 254 | 239 | 161 | 22 | 234 | 127 | 905 | 157 | 316 | 1041 | 213 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 294 | 254 | 239 | 161 | 22 | 234 | 127 | 905 | 157 | 316 | 1041 | 213 |
| Peak Hour Factor | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 74 | 64 | 60 | 40 | 6 | 59 | 32 | 227 | 39 | 79 | 261 | 53 |
| Total Analysis Volume [veh/h] | 295 | 255 | 240 | 162 | 22 | 235 | 128 | 909 | 158 | 317 | 1045 | 214 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 90 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Split | Split | Split | Split | Split | Split | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 6 | 0 | 0 | 2 | 0 | 3 | 8 | 0 | 7 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 0 | 6 | 0 | 0 | 6 | 0 | 6 | 6 | 0 | 6 | 6 | 0 |
| Maximum Green [s] | 0 | 30 | 0 | 0 | 30 | 0 | 30 | 30 | 0 | 30 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 0 | 10 | 0 | 0 | 10 | 0 | 25 | 47 | 0 | 23 | 45 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 0 | 0 | 25 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | | No | | | No | | No | No | | No | No | |
| Maximum Recall | | No | | | No | | No | No | | No | No | |
| Pedestrian Recall | | No | | | No | | No | No | | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | L | C | C | L | C | C |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 20 | 20 | 20 | 20 | 20 | 8 | 23 | 23 | 11 | 26 | 26 |
| g / C, Green / Cycle | 0.22 | 0.22 | 0.22 | 0.22 | 0.22 | 0.09 | 0.26 | 0.26 | 0.12 | 0.29 | 0.29 |
| (v / s)_i Volume / Saturation Flow Rate | 0.15 | 0.15 | 0.15 | 0.09 | 0.16 | 0.07 | 0.20 | 0.20 | 0.09 | 0.24 | 0.24 |
| s, saturation flow rate [veh/h] | 1781 | 1862 | 1589 | 1781 | 1610 | 1781 | 3560 | 1732 | 3459 | 3560 | 1712 |
| c, Capacity [veh/h] | 394 | 412 | 351 | 394 | 356 | 164 | 922 | 448 | 421 | 1026 | 494 |
| d1, Uniform Delay [s] | 32.27 | 32.18 | 32.22 | 30.10 | 32.55 | 40.04 | 31.01 | 31.03 | 38.30 | 30.00 | 30.01 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.11 | 0.11 | 0.16 | 0.11 | 0.11 | 0.11 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 9.48 | 8.66 | 10.30 | 3.16 | 11.99 | 7.77 | 1.46 | 4.42 | 2.76 | 1.78 | 3.64 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.69 | 0.68 | 0.68 | 0.41 | 0.72 | 0.78 | 0.78 | 0.78 | 0.75 | 0.83 | 0.83 |
| d, Delay for Lane Group [s/veh] | 41.76 | 40.84 | 42.52 | 33.26 | 44.54 | 47.81 | 32.47 | 35.45 | 41.06 | 31.79 | 33.65 |
| Lane Group LOS | D | D | D | C | D | D | C | D | D | C | C |
| Critical Lane Group | Yes | No | No | No | Yes | Yes | No | No | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 6.35 | 6.43 | 5.70 | 3.30 | 6.26 | 3.09 | 7.23 | 7.42 | 3.50 | 8.60 | 8.53 |
| 50th-Percentile Queue Length [ft/ln] | 158.68 | 160.79 | 142.41 | 82.58 | 156.51 | 77.30 | 180.70 | 185.54 | 87.41 | 214.91 | 213.16 |
| 95th-Percentile Queue Length [veh/ln] | 10.48 | 10.59 | 9.61 | 5.95 | 10.36 | 5.57 | 11.64 | 11.89 | 6.29 | 13.40 | 13.32 |
| 95th-Percentile Queue Length [ft/ln] | 261.97 | 264.77 | 240.27 | 148.64 | 259.10 | 139.14 | 290.93 | 297.23 | 157.33 | 335.12 | 332.88 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 41.69 | 40.84 | 42.52 | 33.26 | 44.54 | 44.54 | 47.81 | 33.10 | 35.45 | 41.06 | 32.13 | 33.65 |
| Movement LOS | D | D | D | C | D | D | D | C | D | D | C | C |
| d_A, Approach Delay [s/veh] | 41.67 | | | 40.18 | | | 34.99 | | | 34.14 | | |
| Approach LOS | D | | | D | | | C | | | C | | |
| d_I, Intersection Delay [s/veh] | 36.52 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.757 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 34.67 | 34.67 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.550 | 2.270 | 0.000 | 0.000 |
| Crosswalk LOS | B | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 133 | 133 | 956 | 911 |
| d_b, Bicycle Delay [s] | 39.20 | 39.20 | 12.27 | 13.34 |
| I_b,int, Bicycle LOS Score for Intersection | 2.863 | 2.251 | 2.217 | 2.426 |
| Bicycle LOS | C | B | B | B |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | 6 | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | - | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

*APPENDIX D-VII*

# YEAR 2023 CUMULATIVE PLUS PROJECT (SCENARIO NO.1) TRAFFIC CONDITIONS

**Intersection Level Of Service Report**
**Intersection 1: Euclid Street at I-5 Ramps**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 54.3 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.841 |

**Intersection Setup**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | No | | | No | | | Yes | | | Yes | | |

**Volumes**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 491 | 1258 | 126 | 825 | 1247 | 245 | 193 | 32 | 328 | 284 | 2 | 481 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 491 | 1258 | 126 | 825 | 1247 | 245 | 193 | 32 | 328 | 284 | 2 | 481 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 129 | 331 | 33 | 217 | 328 | 64 | 51 | 8 | 86 | 75 | 1 | 127 |
| Total Analysis Volume [veh/h] | 517 | 1324 | 133 | 868 | 1313 | 258 | 203 | 34 | 345 | 299 | 2 | 506 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Split | Split | Split | Split | Split | Split |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 1 | 6 | 0 | 5 | 2 | 0 | 0 | 8 | 0 | 0 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 6 | 6 | 0 | 6 | 6 | 0 | 0 | 6 | 0 | 0 | 6 | 0 |
| Maximum Green [s] | 30 | 30 | 0 | 30 | 30 | 0 | 0 | 30 | 0 | 0 | 30 | 0 |
| Amber [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 30 | 47 | 0 | 32 | 49 | 0 | 0 | 18 | 0 | 0 | 23 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Clearance [s] | 0 | 36 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | No | No | | No | No | | | No | | | No | |
| Maximum Recall | No | No | | No | No | | | No | | | No | |
| Pedestrian Recall | No | No | | No | No | | | No | | | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 20 | 43 | 43 | 28 | 51 | 51 | 14 | 14 | 14 | 19 | 19 | 19 |
| g / C, Green / Cycle | 0.17 | 0.36 | 0.36 | 0.23 | 0.42 | 0.42 | 0.12 | 0.12 | 0.12 | 0.16 | 0.16 | 0.16 |
| (v / s)_i Volume / Saturation Flow Rate | 0.15 | 0.19 | 0.08 | 0.25 | 0.26 | 0.16 | 0.11 | 0.12 | 0.12 | 0.16 | 0.16 | 0.17 |
| s, saturation flow rate [veh/h] | 3459 | 6792 | 1589 | 3459 | 5094 | 1589 | 1781 | 1633 | 1589 | 1781 | 1603 | 1589 |
| c, Capacity [veh/h] | 590 | 2443 | 572 | 807 | 2152 | 671 | 205 | 188 | 183 | 282 | 254 | 252 |
| d1, Uniform Delay [s] | 48.55 | 30.57 | 26.86 | 46.01 | 26.98 | 23.90 | 53.02 | 53.10 | 53.10 | 50.45 | 50.50 | 50.50 |
| k, delay calibration | 0.11 | 0.50 | 0.50 | 0.11 | 0.50 | 0.50 | 0.11 | 0.11 | 0.11 | 0.18 | 0.20 | 0.20 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 4.34 | 0.87 | 0.95 | 39.92 | 1.30 | 1.66 | 26.60 | 35.56 | 36.22 | 30.84 | 46.04 | 47.39 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.88 | 0.54 | 0.23 | 1.08 | 0.61 | 0.38 | 0.99 | 1.02 | 1.02 | 0.99 | 1.04 | 1.04 |
| d, Delay for Lane Group [s/veh] | 52.88 | 31.44 | 27.81 | 85.93 | 28.28 | 25.57 | 79.62 | 88.65 | 89.32 | 81.30 | 96.54 | 97.89 |
| Lane Group LOS | D | C | C | F | C | C | E | F | F | F | F | F |
| Critical Lane Group | No | Yes | No | Yes | No | No | No | No | Yes | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 7.88 | 7.75 | 2.83 | 16.41 | 9.92 | 5.36 | 7.61 | 7.52 | 7.35 | 10.81 | 10.85 | 10.85 |
| 50th-Percentile Queue Length [ft/ln] | 197.10 | 193.66 | 70.85 | 410.14 | 248.05 | 133.94 | 190.24 | 187.92 | 183.78 | 270.17 | 271.22 | 271.26 |
| 95th-Percentile Queue Length [veh/ln] | 12.49 | 12.31 | 5.10 | 24.01 | 15.09 | 9.15 | 12.13 | 12.11 | 11.90 | 16.20 | 16.55 | 16.57 |
| 95th-Percentile Queue Length [ft/ln] | 312.22 | 307.78 | 127.52 | 600.30 | 377.20 | 228.84 | 303.34 | 302.75 | 297.41 | 404.95 | 413.64 | 414.34 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 52.88 | 31.44 | 27.81 | 85.93 | 28.28 | 25.57 | 80.00 | 88.65 | 89.02 | 82.74 | 96.54 | 97.26 |
| Movement LOS | D | C | C | F | C | C | F | F | F | F | F | F |
| d_A, Approach Delay [s/veh] | 36.81 | | | 48.51 | | | 85.72 | | | 91.68 | | |
| Approach LOS | D | | | D | | | F | | | F | | |
| d_I, Intersection Delay [s/veh] | 54.27 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.841 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 0.0 | 11.0 | 11.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 0.00 | 49.50 | 49.50 |
| I_p,int, Pedestrian LOS Score for Intersection | 0.000 | 0.000 | 2.579 | 2.673 |
| Crosswalk LOS | F | F | B | B |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 717 | 750 | 233 | 317 |
| d_b, Bicycle Delay [s] | 24.70 | 23.44 | 46.82 | 42.50 |
| I_b,int, Bicycle LOS Score for Intersection | 2.374 | 2.901 | 2.520 | 2.891 |
| Bicycle LOS | B | C | B | C |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 4 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 4: I-5 SB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 26.2 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.745 |

**Intersection Setup**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Curb Present | No | | No | | No | |
| Crosswalk | Yes | | No | | No | |

**Volumes**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 360 | 80 | 806 | 1021 | 881 | 477 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 360 | 80 | 806 | 1021 | 881 | 477 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 95 | 21 | 212 | 269 | 232 | 126 |
| Total Analysis Volume [veh/h] | 379 | 84 | 848 | 1075 | 927 | 502 |
| Presence of On-Street Parking | No | No | No | No | No | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | 0 | | 0 | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | 0 | | 0 | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 12.00 |

**Phasing & Timing**

| Control Type | Split | Split | Protected | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Signal Group | 7 | 4 | 5 | 2 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | Lead | - | - | - |
| Minimum Green [s] | 6 | 0 | 6 | 6 | 6 | 0 |
| Maximum Green [s] | 30 | 0 | 30 | 30 | 30 | 0 |
| Amber [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 0.0 | 1.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 19 | 0 | 47 | 101 | 54 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 43 | 0 |
| Rest In Walk | No | | | No | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | No | | No | No | No | |
| Maximum Recall | No | | No | No | No | |
| Pedestrian Recall | No | | No | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | R | L | C | C | R |
|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 15 | 15 | 33 | 97 | 60 | 60 |
| g / C, Green / Cycle | 0.12 | 0.12 | 0.27 | 0.81 | 0.50 | 0.50 |
| (v / s)_i Volume / Saturation Flow Rate | 0.11 | 0.05 | 0.25 | 0.21 | 0.26 | 0.32 |
| s, saturation flow rate [veh/h] | 3459 | 1589 | 3459 | 5094 | 3560 | 1589 |
| c, Capacity [veh/h] | 431 | 198 | 942 | 4120 | 1791 | 800 |
| d1, Uniform Delay [s] | 51.64 | 48.54 | 42.07 | 2.78 | 20.03 | 21.65 |
| k, delay calibration | 0.11 | 0.11 | 0.11 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 5.97 | 1.44 | 3.45 | 0.15 | 1.07 | 3.71 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| X, volume / capacity | 0.88 | 0.42 | 0.90 | 0.26 | 0.52 | 0.63 |
| d, Delay for Lane Group [s/veh] | 57.61 | 49.98 | 45.53 | 2.93 | 21.10 | 25.36 |
| Lane Group LOS | E | D | D | A | C | C |
| Critical Lane Group | Yes | No | Yes | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 5.95 | 2.41 | 12.45 | 1.64 | 8.84 | 10.86 |
| 50th-Percentile Queue Length [ft/ln] | 148.84 | 60.28 | 311.30 | 41.07 | 220.99 | 271.57 |
| 95th-Percentile Queue Length [veh/ln] | 9.96 | 4.34 | 18.24 | 2.96 | 13.72 | 16.27 |
| 95th-Percentile Queue Length [ft/ln] | 248.88 | 108.51 | 455.98 | 73.92 | 342.89 | 406.70 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 57.61 | 49.98 | 45.53 | 2.93 | 21.10 | 25.36 |
| Movement LOS | E | D | D | A | C | C |
| d_A, Approach Delay [s/veh] | 56.23 | | 21.72 | | 22.60 | |
| Approach LOS | E | | C | | C | |
| d_I, Intersection Delay [s/veh] | 26.23 | | | | | |
| Intersection LOS | C | | | | | |
| Intersection V/C | 0.745 | | | | | |

**Other Modes**

| | | | |
|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 49.50 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.667 | 0.000 | 0.000 |
| Crosswalk LOS | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 0 | 0 | 0 |
| d_b, Bicycle Delay [s] | 60.00 | 60.00 | 60.00 |
| I_b,int, Bicycle LOS Score for Intersection | 4.132 | 5.190 | 5.311 |
| Bicycle LOS | D | F | F |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 7 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 6: Wilshire Avenue/I-5 NB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 45.3 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.848 |

**Intersection Setup**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | No | | | No | | |

**Volumes**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 263 | 118 | 259 | 141 | 31 | 294 | 85 | 946 | 233 | 342 | 905 | 144 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 263 | 118 | 259 | 141 | 31 | 294 | 85 | 946 | 233 | 342 | 905 | 144 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 69 | 31 | 68 | 37 | 8 | 77 | 22 | 249 | 61 | 90 | 238 | 38 |
| Total Analysis Volume [veh/h] | 277 | 124 | 273 | 148 | 33 | 309 | 89 | 996 | 245 | 360 | 953 | 152 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 110 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Split | Split | Split | Split | Split | Split | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 6 | 0 | 0 | 2 | 0 | 3 | 8 | 0 | 7 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 0 | 6 | 0 | 0 | 6 | 0 | 6 | 6 | 0 | 6 | 6 | 0 |
| Maximum Green [s] | 0 | 30 | 0 | 0 | 30 | 0 | 30 | 30 | 0 | 30 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 0 | 22 | 0 | 0 | 27 | 0 | 11 | 46 | 0 | 15 | 50 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 0 | 0 | 25 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | | No | | | No | | No | No | | No | No | |
| Maximum Recall | | No | | | No | | No | No | | No | No | |
| Pedestrian Recall | | No | | | No | | No | No | | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | L | C | C | L | C | C |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 26 | 26 | 26 | 26 | 26 | 7 | 29 | 29 | 14 | 36 | 36 |
| g / C, Green / Cycle | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.06 | 0.26 | 0.26 | 0.13 | 0.32 | 0.32 |
| (v / s)_i Volume / Saturation Flow Rate | 0.11 | 0.11 | 0.17 | 0.08 | 0.21 | 0.05 | 0.24 | 0.24 | 0.10 | 0.21 | 0.21 |
| s, saturation flow rate [veh/h] | 1781 | 1834 | 1589 | 1781 | 1613 | 1781 | 3560 | 1687 | 3459 | 3560 | 1741 |
| c, Capacity [veh/h] | 415 | 427 | 370 | 415 | 376 | 115 | 924 | 438 | 447 | 1154 | 565 |
| d1, Uniform Delay [s] | 36.47 | 36.45 | 39.14 | 35.36 | 41.14 | 50.74 | 39.56 | 39.57 | 46.62 | 31.79 | 31.79 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.11 | 0.11 | 0.35 | 0.11 | 0.11 | 0.11 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 3.90 | 3.75 | 12.35 | 2.39 | 28.49 | 10.41 | 3.92 | 20.01 | 3.45 | 0.60 | 1.23 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.48 | 0.48 | 0.74 | 0.36 | 0.91 | 0.77 | 0.91 | 0.91 | 0.80 | 0.64 | 0.64 |
| d, Delay for Lane Group [s/veh] | 40.37 | 40.21 | 51.49 | 37.74 | 69.63 | 61.15 | 43.48 | 59.58 | 50.07 | 32.39 | 33.02 |
| Lane Group LOS | D | D | D | D | E | E | D | E | D | C | C |
| Critical Lane Group | No | No | Yes | No | Yes | No | No | Yes | Yes | No | No |
| 50th-Percentile Queue Length [veh/ln] | 5.03 | 5.14 | 8.05 | 3.59 | 11.90 | 2.75 | 11.40 | 12.77 | 4.99 | 8.43 | 8.35 |
| 50th-Percentile Queue Length [ft/ln] | 125.72 | 128.50 | 201.20 | 89.85 | 297.46 | 68.63 | 285.02 | 319.33 | 124.71 | 210.86 | 208.71 |
| 95th-Percentile Queue Length [veh/ln] | 8.71 | 8.86 | 12.70 | 6.47 | 17.56 | 4.94 | 16.94 | 18.63 | 8.65 | 13.20 | 13.09 |
| 95th-Percentile Queue Length [ft/ln] | 217.66 | 221.45 | 317.51 | 161.73 | 438.88 | 123.53 | 423.46 | 465.86 | 216.29 | 329.93 | 327.17 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 40.32 | 40.21 | 51.49 | 37.74 | 69.63 | 69.63 | 61.15 | 45.97 | 59.58 | 50.07 | 32.53 | 33.02 |
| Movement LOS | D | D | D | D | E | E | E | D | E | D | C | C |
| d_A, Approach Delay [s/veh] | 44.83 | | | 60.00 | | | 49.50 | | | 36.89 | | |
| Approach LOS | D | | | E | | | D | | | D | | |
| d_I, Intersection Delay [s/veh] | 45.34 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.848 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 44.55 | 44.55 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.565 | 2.228 | 0.000 | 0.000 |
| Crosswalk LOS | B | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 327 | 418 | 764 | 836 |
| d_b, Bicycle Delay [s] | 38.47 | 34.40 | 21.02 | 18.62 |
| I_b,int, Bicycle LOS Score for Intersection | 2.672 | 2.368 | 2.291 | 2.365 |
| Bicycle LOS | B | B | B | B |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | 6 | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | - | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 1: Euclid Street at I-5 Ramps**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 79.0 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | E |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.972 |

**Intersection Setup**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | No | | | No | | | Yes | | | Yes | | |

**Volumes**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 404 | 1347 | 129 | 587 | 1457 | 286 | 377 | 0 | 432 | 447 | 1 | 740 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 404 | 1347 | 129 | 587 | 1457 | 286 | 377 | 0 | 432 | 447 | 1 | 740 |
| Peak Hour Factor | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 104 | 347 | 33 | 151 | 376 | 74 | 97 | 0 | 111 | 115 | 0 | 191 |
| Total Analysis Volume [veh/h] | 416 | 1389 | 133 | 605 | 1502 | 295 | 389 | 0 | 445 | 461 | 1 | 763 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Split | Split | Split | Split | Split | Split |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 1 | 6 | 0 | 5 | 2 | 0 | 0 | 8 | 0 | 0 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 6 | 6 | 0 | 6 | 6 | 0 | 0 | 6 | 0 | 0 | 6 | 0 |
| Maximum Green [s] | 30 | 30 | 0 | 30 | 30 | 0 | 0 | 30 | 0 | 0 | 30 | 0 |
| Amber [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 20 | 47 | 0 | 22 | 49 | 0 | 0 | 21 | 0 | 0 | 30 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Clearance [s] | 0 | 36 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | No | No | | No | No | | | No | | | No | |
| Maximum Recall | No | No | | No | No | | | No | | | No | |
| Pedestrian Recall | No | No | | No | No | | | No | | | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 16 | 43 | 43 | 18 | 45 | 45 | 17 | 17 | 17 | 26 | 26 | 26 |
| g / C, Green / Cycle | 0.13 | 0.36 | 0.36 | 0.15 | 0.38 | 0.38 | 0.14 | 0.14 | 0.14 | 0.22 | 0.22 | 0.22 |
| (v / s)_i Volume / Saturation Flow Rate | 0.12 | 0.20 | 0.08 | 0.17 | 0.29 | 0.19 | 0.16 | 0.17 | 0.17 | 0.23 | 0.25 | 0.26 |
| s, saturation flow rate [veh/h] | 3459 | 6792 | 1589 | 3459 | 5094 | 1589 | 1781 | 1655 | 1589 | 1781 | 1612 | 1589 |
| c, Capacity [veh/h] | 464 | 2438 | 571 | 521 | 1913 | 597 | 250 | 233 | 223 | 386 | 349 | 344 |
| d1, Uniform Delay [s] | 51.19 | 31.03 | 26.94 | 51.02 | 33.22 | 28.77 | 51.62 | 51.62 | 51.62 | 47.05 | 47.05 | 47.05 |
| k, delay calibration | 0.11 | 0.50 | 0.50 | 0.11 | 0.50 | 0.50 | 0.19 | 0.21 | 0.22 | 0.39 | 0.46 | 0.47 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 6.41 | 0.97 | 0.96 | 77.63 | 3.33 | 2.91 | 82.94 | 101.63 | 112.12 | 56.72 | 100.70 | 107.87 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.90 | 0.57 | 0.23 | 1.16 | 0.79 | 0.49 | 1.15 | 1.19 | 1.21 | 1.06 | 1.17 | 1.19 |
| d, Delay for Lane Group [s/veh] | 57.60 | 32.00 | 27.89 | 128.65 | 36.55 | 31.68 | 134.57 | 153.25 | 163.74 | 103.77 | 147.74 | 154.92 |
| Lane Group LOS | E | C | C | F | D | C | F | F | F | F | F | F |
| Critical Lane Group | Yes | No | No | No | Yes | No | No | No | Yes | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 6.56 | 8.24 | 2.84 | 13.42 | 13.33 | 6.98 | 13.27 | 13.54 | 13.65 | 17.53 | 20.14 | 20.54 |
| 50th-Percentile Queue Length [ft/ln] | 164.05 | 206.03 | 70.92 | 335.57 | 333.33 | 174.60 | 331.76 | 338.52 | 341.36 | 438.27 | 503.52 | 513.51 |
| 95th-Percentile Queue Length [veh/ln] | 10.76 | 12.95 | 5.11 | 20.77 | 19.32 | 11.32 | 20.44 | 21.08 | 21.38 | 25.18 | 29.85 | 30.57 |
| 95th-Percentile Queue Length [ft/ln] | 269.08 | 323.73 | 127.66 | 519.24 | 483.04 | 282.95 | 510.94 | 526.99 | 534.51 | 629.54 | 746.31 | 764.24 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 57.60 | 32.00 | 27.89 | 128.65 | 36.55 | 31.68 | 139.76 | 153.25 | 159.75 | 108.79 | 147.74 | 151.58 |
| Movement LOS | E | C | C | F | D | C | F | F | F | F | F | F |
| d_A, Approach Delay [s/veh] | 37.22 | | | 59.15 | | | 150.23 | | | 135.48 | | |
| Approach LOS | D | | | E | | | F | | | F | | |
| d_I, Intersection Delay [s/veh] | 78.99 | | | | | | | | | | | |
| Intersection LOS | E | | | | | | | | | | | |
| Intersection V/C | 0.972 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 0.0 | 11.0 | 11.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 0.00 | 49.50 | 49.50 |
| I_p,int, Pedestrian LOS Score for Intersection | 0.000 | 0.000 | 2.615 | 2.696 |
| Crosswalk LOS | F | F | B | B |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 717 | 750 | 283 | 433 |
| d_b, Bicycle Delay [s] | 24.70 | 23.44 | 44.20 | 36.82 |
| I_b,int, Bicycle LOS Score for Intersection | 2.359 | 2.881 | 2.936 | 3.581 |
| Bicycle LOS | B | C | C | D |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 4 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 4: I-5 SB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 20.0 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.672 |

**Intersection Setup**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Curb Present | No | | No | | No | |
| Crosswalk | Yes | | No | | No | |

**Volumes**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 436 | 84 | 388 | 812 | 1152 | 399 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 436 | 84 | 388 | 812 | 1152 | 399 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 115 | 22 | 102 | 214 | 303 | 105 |
| Total Analysis Volume [veh/h] | 459 | 88 | 408 | 855 | 1213 | 420 |
| Presence of On-Street Parking | No | No | No | No | No | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | 0 | | 0 | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | 0 | | 0 | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 100 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 12.00 |

**Phasing & Timing**

| Control Type | Split | Split | Protected | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Signal Group | 7 | 4 | 5 | 2 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | Lead | - | - | - |
| Minimum Green [s] | 6 | 0 | 6 | 6 | 6 | 0 |
| Maximum Green [s] | 30 | 0 | 30 | 30 | 30 | 0 |
| Amber [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 0.0 | 1.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 25 | 0 | 21 | 75 | 54 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 43 | 0 |
| Rest In Walk | No | | | No | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | No | | No | No | No | |
| Maximum Recall | No | | No | No | No | |
| Pedestrian Recall | No | | No | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | R | L | C | C | R |
|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 100 | 100 | 100 | 100 | 100 | 100 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 16 | 16 | 14 | 76 | 58 | 58 |
| g / C, Green / Cycle | 0.16 | 0.16 | 0.14 | 0.76 | 0.58 | 0.58 |
| (v / s)_i Volume / Saturation Flow Rate | 0.13 | 0.06 | 0.12 | 0.17 | 0.34 | 0.26 |
| s, saturation flow rate [veh/h] | 3459 | 1589 | 3459 | 5094 | 3560 | 1589 |
| c, Capacity [veh/h] | 548 | 252 | 484 | 3879 | 2071 | 924 |
| d1, Uniform Delay [s] | 40.82 | 37.48 | 41.94 | 3.42 | 13.28 | 11.90 |
| k, delay calibration | 0.11 | 0.11 | 0.11 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 3.47 | 0.83 | 4.09 | 0.13 | 1.22 | 1.61 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| X, volume / capacity | 0.84 | 0.35 | 0.84 | 0.22 | 0.59 | 0.45 |
| d, Delay for Lane Group [s/veh] | 44.29 | 38.30 | 46.03 | 3.55 | 14.50 | 13.51 |
| Lane Group LOS | D | D | D | A | B | B |
| Critical Lane Group | Yes | No | Yes | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 5.69 | 1.97 | 5.13 | 1.33 | 8.38 | 5.40 |
| 50th-Percentile Queue Length [ft/ln] | 142.19 | 49.17 | 128.36 | 33.20 | 209.61 | 134.96 |
| 95th-Percentile Queue Length [veh/ln] | 9.60 | 3.54 | 8.85 | 2.39 | 13.13 | 9.21 |
| 95th-Percentile Queue Length [ft/ln] | 239.97 | 88.51 | 221.27 | 59.75 | 328.33 | 230.23 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 44.29 | 38.30 | 46.03 | 3.55 | 14.50 | 13.51 |
| Movement LOS | D | D | D | A | B | B |
| d_A, Approach Delay [s/veh] | 43.33 | | 17.27 | | 14.25 | |
| Approach LOS | D | | B | | B | |
| d_I, Intersection Delay [s/veh] | 19.98 | | | | | |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.672 | | | | | |

**Other Modes**

| | | | |
|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 39.61 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.573 | 0.000 | 0.000 |
| Crosswalk LOS | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 0 | 0 | 0 |
| d_b, Bicycle Delay [s] | 50.00 | 50.00 | 50.00 |
| I_b,int, Bicycle LOS Score for Intersection | 4.132 | 4.827 | 5.480 |
| Bicycle LOS | D | E | F |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 7 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 6: Wilshire Avenue/I-5 NB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 36.6 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.762 |

**Intersection Setup**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | No | | | No | | |

**Volumes**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 305 | 254 | 239 | 161 | 22 | 234 | 127 | 907 | 157 | 316 | 1045 | 213 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 305 | 254 | 239 | 161 | 22 | 234 | 127 | 907 | 157 | 316 | 1045 | 213 |
| Peak Hour Factor | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 77 | 64 | 60 | 40 | 6 | 59 | 32 | 228 | 39 | 79 | 262 | 53 |
| Total Analysis Volume [veh/h] | 306 | 255 | 240 | 162 | 22 | 235 | 128 | 911 | 158 | 317 | 1049 | 214 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 90 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Split | Split | Split | Split | Split | Split | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 6 | 0 | 0 | 2 | 0 | 3 | 8 | 0 | 7 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 0 | 6 | 0 | 0 | 6 | 0 | 6 | 6 | 0 | 6 | 6 | 0 |
| Maximum Green [s] | 0 | 30 | 0 | 0 | 30 | 0 | 30 | 30 | 0 | 30 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 0 | 10 | 0 | 0 | 10 | 0 | 25 | 47 | 0 | 23 | 45 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 0 | 0 | 25 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | | No | | | No | | No | No | | No | No | |
| Maximum Recall | | No | | | No | | No | No | | No | No | |
| Pedestrian Recall | | No | | | No | | No | No | | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | L | C | C | L | C | C |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 20 | 20 | 20 | 20 | 20 | 8 | 23 | 23 | 11 | 26 | 26 |
| g / C, Green / Cycle | 0.22 | 0.22 | 0.22 | 0.22 | 0.22 | 0.09 | 0.26 | 0.26 | 0.12 | 0.29 | 0.29 |
| (v / s)_i Volume / Saturation Flow Rate | 0.16 | 0.15 | 0.15 | 0.09 | 0.16 | 0.07 | 0.20 | 0.20 | 0.09 | 0.24 | 0.24 |
| s, saturation flow rate [veh/h] | 1781 | 1860 | 1589 | 1781 | 1610 | 1781 | 3560 | 1732 | 3459 | 3560 | 1712 |
| c, Capacity [veh/h] | 393 | 410 | 351 | 393 | 355 | 164 | 925 | 450 | 421 | 1029 | 495 |
| d1, Uniform Delay [s] | 32.43 | 32.32 | 32.26 | 30.13 | 32.59 | 40.04 | 30.96 | 30.98 | 38.30 | 29.96 | 29.97 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.11 | 0.11 | 0.16 | 0.11 | 0.11 | 0.11 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 10.16 | 9.24 | 10.37 | 3.18 | 12.08 | 7.77 | 1.44 | 4.40 | 2.76 | 1.78 | 3.63 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.70 | 0.69 | 0.68 | 0.41 | 0.72 | 0.78 | 0.78 | 0.78 | 0.75 | 0.83 | 0.83 |
| d, Delay for Lane Group [s/veh] | 42.59 | 41.57 | 42.63 | 33.30 | 44.67 | 47.81 | 32.40 | 35.38 | 41.06 | 31.74 | 33.60 |
| Lane Group LOS | D | D | D | C | D | D | C | D | D | C | C |
| Critical Lane Group | Yes | No | No | No | Yes | Yes | No | No | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 6.55 | 6.62 | 5.70 | 3.31 | 6.27 | 3.09 | 7.23 | 7.43 | 3.50 | 8.62 | 8.55 |
| 50th-Percentile Queue Length [ft/ln] | 163.83 | 165.56 | 142.62 | 82.65 | 156.77 | 77.30 | 180.84 | 185.70 | 87.41 | 215.46 | 213.76 |
| 95th-Percentile Queue Length [veh/ln] | 10.75 | 10.84 | 9.62 | 5.95 | 10.38 | 5.57 | 11.64 | 11.90 | 6.29 | 13.43 | 13.35 |
| 95th-Percentile Queue Length [ft/ln] | 268.79 | 271.07 | 240.55 | 148.77 | 259.44 | 139.14 | 291.10 | 297.44 | 157.33 | 335.83 | 333.65 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 42.50 | 41.57 | 42.63 | 33.30 | 44.67 | 44.67 | 47.81 | 33.03 | 35.38 | 41.06 | 32.09 | 33.60 |
| Movement LOS | D | D | D | C | D | D | D | C | D | D | C | C |
| d_A, Approach Delay [s/veh] | 42.24 | | | 40.28 | | | 34.92 | | | 34.09 | | |
| Approach LOS | D | | | D | | | C | | | C | | |
| d_I, Intersection Delay [s/veh] | 36.62 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.762 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 34.67 | 34.67 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.552 | 2.270 | 0.000 | 0.000 |
| Crosswalk LOS | B | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 133 | 133 | 956 | 911 |
| d_b, Bicycle Delay [s] | 39.20 | 39.20 | 12.27 | 13.34 |
| I_b,int, Bicycle LOS Score for Intersection | 2.881 | 2.251 | 2.218 | 2.429 |
| Bicycle LOS | C | B | B | B |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | 6 | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | - | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

*APPENDIX D-VIII*

# YEAR 2023 CUMULATIVE PLUS PROJECT (SCENARIO NO.2) TRAFFIC CONDITIONS

**Intersection Level Of Service Report**
**Intersection 1: Euclid Street at I-5 Ramps**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 54.3 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.841 |

**Intersection Setup**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | No | | | No | | | Yes | | | Yes | | |

**Volumes**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 492 | 1258 | 126 | 825 | 1247 | 245 | 193 | 32 | 328 | 284 | 2 | 481 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 492 | 1258 | 126 | 825 | 1247 | 245 | 193 | 32 | 328 | 284 | 2 | 481 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 129 | 331 | 33 | 217 | 328 | 64 | 51 | 8 | 86 | 75 | 1 | 127 |
| Total Analysis Volume [veh/h] | 518 | 1324 | 133 | 868 | 1313 | 258 | 203 | 34 | 345 | 299 | 2 | 506 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Split | Split | Split | Split | Split | Split |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 1 | 6 | 0 | 5 | 2 | 0 | 0 | 8 | 0 | 0 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 6 | 6 | 0 | 6 | 6 | 0 | 0 | 6 | 0 | 0 | 6 | 0 |
| Maximum Green [s] | 30 | 30 | 0 | 30 | 30 | 0 | 0 | 30 | 0 | 0 | 30 | 0 |
| Amber [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 30 | 47 | 0 | 32 | 49 | 0 | 0 | 18 | 0 | 0 | 23 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Clearance [s] | 0 | 36 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | No | No | | No | No | | | No | | | No | |
| Maximum Recall | No | No | | No | No | | | No | | | No | |
| Pedestrian Recall | No | No | | No | No | | | No | | | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 20 | 43 | 43 | 28 | 51 | 51 | 14 | 14 | 14 | 19 | 19 | 19 |
| g / C, Green / Cycle | 0.17 | 0.36 | 0.36 | 0.23 | 0.42 | 0.42 | 0.12 | 0.12 | 0.12 | 0.16 | 0.16 | 0.16 |
| (v / s)_i Volume / Saturation Flow Rate | 0.15 | 0.19 | 0.08 | 0.25 | 0.26 | 0.16 | 0.11 | 0.12 | 0.12 | 0.16 | 0.16 | 0.17 |
| s, saturation flow rate [veh/h] | 3459 | 6792 | 1589 | 3459 | 5094 | 1589 | 1781 | 1633 | 1589 | 1781 | 1603 | 1589 |
| c, Capacity [veh/h] | 591 | 2443 | 572 | 807 | 2150 | 671 | 205 | 188 | 183 | 282 | 254 | 252 |
| d1, Uniform Delay [s] | 48.53 | 30.57 | 26.86 | 46.01 | 27.00 | 23.93 | 53.02 | 53.10 | 53.10 | 50.45 | 50.50 | 50.50 |
| k, delay calibration | 0.11 | 0.50 | 0.50 | 0.11 | 0.50 | 0.50 | 0.11 | 0.11 | 0.11 | 0.18 | 0.20 | 0.20 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 4.34 | 0.87 | 0.95 | 39.92 | 1.30 | 1.67 | 26.60 | 35.56 | 36.22 | 30.84 | 46.04 | 47.39 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.88 | 0.54 | 0.23 | 1.08 | 0.61 | 0.38 | 0.99 | 1.02 | 1.02 | 0.99 | 1.04 | 1.04 |
| d, Delay for Lane Group [s/veh] | 52.87 | 31.44 | 27.81 | 85.93 | 28.31 | 25.59 | 79.62 | 88.65 | 89.32 | 81.30 | 96.54 | 97.89 |
| Lane Group LOS | D | C | C | F | C | C | E | F | F | F | F | F |
| Critical Lane Group | No | Yes | No | Yes | No | No | No | No | Yes | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 7.90 | 7.75 | 2.83 | 16.41 | 9.93 | 5.36 | 7.61 | 7.52 | 7.35 | 10.81 | 10.85 | 10.85 |
| 50th-Percentile Queue Length [ft/ln] | 197.47 | 193.66 | 70.85 | 410.14 | 248.20 | 134.02 | 190.24 | 187.92 | 183.78 | 270.17 | 271.22 | 271.26 |
| 95th-Percentile Queue Length [veh/ln] | 12.51 | 12.31 | 5.10 | 24.01 | 15.10 | 9.16 | 12.13 | 12.11 | 11.90 | 16.20 | 16.55 | 16.57 |
| 95th-Percentile Queue Length [ft/ln] | 312.71 | 307.78 | 127.52 | 600.30 | 377.39 | 228.94 | 303.34 | 302.75 | 297.41 | 404.95 | 413.64 | 414.34 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 52.87 | 31.44 | 27.81 | 85.93 | 28.31 | 25.59 | 80.00 | 88.65 | 89.02 | 82.74 | 96.54 | 97.26 |
| Movement LOS | D | C | C | F | C | C | F | F | F | F | F | F |
| d_A, Approach Delay [s/veh] | 36.81 | | | 48.53 | | | 85.72 | | | 91.68 | | |
| Approach LOS | D | | | D | | | F | | | F | | |
| d_I, Intersection Delay [s/veh] | 54.27 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.841 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 0.0 | 11.0 | 11.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 0.00 | 49.50 | 49.50 |
| I_p,int, Pedestrian LOS Score for Intersection | 0.000 | 0.000 | 2.579 | 2.673 |
| Crosswalk LOS | F | F | B | B |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 717 | 750 | 233 | 317 |
| d_b, Bicycle Delay [s] | 24.70 | 23.44 | 46.82 | 42.50 |
| I_b,int, Bicycle LOS Score for Intersection | 2.374 | 2.901 | 2.520 | 2.891 |
| Bicycle LOS | B | C | B | C |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 4 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 4: I-5 SB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 26.2 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.745 |

**Intersection Setup**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Curb Present | No | | No | | No | |
| Crosswalk | Yes | | No | | No | |

**Volumes**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 360 | 80 | 807 | 1021 | 881 | 477 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 360 | 80 | 807 | 1021 | 881 | 477 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 95 | 21 | 212 | 269 | 232 | 126 |
| Total Analysis Volume [veh/h] | 379 | 84 | 849 | 1075 | 927 | 502 |
| Presence of On-Street Parking | No | No | No | No | No | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | 0 | | 0 | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | 0 | | 0 | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 12.00 |

**Phasing & Timing**

| Control Type | Split | Split | Protected | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Signal Group | 7 | 4 | 5 | 2 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | Lead | - | - | - |
| Minimum Green [s] | 6 | 0 | 6 | 6 | 6 | 0 |
| Maximum Green [s] | 30 | 0 | 30 | 30 | 30 | 0 |
| Amber [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 0.0 | 1.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 19 | 0 | 47 | 101 | 54 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 43 | 0 |
| Rest In Walk | No | | | No | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | No | | No | No | No | |
| Maximum Recall | No | | No | No | No | |
| Pedestrian Recall | No | | No | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | R | L | C | C | R |
|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 15 | 15 | 33 | 97 | 60 | 60 |
| g / C, Green / Cycle | 0.12 | 0.12 | 0.27 | 0.81 | 0.50 | 0.50 |
| (v / s)_i Volume / Saturation Flow Rate | 0.11 | 0.05 | 0.25 | 0.21 | 0.26 | 0.32 |
| s, saturation flow rate [veh/h] | 3459 | 1589 | 3459 | 5094 | 3560 | 1589 |
| c, Capacity [veh/h] | 431 | 198 | 943 | 4120 | 1790 | 799 |
| d1, Uniform Delay [s] | 51.64 | 48.54 | 42.05 | 2.78 | 20.05 | 21.67 |
| k, delay calibration | 0.11 | 0.11 | 0.11 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 5.97 | 1.44 | 3.46 | 0.15 | 1.07 | 3.72 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| X, volume / capacity | 0.88 | 0.42 | 0.90 | 0.26 | 0.52 | 0.63 |
| d, Delay for Lane Group [s/veh] | 57.61 | 49.98 | 45.51 | 2.93 | 21.12 | 25.40 |
| Lane Group LOS | E | D | D | A | C | C |
| Critical Lane Group | Yes | No | Yes | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 5.95 | 2.41 | 12.47 | 1.64 | 8.85 | 10.87 |
| 50th-Percentile Queue Length [ft/ln] | 148.84 | 60.28 | 311.65 | 41.07 | 221.15 | 271.77 |
| 95th-Percentile Queue Length [veh/ln] | 9.96 | 4.34 | 18.26 | 2.96 | 13.72 | 16.28 |
| 95th-Percentile Queue Length [ft/ln] | 248.88 | 108.51 | 456.41 | 73.92 | 343.09 | 406.95 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 57.61 | 49.98 | 45.51 | 2.93 | 21.12 | 25.40 |
| Movement LOS | E | D | D | A | C | C |
| d_A, Approach Delay [s/veh] | 56.23 | | 21.72 | | 22.62 | |
| Approach LOS | E | | C | | C | |
| d_I, Intersection Delay [s/veh] | 26.25 | | | | | |
| Intersection LOS | C | | | | | |
| Intersection V/C | 0.745 | | | | | |

**Other Modes**

| | | | |
|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 49.50 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.667 | 0.000 | 0.000 |
| Crosswalk LOS | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 0 | 0 | 0 |
| d_b, Bicycle Delay [s] | 60.00 | 60.00 | 60.00 |
| I_b,int, Bicycle LOS Score for Intersection | 4.132 | 5.191 | 5.311 |
| Bicycle LOS | D | F | F |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 7 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 6: Wilshire Avenue/I-5 NB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 45.3 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.848 |

**Intersection Setup**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | No | | | No | | |

**Volumes**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 263 | 118 | 259 | 141 | 31 | 294 | 85 | 946 | 233 | 342 | 905 | 144 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 263 | 118 | 259 | 141 | 31 | 294 | 85 | 946 | 233 | 342 | 905 | 144 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 69 | 31 | 68 | 37 | 8 | 77 | 22 | 249 | 61 | 90 | 238 | 38 |
| Total Analysis Volume [veh/h] | 277 | 124 | 273 | 148 | 33 | 309 | 89 | 996 | 245 | 360 | 953 | 152 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 110 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Split | Split | Split | Split | Split | Split | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 6 | 0 | 0 | 2 | 0 | 3 | 8 | 0 | 7 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 0 | 6 | 0 | 0 | 6 | 0 | 6 | 6 | 0 | 6 | 6 | 0 |
| Maximum Green [s] | 0 | 30 | 0 | 0 | 30 | 0 | 30 | 30 | 0 | 30 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 0 | 22 | 0 | 0 | 27 | 0 | 11 | 46 | 0 | 15 | 50 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 0 | 0 | 25 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | | No | | | No | | No | No | | No | No | |
| Maximum Recall | | No | | | No | | No | No | | No | No | |
| Pedestrian Recall | | No | | | No | | No | No | | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | L | C | C | L | C | C |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 26 | 26 | 26 | 26 | 26 | 7 | 29 | 29 | 14 | 36 | 36 |
| g / C, Green / Cycle | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.06 | 0.26 | 0.26 | 0.13 | 0.32 | 0.32 |
| (v / s)_i Volume / Saturation Flow Rate | 0.11 | 0.11 | 0.17 | 0.08 | 0.21 | 0.05 | 0.24 | 0.24 | 0.10 | 0.21 | 0.21 |
| s, saturation flow rate [veh/h] | 1781 | 1834 | 1589 | 1781 | 1613 | 1781 | 3560 | 1687 | 3459 | 3560 | 1741 |
| c, Capacity [veh/h] | 415 | 427 | 370 | 415 | 376 | 115 | 924 | 438 | 447 | 1154 | 565 |
| d1, Uniform Delay [s] | 36.47 | 36.45 | 39.14 | 35.36 | 41.14 | 50.74 | 39.56 | 39.57 | 46.62 | 31.79 | 31.79 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.11 | 0.11 | 0.35 | 0.11 | 0.11 | 0.11 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 3.90 | 3.75 | 12.35 | 2.39 | 28.49 | 10.41 | 3.92 | 20.01 | 3.45 | 0.60 | 1.23 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.48 | 0.48 | 0.74 | 0.36 | 0.91 | 0.77 | 0.91 | 0.91 | 0.80 | 0.64 | 0.64 |
| d, Delay for Lane Group [s/veh] | 40.37 | 40.21 | 51.49 | 37.74 | 69.63 | 61.15 | 43.48 | 59.58 | 50.07 | 32.39 | 33.02 |
| Lane Group LOS | D | D | D | D | E | E | D | E | D | C | C |
| Critical Lane Group | No | No | Yes | No | Yes | No | No | Yes | Yes | No | No |
| 50th-Percentile Queue Length [veh/ln] | 5.03 | 5.14 | 8.05 | 3.59 | 11.90 | 2.75 | 11.40 | 12.77 | 4.99 | 8.43 | 8.35 |
| 50th-Percentile Queue Length [ft/ln] | 125.72 | 128.50 | 201.20 | 89.85 | 297.46 | 68.63 | 285.02 | 319.33 | 124.71 | 210.86 | 208.71 |
| 95th-Percentile Queue Length [veh/ln] | 8.71 | 8.86 | 12.70 | 6.47 | 17.56 | 4.94 | 16.94 | 18.63 | 8.65 | 13.20 | 13.09 |
| 95th-Percentile Queue Length [ft/ln] | 217.66 | 221.45 | 317.51 | 161.73 | 438.88 | 123.53 | 423.46 | 465.86 | 216.29 | 329.93 | 327.17 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 40.32 | 40.21 | 51.49 | 37.74 | 69.63 | 69.63 | 61.15 | 45.97 | 59.58 | 50.07 | 32.53 | 33.02 |
| Movement LOS | D | D | D | D | E | E | E | D | E | D | C | C |
| d_A, Approach Delay [s/veh] | 44.83 | | | 60.00 | | | 49.50 | | | 36.89 | | |
| Approach LOS | D | | | E | | | D | | | D | | |
| d_I, Intersection Delay [s/veh] | 45.34 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.848 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 44.55 | 44.55 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.565 | 2.228 | 0.000 | 0.000 |
| Crosswalk LOS | B | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 327 | 418 | 764 | 836 |
| d_b, Bicycle Delay [s] | 38.47 | 34.40 | 21.02 | 18.62 |
| I_b,int, Bicycle LOS Score for Intersection | 2.672 | 2.368 | 2.291 | 2.365 |
| Bicycle LOS | B | B | B | B |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | 6 | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | - | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 1: Euclid Street at I-5 Ramps**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 79.1 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | E |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.972 |

**Intersection Setup**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | No | | | No | | | Yes | | | Yes | | |

**Volumes**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 404 | 1347 | 129 | 587 | 1457 | 286 | 377 | 0 | 433 | 447 | 1 | 740 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 404 | 1347 | 129 | 587 | 1457 | 286 | 377 | 0 | 433 | 447 | 1 | 740 |
| Peak Hour Factor | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 | 0.9700 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 104 | 347 | 33 | 151 | 376 | 74 | 97 | 0 | 112 | 115 | 0 | 191 |
| Total Analysis Volume [veh/h] | 416 | 1389 | 133 | 605 | 1502 | 295 | 389 | 0 | 446 | 461 | 1 | 763 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Split | Split | Split | Split | Split | Split |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 1 | 6 | 0 | 5 | 2 | 0 | 0 | 8 | 0 | 0 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 6 | 6 | 0 | 6 | 6 | 0 | 0 | 6 | 0 | 0 | 6 | 0 |
| Maximum Green [s] | 30 | 30 | 0 | 30 | 30 | 0 | 0 | 30 | 0 | 0 | 30 | 0 |
| Amber [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 20 | 47 | 0 | 22 | 49 | 0 | 0 | 21 | 0 | 0 | 30 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Clearance [s] | 0 | 36 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | No | No | | No | No | | | No | | | No | |
| Maximum Recall | No | No | | No | No | | | No | | | No | |
| Pedestrian Recall | No | No | | No | No | | | No | | | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 16 | 43 | 43 | 18 | 45 | 45 | 17 | 17 | 17 | 26 | 26 | 26 |
| g / C, Green / Cycle | 0.13 | 0.36 | 0.36 | 0.15 | 0.38 | 0.38 | 0.14 | 0.14 | 0.14 | 0.22 | 0.22 | 0.22 |
| (v / s)_i Volume / Saturation Flow Rate | 0.12 | 0.20 | 0.08 | 0.17 | 0.29 | 0.19 | 0.16 | 0.17 | 0.17 | 0.23 | 0.25 | 0.26 |
| s, saturation flow rate [veh/h] | 3459 | 6792 | 1589 | 3459 | 5094 | 1589 | 1781 | 1655 | 1589 | 1781 | 1612 | 1589 |
| c, Capacity [veh/h] | 464 | 2438 | 571 | 521 | 1913 | 597 | 250 | 233 | 223 | 386 | 349 | 344 |
| d1, Uniform Delay [s] | 51.19 | 31.03 | 26.94 | 51.02 | 33.22 | 28.77 | 51.62 | 51.62 | 51.62 | 47.05 | 47.05 | 47.05 |
| k, delay calibration | 0.11 | 0.50 | 0.50 | 0.11 | 0.50 | 0.50 | 0.19 | 0.21 | 0.22 | 0.39 | 0.46 | 0.47 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 6.41 | 0.97 | 0.96 | 77.63 | 3.33 | 2.91 | 83.45 | 102.32 | 112.84 | 56.72 | 100.70 | 107.87 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.90 | 0.57 | 0.23 | 1.16 | 0.79 | 0.49 | 1.15 | 1.19 | 1.21 | 1.06 | 1.17 | 1.19 |
| d, Delay for Lane Group [s/veh] | 57.60 | 32.00 | 27.89 | 128.65 | 36.55 | 31.68 | 135.07 | 153.94 | 164.46 | 103.77 | 147.74 | 154.92 |
| Lane Group LOS | E | C | C | F | D | C | F | F | F | F | F | F |
| Critical Lane Group | Yes | No | No | No | Yes | No | No | No | Yes | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 6.56 | 8.24 | 2.84 | 13.42 | 13.33 | 6.98 | 13.31 | 13.58 | 13.70 | 17.53 | 20.14 | 20.54 |
| 50th-Percentile Queue Length [ft/ln] | 164.05 | 206.03 | 70.92 | 335.57 | 333.33 | 174.60 | 332.63 | 339.57 | 342.48 | 438.27 | 503.52 | 513.51 |
| 95th-Percentile Queue Length [veh/ln] | 10.76 | 12.95 | 5.11 | 20.77 | 19.32 | 11.32 | 20.49 | 21.15 | 21.45 | 25.18 | 29.85 | 30.57 |
| 95th-Percentile Queue Length [ft/ln] | 269.08 | 323.73 | 127.66 | 519.24 | 483.04 | 282.95 | 512.30 | 528.65 | 536.28 | 629.54 | 746.31 | 764.24 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 57.60 | 32.00 | 27.89 | 128.65 | 36.55 | 31.68 | 140.29 | 153.94 | 160.45 | 108.79 | 147.74 | 151.58 |
| Movement LOS | E | C | C | F | D | C | F | F | F | F | F | F |
| d_A, Approach Delay [s/veh] | 37.22 | | | 59.15 | | | 150.86 | | | 135.48 | | |
| Approach LOS | D | | | E | | | F | | | F | | |
| d_I, Intersection Delay [s/veh] | 79.08 | | | | | | | | | | | |
| Intersection LOS | E | | | | | | | | | | | |
| Intersection V/C | 0.972 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 0.0 | 11.0 | 11.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 0.00 | 49.50 | 49.50 |
| I_p,int, Pedestrian LOS Score for Intersection | 0.000 | 0.000 | 2.615 | 2.696 |
| Crosswalk LOS | F | F | B | B |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 717 | 750 | 283 | 433 |
| d_b, Bicycle Delay [s] | 24.70 | 23.44 | 44.20 | 36.82 |
| I_b,int, Bicycle LOS Score for Intersection | 2.359 | 2.881 | 2.937 | 3.581 |
| Bicycle LOS | B | C | C | D |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 4 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 4: I-5 SB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 20.0 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.673 |

**Intersection Setup**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Curb Present | No | | No | | No | |
| Crosswalk | Yes | | No | | No | |

**Volumes**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 436 | 84 | 389 | 813 | 1154 | 399 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 436 | 84 | 389 | 813 | 1154 | 399 |
| Peak Hour Factor | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 | 0.9500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 115 | 22 | 102 | 214 | 304 | 105 |
| Total Analysis Volume [veh/h] | 459 | 88 | 409 | 856 | 1215 | 420 |
| Presence of On-Street Parking | No | No | No | No | No | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | 0 | | 0 | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | 0 | | 0 | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 100 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 12.00 |

**Phasing & Timing**

| Control Type | Split | Split | Protected | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Signal Group | 7 | 4 | 5 | 2 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | Lead | - | - | - |
| Minimum Green [s] | 6 | 0 | 6 | 6 | 6 | 0 |
| Maximum Green [s] | 30 | 0 | 30 | 30 | 30 | 0 |
| Amber [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 0.0 | 1.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 25 | 0 | 21 | 75 | 54 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 43 | 0 |
| Rest In Walk | No | | | No | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | No | | No | No | No | |
| Maximum Recall | No | | No | No | No | |
| Pedestrian Recall | No | | No | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | R | L | C | C | R |
|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 100 | 100 | 100 | 100 | 100 | 100 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 16 | 16 | 14 | 76 | 58 | 58 |
| g / C, Green / Cycle | 0.16 | 0.16 | 0.14 | 0.76 | 0.58 | 0.58 |
| (v / s)_i Volume / Saturation Flow Rate | 0.13 | 0.06 | 0.12 | 0.17 | 0.34 | 0.26 |
| s, saturation flow rate [veh/h] | 3459 | 1589 | 3459 | 5094 | 3560 | 1589 |
| c, Capacity [veh/h] | 548 | 252 | 485 | 3879 | 2070 | 924 |
| d1, Uniform Delay [s] | 40.82 | 37.48 | 41.93 | 3.42 | 13.31 | 11.92 |
| k, delay calibration | 0.11 | 0.11 | 0.11 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 3.47 | 0.83 | 4.09 | 0.13 | 1.23 | 1.61 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| X, volume / capacity | 0.84 | 0.35 | 0.84 | 0.22 | 0.59 | 0.45 |
| d, Delay for Lane Group [s/veh] | 44.29 | 38.30 | 46.02 | 3.55 | 14.54 | 13.53 |
| Lane Group LOS | D | D | D | A | B | B |
| Critical Lane Group | Yes | No | Yes | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 5.69 | 1.97 | 5.15 | 1.33 | 8.41 | 5.40 |
| 50th-Percentile Queue Length [ft/ln] | 142.19 | 49.17 | 128.68 | 33.24 | 210.33 | 135.08 |
| 95th-Percentile Queue Length [veh/ln] | 9.60 | 3.54 | 8.87 | 2.39 | 13.17 | 9.22 |
| 95th-Percentile Queue Length [ft/ln] | 239.97 | 88.51 | 221.70 | 59.84 | 329.25 | 230.38 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 44.29 | 38.30 | 46.02 | 3.55 | 14.54 | 13.53 |
| Movement LOS | D | D | D | A | B | B |
| d_A, Approach Delay [s/veh] | 43.33 | | 17.28 | | 14.28 | |
| Approach LOS | D | | B | | B | |
| d_I, Intersection Delay [s/veh] | 19.99 | | | | | |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.673 | | | | | |

**Other Modes**

| | | | |
|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 39.61 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.573 | 0.000 | 0.000 |
| Crosswalk LOS | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 0 | 0 | 0 |
| d_b, Bicycle Delay [s] | 50.00 | 50.00 | 50.00 |
| I_b,int, Bicycle LOS Score for Intersection | 4.132 | 4.828 | 5.481 |
| Bicycle LOS | D | E | F |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 7 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 6: Wilshire Avenue/I-5 NB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 36.6 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.762 |

**Intersection Setup**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | No | | | No | | |

**Volumes**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 306 | 254 | 239 | 161 | 22 | 234 | 127 | 907 | 157 | 316 | 1045 | 213 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 306 | 254 | 239 | 161 | 22 | 234 | 127 | 907 | 157 | 316 | 1045 | 213 |
| Peak Hour Factor | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 | 0.9960 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 77 | 64 | 60 | 40 | 6 | 59 | 32 | 228 | 39 | 79 | 262 | 53 |
| Total Analysis Volume [veh/h] | 307 | 255 | 240 | 162 | 22 | 235 | 128 | 911 | 158 | 317 | 1049 | 214 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 90 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Split | Split | Split | Split | Split | Split | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 6 | 0 | 0 | 2 | 0 | 3 | 8 | 0 | 7 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 0 | 6 | 0 | 0 | 6 | 0 | 6 | 6 | 0 | 6 | 6 | 0 |
| Maximum Green [s] | 0 | 30 | 0 | 0 | 30 | 0 | 30 | 30 | 0 | 30 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 0 | 10 | 0 | 0 | 10 | 0 | 25 | 47 | 0 | 23 | 45 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 0 | 0 | 25 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | | No | | | No | | No | No | | No | No | |
| Maximum Recall | | No | | | No | | No | No | | No | No | |
| Pedestrian Recall | | No | | | No | | No | No | | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | L | C | C | L | C | C |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 20 | 20 | 20 | 20 | 20 | 8 | 23 | 23 | 11 | 26 | 26 |
| g / C, Green / Cycle | 0.22 | 0.22 | 0.22 | 0.22 | 0.22 | 0.09 | 0.26 | 0.26 | 0.12 | 0.29 | 0.29 |
| (v / s)_i Volume / Saturation Flow Rate | 0.16 | 0.15 | 0.15 | 0.09 | 0.16 | 0.07 | 0.20 | 0.20 | 0.09 | 0.24 | 0.24 |
| s, saturation flow rate [veh/h] | 1781 | 1860 | 1589 | 1781 | 1610 | 1781 | 3560 | 1732 | 3459 | 3560 | 1712 |
| c, Capacity [veh/h] | 393 | 410 | 351 | 393 | 355 | 164 | 925 | 450 | 421 | 1029 | 495 |
| d1, Uniform Delay [s] | 32.44 | 32.34 | 32.26 | 30.13 | 32.59 | 40.04 | 30.96 | 30.98 | 38.30 | 29.96 | 29.97 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.11 | 0.11 | 0.16 | 0.11 | 0.11 | 0.11 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 10.21 | 9.29 | 10.37 | 3.18 | 12.08 | 7.77 | 1.44 | 4.40 | 2.76 | 1.78 | 3.63 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.71 | 0.69 | 0.68 | 0.41 | 0.72 | 0.78 | 0.78 | 0.78 | 0.75 | 0.83 | 0.83 |
| d, Delay for Lane Group [s/veh] | 42.66 | 41.63 | 42.63 | 33.30 | 44.67 | 47.81 | 32.40 | 35.38 | 41.06 | 31.74 | 33.60 |
| Lane Group LOS | D | D | D | C | D | D | C | D | D | C | C |
| Critical Lane Group | Yes | No | No | No | Yes | Yes | No | No | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 6.57 | 6.64 | 5.70 | 3.31 | 6.27 | 3.09 | 7.23 | 7.43 | 3.50 | 8.62 | 8.55 |
| 50th-Percentile Queue Length [ft/ln] | 164.29 | 165.98 | 142.62 | 82.65 | 156.77 | 77.30 | 180.84 | 185.70 | 87.41 | 215.46 | 213.76 |
| 95th-Percentile Queue Length [veh/ln] | 10.78 | 10.86 | 9.62 | 5.95 | 10.38 | 5.57 | 11.64 | 11.90 | 6.29 | 13.43 | 13.35 |
| 95th-Percentile Queue Length [ft/ln] | 269.39 | 271.62 | 240.55 | 148.77 | 259.44 | 139.14 | 291.10 | 297.44 | 157.33 | 335.83 | 333.65 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 42.57 | 41.63 | 42.63 | 33.30 | 44.67 | 44.67 | 47.81 | 33.03 | 35.38 | 41.06 | 32.09 | 33.60 |
| Movement LOS | D | D | D | C | D | D | D | C | D | D | C | C |
| d_A, Approach Delay [s/veh] | 42.28 | | | 40.28 | | | 34.92 | | | 34.09 | | |
| Approach LOS | D | | | D | | | C | | | C | | |
| d_I, Intersection Delay [s/veh] | 36.63 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.762 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 34.67 | 34.67 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.553 | 2.270 | 0.000 | 0.000 |
| Crosswalk LOS | B | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 133 | 133 | 956 | 911 |
| d_b, Bicycle Delay [s] | 39.20 | 39.20 | 12.27 | 13.34 |
| I_b,int, Bicycle LOS Score for Intersection | 2.883 | 2.251 | 2.218 | 2.429 |
| Bicycle LOS | C | B | B | B |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | 6 | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | - | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

*APPENDIX D-IX*

# GENERAL PLAN BUILDOUT TRAFFIC CONDITIONS

**Intersection Level Of Service Report**
**Intersection 1: Euclid Street at I-5 Ramps**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 67.9 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | E |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.996 |

**Intersection Setup**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | No | | | No | | | Yes | | | Yes | | |

**Volumes**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 716 | 1182 | 227 | 782 | 1565 | 273 | 135 | 0 | 318 | 250 | 0 | 791 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 716 | 1182 | 227 | 782 | 1565 | 273 | 135 | 0 | 318 | 250 | 0 | 791 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 179 | 296 | 57 | 196 | 391 | 68 | 34 | 0 | 80 | 63 | 0 | 198 |
| Total Analysis Volume [veh/h] | 716 | 1182 | 227 | 782 | 1565 | 273 | 135 | 0 | 318 | 250 | 0 | 791 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Split | Split | Split | Split | Split | Split |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 1 | 6 | 0 | 5 | 2 | 0 | 0 | 8 | 0 | 0 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 6 | 6 | 0 | 6 | 6 | 0 | 0 | 6 | 0 | 0 | 6 | 0 |
| Maximum Green [s] | 30 | 30 | 0 | 30 | 30 | 0 | 0 | 30 | 0 | 0 | 30 | 0 |
| Amber [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 28 | 47 | 0 | 28 | 47 | 0 | 0 | 15 | 0 | 0 | 30 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Clearance [s] | 0 | 36 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | No | No | | No | No | | | No | | | No | |
| Maximum Recall | No | No | | No | No | | | No | | | No | |
| Pedestrian Recall | No | No | | No | No | | | No | | | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 24 | 43 | 43 | 24 | 43 | 43 | 11 | 11 | 11 | 26 | 26 | 26 |
| g / C, Green / Cycle | 0.20 | 0.36 | 0.36 | 0.20 | 0.36 | 0.36 | 0.09 | 0.09 | 0.09 | 0.22 | 0.22 | 0.22 |
| (v / s)_i Volume / Saturation Flow Rate | 0.21 | 0.17 | 0.14 | 0.23 | 0.31 | 0.17 | 0.08 | 0.10 | 0.10 | 0.14 | 0.25 | 0.25 |
| s, saturation flow rate [veh/h] | 3459 | 6792 | 1589 | 3459 | 5094 | 1589 | 1781 | 1589 | 1589 | 1781 | 1589 | 1589 |
| c, Capacity [veh/h] | 694 | 2436 | 570 | 694 | 1827 | 570 | 162 | 145 | 145 | 386 | 345 | 345 |
| d1, Uniform Delay [s] | 48.16 | 30.00 | 28.91 | 48.16 | 35.77 | 29.92 | 53.86 | 54.77 | 54.77 | 42.99 | 47.19 | 47.19 |
| k, delay calibration | 0.11 | 0.50 | 0.50 | 0.11 | 0.50 | 0.50 | 0.11 | 0.11 | 0.11 | 0.13 | 0.45 | 0.45 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 24.66 | 0.69 | 2.07 | 61.51 | 5.43 | 2.87 | 10.48 | 64.98 | 64.98 | 2.20 | 92.69 | 92.69 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 1.03 | 0.49 | 0.40 | 1.13 | 0.86 | 0.48 | 0.83 | 1.10 | 1.10 | 0.65 | 1.15 | 1.15 |
| d, Delay for Lane Group [s/veh] | 72.81 | 30.70 | 30.98 | 109.67 | 41.20 | 32.79 | 64.35 | 119.74 | 119.74 | 45.20 | 139.87 | 139.87 |
| Lane Group LOS | F | C | C | F | D | C | E | F | F | D | F | F |
| Critical Lane Group | Yes | No | No | No | Yes | No | No | Yes | No | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 12.72 | 6.75 | 5.23 | 16.28 | 14.87 | 6.56 | 4.49 | 6.99 | 6.99 | 7.01 | 19.12 | 19.12 |
| 50th-Percentile Queue Length [ft/ln] | 318.12 | 168.64 | 130.86 | 406.96 | 371.73 | 164.01 | 112.17 | 174.66 | 174.66 | 175.16 | 477.88 | 477.88 |
| 95th-Percentile Queue Length [veh/ln] | 18.88 | 11.00 | 8.99 | 24.34 | 21.19 | 10.76 | 7.96 | 11.71 | 11.71 | 11.35 | 28.28 | 28.28 |
| 95th-Percentile Queue Length [ft/ln] | 472.06 | 275.12 | 224.67 | 608.52 | 529.83 | 269.03 | 199.02 | 292.63 | 292.63 | 283.69 | 706.98 | 706.98 |

**Movement, Approach, & Intersection Results**

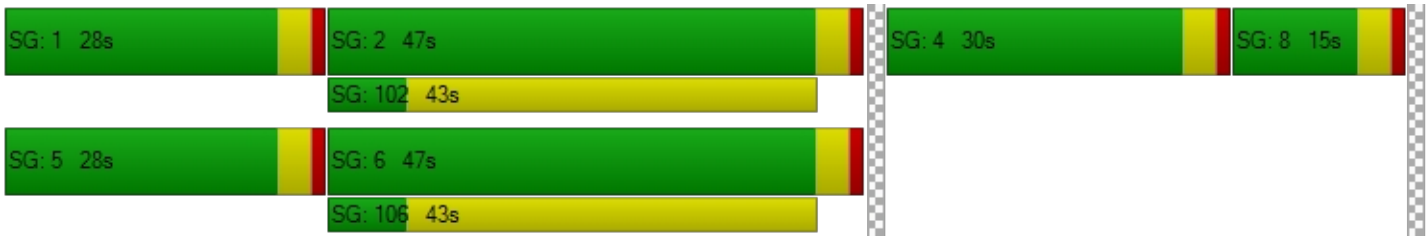
| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 72.81 | 30.70 | 30.98 | 109.67 | 41.20 | 32.79 | 64.35 | 119.74 | 119.74 | 45.20 | 139.87 | 139.87 |
| Movement LOS | F | C | C | F | D | C | E | F | F | D | F | F |
| d_A, Approach Delay [s/veh] | 44.92 | | | 60.76 | | | 103.23 | | | 117.14 | | |
| Approach LOS | D | | | E | | | F | | | F | | |
| d_I, Intersection Delay [s/veh] | 67.86 | | | | | | | | | | | |
| Intersection LOS | E | | | | | | | | | | | |
| Intersection V/C | 0.996 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 0.0 | 11.0 | 11.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 0.00 | 49.50 | 49.50 |
| I_p,int, Pedestrian LOS Score for Intersection | 0.000 | 0.000 | 2.595 | 2.713 |
| Crosswalk LOS | F | F | B | B |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 717 | 717 | 183 | 433 |
| d_b, Bicycle Delay [s] | 24.70 | 24.70 | 49.50 | 36.82 |
| I_b,int, Bicycle LOS Score for Intersection | 2.436 | 3.001 | 2.307 | 3.277 |
| Bicycle LOS | B | C | B | C |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 4 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**Intersection 4: I-5 SB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 25.2 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.753 |

**Intersection Setup**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Curb Present | No | | No | | No | |
| Crosswalk | Yes | | No | | No | |

**Volumes**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 458 | 96 | 840 | 1577 | 1054 | 421 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 458 | 96 | 840 | 1577 | 1054 | 421 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 115 | 24 | 210 | 394 | 264 | 105 |
| Total Analysis Volume [veh/h] | 458 | 96 | 840 | 1577 | 1054 | 421 |
| Presence of On-Street Parking | No | No | No | No | No | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | 0 | | 0 | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | 0 | | 0 | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 12.00 |

**Phasing & Timing**

| Control Type | Split | Split | Protected | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Signal Group | 7 | 4 | 5 | 2 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | Lead | - | - | - |
| Minimum Green [s] | 6 | 0 | 6 | 6 | 6 | 0 |
| Maximum Green [s] | 30 | 0 | 30 | 30 | 30 | 0 |
| Amber [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 0.0 | 1.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 22 | 0 | 44 | 98 | 54 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 43 | 0 |
| Rest In Walk | No | | | No | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | No | | No | No | No | |
| Maximum Recall | No | | No | No | No | |
| Pedestrian Recall | No | | No | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | R | L | C | C | C |
|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 18 | 18 | 32 | 94 | 58 | 58 |
| g / C, Green / Cycle | 0.15 | 0.15 | 0.27 | 0.79 | 0.48 | 0.48 |
| (v / s)_i Volume / Saturation Flow Rate | 0.13 | 0.06 | 0.24 | 0.31 | 0.28 | 0.30 |
| s, saturation flow rate [veh/h] | 3459 | 1589 | 3459 | 5094 | 3560 | 1625 |
| c, Capacity [veh/h] | 510 | 234 | 928 | 4003 | 1724 | 786 |
| d1, Uniform Delay [s] | 50.24 | 46.39 | 42.39 | 3.98 | 22.05 | 22.88 |
| k, delay calibration | 0.11 | 0.11 | 0.11 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 5.96 | 1.15 | 3.67 | 0.29 | 1.38 | 3.73 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| X, volume / capacity | 0.90 | 0.41 | 0.90 | 0.39 | 0.57 | 0.63 |
| d, Delay for Lane Group [s/veh] | 56.19 | 47.53 | 46.07 | 4.27 | 23.42 | 26.62 |
| Lane Group LOS | E | D | D | A | C | C |
| Critical Lane Group | Yes | No | Yes | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 7.16 | 2.68 | 12.39 | 3.35 | 10.05 | 10.91 |
| 50th-Percentile Queue Length [ft/ln] | 178.98 | 67.07 | 309.86 | 83.64 | 251.30 | 272.68 |
| 95th-Percentile Queue Length [veh/ln] | 11.55 | 4.83 | 18.17 | 6.02 | 15.25 | 16.32 |
| 95th-Percentile Queue Length [ft/ln] | 288.69 | 120.72 | 454.21 | 150.55 | 381.29 | 408.08 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 56.19 | 47.53 | 46.07 | 4.27 | 23.64 | 26.62 |
| Movement LOS | E | D | D | A | C | C |
| d_A, Approach Delay [s/veh] | 54.69 | | 18.80 | | 24.49 | |
| Approach LOS | D | | B | | C | |
| d_I, Intersection Delay [s/veh] | 25.16 | | | | | |
| Intersection LOS | C | | | | | |
| Intersection V/C | 0.753 | | | | | |

**Other Modes**

| | | | |
|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 49.50 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.668 | 0.000 | 0.000 |
| Crosswalk LOS | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 0 | 0 | 0 |
| d_b, Bicycle Delay [s] | 60.00 | 60.00 | 60.00 |
| I_b,int, Bicycle LOS Score for Intersection | 4.132 | 5.462 | 4.944 |
| Bicycle LOS | D | F | E |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 7 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 6: Wilshire Avenue/I-5 NB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 42.3 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.841 |

**Intersection Setup**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | No | | | No | | |

**Volumes**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 281 | 183 | 226 | 196 | 21 | 300 | 111 | 1369 | 182 | 228 | 901 | 190 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 281 | 183 | 226 | 196 | 21 | 300 | 111 | 1369 | 182 | 228 | 901 | 190 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 70 | 46 | 57 | 49 | 5 | 75 | 28 | 342 | 46 | 57 | 225 | 48 |
| Total Analysis Volume [veh/h] | 281 | 183 | 226 | 196 | 21 | 300 | 111 | 1369 | 182 | 228 | 901 | 190 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 95 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Split | Split | Split | Split | Split | Split | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 6 | 0 | 0 | 2 | 0 | 3 | 8 | 0 | 7 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lag | - | - | Lead | - | - |
| Minimum Green [s] | 0 | 6 | 0 | 0 | 6 | 0 | 6 | 6 | 0 | 6 | 6 | 0 |
| Maximum Green [s] | 0 | 30 | 0 | 0 | 30 | 0 | 30 | 30 | 0 | 30 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 0 | 17 | 0 | 0 | 21 | 0 | 10 | 46 | 0 | 11 | 47 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 0 | 0 | 25 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | | No | | | No | | No | No | | No | No | |
| Maximum Recall | | No | | | No | | No | No | | No | No | |
| Pedestrian Recall | | No | | | No | | No | No | | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | L | C | C | L | C | C |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 20 | 20 | 20 | 20 | 20 | 15 | 30 | 30 | 9 | 24 | 24 |
| g / C, Green / Cycle | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.15 | 0.31 | 0.31 | 0.09 | 0.25 | 0.25 |
| (v / s)_i Volume / Saturation Flow Rate | 0.13 | 0.13 | 0.14 | 0.06 | 0.20 | 0.06 | 0.29 | 0.29 | 0.07 | 0.21 | 0.21 |
| s, saturation flow rate [veh/h] | 1781 | 1849 | 1589 | 3459 | 1605 | 1781 | 3560 | 1760 | 3459 | 3560 | 1708 |
| c, Capacity [veh/h] | 381 | 395 | 340 | 740 | 343 | 276 | 1111 | 549 | 319 | 887 | 425 |
| d1, Uniform Delay [s] | 33.73 | 33.70 | 34.28 | 31.17 | 36.76 | 36.22 | 31.79 | 31.81 | 41.97 | 33.83 | 33.84 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.11 | 0.11 | 0.40 | 0.11 | 0.11 | 0.11 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 6.82 | 6.48 | 9.87 | 0.88 | 34.61 | 0.94 | 4.34 | 21.58 | 2.97 | 2.10 | 4.28 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.60 | 0.60 | 0.66 | 0.27 | 0.94 | 0.40 | 0.93 | 0.94 | 0.71 | 0.83 | 0.83 |
| d, Delay for Lane Group [s/veh] | 40.56 | 40.18 | 44.15 | 32.05 | 71.37 | 37.16 | 36.13 | 53.39 | 44.94 | 35.94 | 38.12 |
| Lane Group LOS | D | D | D | C | E | D | D | D | D | D | D |
| Critical Lane Group | No | No | Yes | No | Yes | No | No | Yes | Yes | No | No |
| 50th-Percentile Queue Length [veh/ln] | 5.40 | 5.54 | 5.64 | 1.95 | 10.47 | 2.37 | 11.87 | 14.38 | 2.71 | 8.14 | 8.08 |
| 50th-Percentile Queue Length [ft/ln] | 135.10 | 138.45 | 141.01 | 48.67 | 261.78 | 59.32 | 296.66 | 359.43 | 67.68 | 203.55 | 201.94 |
| 95th-Percentile Queue Length [veh/ln] | 9.22 | 9.40 | 9.54 | 3.50 | 15.78 | 4.27 | 17.52 | 20.60 | 4.87 | 12.82 | 12.74 |
| 95th-Percentile Queue Length [ft/ln] | 230.41 | 234.94 | 238.38 | 87.60 | 394.45 | 106.78 | 437.89 | 514.90 | 121.83 | 320.54 | 318.46 |

**Movement, Approach, & Intersection Results**

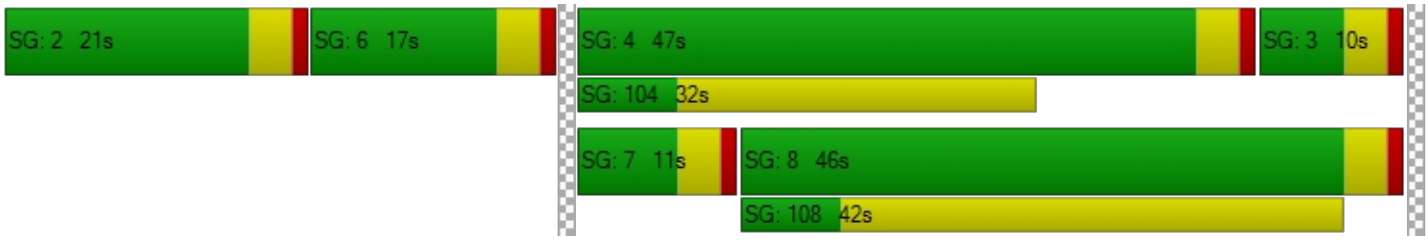
| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 40.49 | 40.18 | 44.15 | 32.05 | 71.37 | 71.37 | 37.16 | 40.31 | 53.39 | 44.94 | 36.33 | 38.12 |
| Movement LOS | D | D | D | C | E | E | D | D | D | D | D | D |
| d_A, Approach Delay [s/veh] | 41.61 | | | 56.46 | | | 41.53 | | | 38.08 | | |
| Approach LOS | D | | | E | | | D | | | D | | |
| d_I, Intersection Delay [s/veh] | 42.30 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.841 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 37.14 | 37.14 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.521 | 2.377 | 0.000 | 0.000 |
| Crosswalk LOS | B | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 274 | 358 | 884 | 905 |
| d_b, Bicycle Delay [s] | 35.39 | 32.02 | 14.78 | 14.23 |
| I_b,int, Bicycle LOS Score for Intersection | 2.698 | 2.413 | 2.474 | 2.285 |
| Bicycle LOS | B | B | B | B |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | 6 | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | - | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**Intersection 1: Euclid Street at I-5 Ramps**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 69.5 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | E |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 1.003 |

**Intersection Setup**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | No | | | No | | | Yes | | | Yes | | |

**Volumes**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 381 | 1412 | 228 | 413 | 1589 | 200 | 365 | 0 | 373 | 411 | 2 | 916 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 381 | 1412 | 228 | 413 | 1589 | 200 | 365 | 0 | 373 | 411 | 2 | 916 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 95 | 353 | 57 | 103 | 397 | 50 | 91 | 0 | 93 | 103 | 1 | 229 |
| Total Analysis Volume [veh/h] | 381 | 1412 | 228 | 413 | 1589 | 200 | 365 | 0 | 373 | 411 | 2 | 916 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Split | Split | Split | Split | Split | Split |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 1 | 6 | 0 | 5 | 2 | 0 | 0 | 8 | 0 | 0 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 6 | 6 | 0 | 6 | 6 | 0 | 0 | 6 | 0 | 0 | 6 | 0 |
| Maximum Green [s] | 30 | 30 | 0 | 30 | 30 | 0 | 0 | 30 | 0 | 0 | 30 | 0 |
| Amber [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 17 | 47 | 0 | 17 | 47 | 0 | 0 | 24 | 0 | 0 | 32 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Clearance [s] | 0 | 36 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | No | No | | No | No | | | No | | | No | |
| Maximum Recall | No | No | | No | No | | | No | | | No | |
| Pedestrian Recall | No | No | | No | No | | | No | | | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 13 | 43 | 43 | 13 | 43 | 43 | 20 | 20 | 20 | 28 | 28 | 28 |
| g / C, Green / Cycle | 0.11 | 0.36 | 0.36 | 0.11 | 0.36 | 0.36 | 0.16 | 0.16 | 0.16 | 0.23 | 0.23 | 0.23 |
| (v / s)_i Volume / Saturation Flow Rate | 0.11 | 0.21 | 0.14 | 0.12 | 0.31 | 0.13 | 0.14 | 0.15 | 0.15 | 0.23 | 0.30 | 0.28 |
| s, saturation flow rate [veh/h] | 3459 | 6792 | 1589 | 3459 | 5094 | 1589 | 1781 | 1669 | 1589 | 1781 | 1590 | 1589 |
| c, Capacity [veh/h] | 378 | 2446 | 572 | 378 | 1834 | 572 | 292 | 274 | 261 | 415 | 371 | 371 |
| d1, Uniform Delay [s] | 53.50 | 31.05 | 28.71 | 53.50 | 35.74 | 28.13 | 49.05 | 49.18 | 49.28 | 45.91 | 46.05 | 46.05 |
| k, delay calibration | 0.11 | 0.50 | 0.50 | 0.11 | 0.50 | 0.50 | 0.14 | 0.15 | 0.15 | 0.40 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 23.38 | 1.00 | 2.07 | 51.36 | 5.79 | 1.68 | 10.61 | 12.93 | 14.88 | 36.77 | 145.47 | 111.24 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 1.01 | 0.58 | 0.40 | 1.09 | 0.87 | 0.35 | 0.88 | 0.89 | 0.90 | 0.99 | 1.28 | 1.20 |
| d, Delay for Lane Group [s/veh] | 76.88 | 32.05 | 30.78 | 104.86 | 41.54 | 29.81 | 59.65 | 62.11 | 64.17 | 82.68 | 191.52 | 157.29 |
| Lane Group LOS | F | C | C | F | D | C | E | E | E | F | F | F |
| Critical Lane Group | Yes | No | No | No | Yes | No | No | No | Yes | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 6.92 | 8.39 | 5.24 | 8.39 | 15.18 | 4.49 | 8.37 | 8.16 | 8.01 | 16.36 | 25.96 | 22.42 |
| 50th-Percentile Queue Length [ft/ln] | 173.11 | 209.66 | 130.90 | 209.85 | 379.44 | 112.13 | 209.33 | 203.94 | 200.19 | 409.10 | 649.09 | 560.56 |
| 95th-Percentile Queue Length [veh/ln] | 11.27 | 13.14 | 8.99 | 13.60 | 21.57 | 7.96 | 13.12 | 12.84 | 12.65 | 23.00 | 38.98 | 33.22 |
| 95th-Percentile Queue Length [ft/ln] | 281.85 | 328.39 | 224.72 | 340.12 | 539.16 | 198.96 | 327.97 | 321.04 | 316.21 | 574.95 | 974.50 | 830.38 |

**Movement, Approach, & Intersection Results**

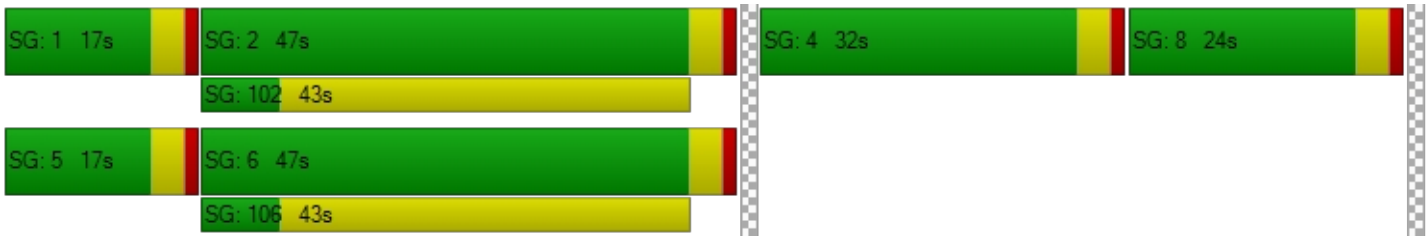
| d_M, Delay for Movement [s/veh] | 76.88 | 32.05 | 30.78 | 104.86 | 41.54 | 29.81 | 60.43 | 62.11 | 63.45 | 82.68 | 191.52 | 174.97 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement LOS | F | C | C | F | D | C | E | E | E | F | F | F |
| d_A, Approach Delay [s/veh] | 40.35 | | | 52.35 | | | 61.91 | | | 146.45 | | |
| Approach LOS | D | | | D | | | E | | | F | | |
| d_I, Intersection Delay [s/veh] | 69.50 | | | | | | | | | | | |
| Intersection LOS | E | | | | | | | | | | | |
| Intersection V/C | 1.003 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 0.0 | 11.0 | 11.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 0.00 | 49.50 | 49.50 |
| I_p,int, Pedestrian LOS Score for Intersection | 0.000 | 0.000 | 2.571 | 2.698 |
| Crosswalk LOS | F | F | B | B |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 717 | 717 | 333 | 467 |
| d_b, Bicycle Delay [s] | 24.70 | 24.70 | 41.67 | 35.27 |
| I_b,int, Bicycle LOS Score for Intersection | 2.393 | 2.771 | 2.777 | 3.752 |
| Bicycle LOS | B | C | C | D |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 4 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**Intersection 4: I-5 SB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 24.1 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.866 |

**Intersection Setup**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Curb Present | No | | No | | No | |
| Crosswalk | Yes | | No | | No | |

**Volumes**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 473 | 48 | 350 | 1359 | 2466 | 372 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 473 | 48 | 350 | 1359 | 2466 | 372 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 118 | 12 | 88 | 340 | 617 | 93 |
| Total Analysis Volume [veh/h] | 473 | 48 | 350 | 1359 | 2466 | 372 |
| Presence of On-Street Parking | No | No | No | No | No | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | 0 | | 0 | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | 0 | | 0 | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 12.00 |

**Phasing & Timing**

| Control Type | Split | Split | Protected | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Signal Group | 7 | 4 | 5 | 2 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | Lead | - | - | - |
| Minimum Green [s] | 6 | 0 | 6 | 6 | 6 | 0 |
| Maximum Green [s] | 30 | 0 | 30 | 30 | 30 | 0 |
| Amber [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 0.0 | 1.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 29 | 0 | 19 | 91 | 72 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 43 | 0 |
| Rest In Walk | No | | | No | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | No | | No | No | No | |
| Maximum Recall | No | | No | No | No | |
| Pedestrian Recall | No | | No | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | R | L | C | C | C |
|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 19 | 19 | 14 | 93 | 75 | 75 |
| g / C, Green / Cycle | 0.16 | 0.16 | 0.12 | 0.78 | 0.62 | 0.62 |
| (v / s)_i Volume / Saturation Flow Rate | 0.14 | 0.03 | 0.10 | 0.27 | 0.53 | 0.54 |
| s, saturation flow rate [veh/h] | 3459 | 1589 | 3459 | 5094 | 3560 | 1749 |
| c, Capacity [veh/h] | 547 | 251 | 405 | 3949 | 2224 | 1092 |
| d1, Uniform Delay [s] | 49.24 | 43.83 | 52.00 | 4.13 | 18.02 | 18.40 |
| k, delay calibration | 0.11 | 0.11 | 0.11 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 4.27 | 0.37 | 5.57 | 0.24 | 4.33 | 9.23 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| X, volume / capacity | 0.87 | 0.19 | 0.86 | 0.34 | 0.85 | 0.87 |
| d, Delay for Lane Group [s/veh] | 53.51 | 44.20 | 57.57 | 4.37 | 22.35 | 27.63 |
| Lane Group LOS | D | D | E | A | C | C |
| Critical Lane Group | Yes | No | Yes | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 7.22 | 1.27 | 5.48 | 2.93 | 20.76 | 22.63 |
| 50th-Percentile Queue Length [ft/ln] | 180.50 | 31.78 | 137.01 | 73.35 | 519.05 | 565.82 |
| 95th-Percentile Queue Length [veh/ln] | 11.63 | 2.29 | 9.32 | 5.28 | 28.23 | 30.43 |
| 95th-Percentile Queue Length [ft/ln] | 290.66 | 57.21 | 232.99 | 132.03 | 705.87 | 760.87 |

**Movement, Approach, & Intersection Results**

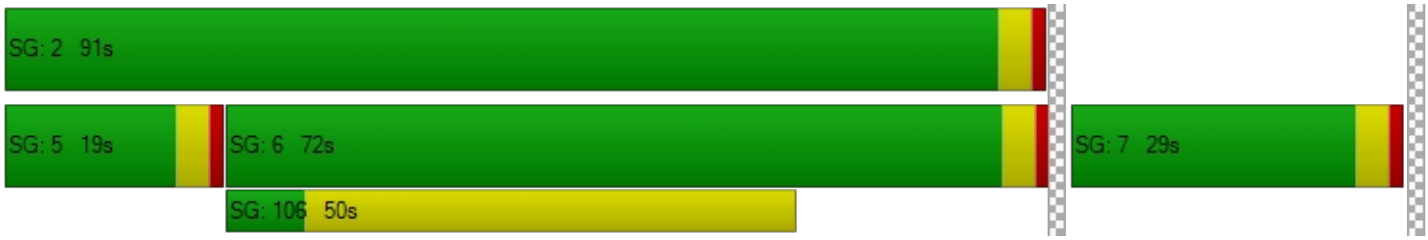
| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 53.51 | 44.20 | 57.57 | 4.37 | 23.58 | 27.63 |
| Movement LOS | D | D | E | A | C | C |
| d_A, Approach Delay [s/veh] | 52.65 | | 15.27 | | 24.11 | |
| Approach LOS | D | | B | | C | |
| d_I, Intersection Delay [s/veh] | 24.06 | | | | | |
| Intersection LOS | C | | | | | |
| Intersection V/C | 0.866 | | | | | |

**Other Modes**

| | | | |
|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 49.50 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.556 | 0.000 | 0.000 |
| Crosswalk LOS | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 0 | 0 | 0 |
| d_b, Bicycle Delay [s] | 60.00 | 60.00 | 60.00 |
| I_b,int, Bicycle LOS Score for Intersection | 4.132 | 5.072 | 5.693 |
| Bicycle LOS | D | F | F |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 7 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**Intersection 6: Wilshire Avenue/I-5 NB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 44.0 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.826 |

**Intersection Setup**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | No | | | No | | |

**Volumes**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 440 | 202 | 221 | 244 | 15 | 215 | 122 | 1289 | 158 | 360 | 1363 | 260 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 440 | 202 | 221 | 244 | 15 | 215 | 122 | 1289 | 158 | 360 | 1363 | 260 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 110 | 51 | 55 | 61 | 4 | 54 | 31 | 322 | 40 | 90 | 341 | 65 |
| Total Analysis Volume [veh/h] | 440 | 202 | 221 | 244 | 15 | 215 | 122 | 1289 | 158 | 360 | 1363 | 260 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 105 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Split | Split | Split | Split | Split | Split | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 6 | 0 | 0 | 2 | 0 | 3 | 8 | 0 | 7 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 0 | 6 | 0 | 0 | 6 | 0 | 6 | 6 | 0 | 6 | 6 | 0 |
| Maximum Green [s] | 0 | 30 | 0 | 0 | 30 | 0 | 30 | 30 | 0 | 30 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 0 | 23 | 0 | 0 | 20 | 0 | 25 | 47 | 0 | 15 | 37 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 0 | 0 | 25 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | | No | | | No | | No | No | | No | No | |
| Maximum Recall | | No | | | No | | No | No | | No | No | |
| Pedestrian Recall | | No | | | No | | No | No | | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | L | C | C | L | C | C |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 21 | 21 | 21 | 21 | 21 | 9 | 32 | 32 | 14 | 37 | 37 |
| g / C, Green / Cycle | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.09 | 0.31 | 0.31 | 0.13 | 0.35 | 0.35 |
| (v / s)_i Volume / Saturation Flow Rate | 0.18 | 0.18 | 0.14 | 0.07 | 0.14 | 0.07 | 0.27 | 0.27 | 0.10 | 0.31 | 0.31 |
| s, saturation flow rate [veh/h] | 1781 | 1836 | 1589 | 3459 | 1605 | 1781 | 3560 | 1767 | 3459 | 3560 | 1722 |
| c, Capacity [veh/h] | 363 | 374 | 324 | 705 | 327 | 155 | 1101 | 547 | 452 | 1256 | 608 |
| d1, Uniform Delay [s] | 40.62 | 40.46 | 38.73 | 35.87 | 38.92 | 47.08 | 34.47 | 34.47 | 44.38 | 31.76 | 31.91 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.11 | 0.11 | 0.42 | 0.11 | 0.11 | 0.26 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 24.65 | 22.21 | 11.04 | 1.34 | 11.92 | 8.47 | 2.44 | 15.45 | 3.24 | 1.97 | 9.48 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.88 | 0.86 | 0.68 | 0.35 | 0.70 | 0.79 | 0.88 | 0.88 | 0.80 | 0.87 | 0.88 |
| d, Delay for Lane Group [s/veh] | 65.27 | 62.68 | 49.77 | 37.22 | 50.84 | 55.55 | 36.90 | 49.92 | 47.62 | 33.73 | 41.38 |
| Lane Group LOS | E | E | D | D | D | E | D | D | D | C | D |
| Critical Lane Group | Yes | No | No | No | Yes | Yes | No | No | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 10.40 | 10.29 | 6.22 | 2.80 | 6.55 | 3.48 | 11.85 | 13.74 | 4.73 | 12.93 | 13.95 |
| 50th-Percentile Queue Length [ft/ln] | 259.89 | 257.16 | 155.44 | 70.07 | 163.69 | 87.04 | 296.19 | 343.57 | 118.19 | 323.14 | 348.74 |
| 95th-Percentile Queue Length [veh/ln] | 15.68 | 15.55 | 10.31 | 5.04 | 10.74 | 6.27 | 17.49 | 19.82 | 8.29 | 18.82 | 20.08 |
| 95th-Percentile Queue Length [ft/ln] | 392.08 | 388.66 | 257.68 | 126.12 | 268.60 | 156.68 | 437.32 | 495.56 | 207.34 | 470.55 | 501.88 |

**Movement, Approach, & Intersection Results**

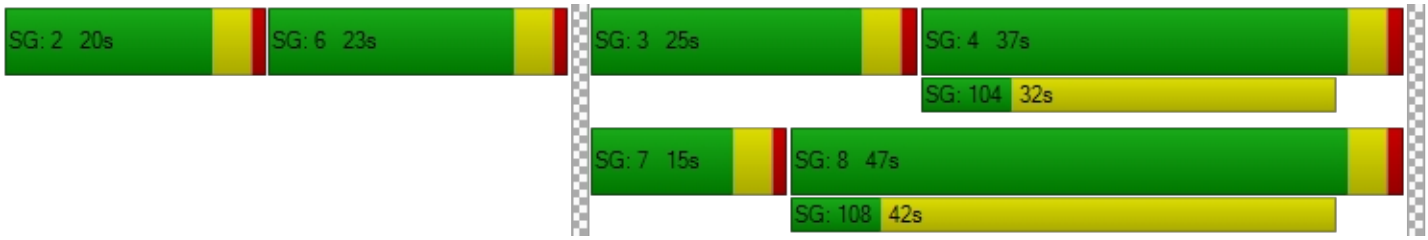
| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 64.56 | 62.68 | 49.77 | 37.22 | 50.84 | 50.84 | 55.55 | 40.16 | 49.92 | 47.62 | 35.26 | 41.38 |
| Movement LOS | E | E | D | D | D | D | E | D | D | D | D | D |
| d_A, Approach Delay [s/veh] | 60.33 | | | 43.83 | | | 42.34 | | | 38.30 | | |
| Approach LOS | E | | | D | | | D | | | D | | |
| d_I, Intersection Delay [s/veh] | 44.02 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.826 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 42.08 | 42.08 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.579 | 2.396 | 0.000 | 0.000 |
| Crosswalk LOS | B | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 362 | 305 | 819 | 629 |
| d_b, Bicycle Delay [s] | 35.22 | 37.72 | 18.30 | 24.69 |
| I_b,int, Bicycle LOS Score for Intersection | 2.984 | 2.342 | 2.423 | 2.650 |
| Bicycle LOS | C | B | B | B |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | 6 | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | - | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



*APPENDIX D-X*

# GENERAL PLAN BUILDOUT (WITH 1600 W. LINCOLN AVENUE PROJECT) TRAFFIC CONDITIONS

**Intersection Level Of Service Report**
**Intersection 1: Euclid Street at I-5 Ramps**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 67.9 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | E |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.996 |

**Intersection Setup**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | No | | | No | | | Yes | | | Yes | | |

**Volumes**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 716 | 1182 | 227 | 782 | 1565 | 273 | 135 | 0 | 318 | 250 | 0 | 791 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 716 | 1182 | 227 | 782 | 1565 | 273 | 135 | 0 | 318 | 250 | 0 | 791 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 179 | 296 | 57 | 196 | 391 | 68 | 34 | 0 | 80 | 63 | 0 | 198 |
| Total Analysis Volume [veh/h] | 716 | 1182 | 227 | 782 | 1565 | 273 | 135 | 0 | 318 | 250 | 0 | 791 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Split | Split | Split | Split | Split | Split |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 1 | 6 | 0 | 5 | 2 | 0 | 0 | 8 | 0 | 0 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 6 | 6 | 0 | 6 | 6 | 0 | 0 | 6 | 0 | 0 | 6 | 0 |
| Maximum Green [s] | 30 | 30 | 0 | 30 | 30 | 0 | 0 | 30 | 0 | 0 | 30 | 0 |
| Amber [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 28 | 47 | 0 | 28 | 47 | 0 | 0 | 15 | 0 | 0 | 30 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Clearance [s] | 0 | 36 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | No | No | | No | No | | | No | | | No | |
| Maximum Recall | No | No | | No | No | | | No | | | No | |
| Pedestrian Recall | No | No | | No | No | | | No | | | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 24 | 43 | 43 | 24 | 43 | 43 | 11 | 11 | 11 | 26 | 26 | 26 |
| g / C, Green / Cycle | 0.20 | 0.36 | 0.36 | 0.20 | 0.36 | 0.36 | 0.09 | 0.09 | 0.09 | 0.22 | 0.22 | 0.22 |
| (v / s)_i Volume / Saturation Flow Rate | 0.21 | 0.17 | 0.14 | 0.23 | 0.31 | 0.17 | 0.08 | 0.10 | 0.10 | 0.14 | 0.25 | 0.25 |
| s, saturation flow rate [veh/h] | 3459 | 6792 | 1589 | 3459 | 5094 | 1589 | 1781 | 1589 | 1589 | 1781 | 1589 | 1589 |
| c, Capacity [veh/h] | 694 | 2436 | 570 | 694 | 1827 | 570 | 162 | 145 | 145 | 386 | 345 | 345 |
| d1, Uniform Delay [s] | 48.16 | 30.00 | 28.91 | 48.16 | 35.77 | 29.92 | 53.86 | 54.77 | 54.77 | 42.99 | 47.19 | 47.19 |
| k, delay calibration | 0.11 | 0.50 | 0.50 | 0.11 | 0.50 | 0.50 | 0.11 | 0.11 | 0.11 | 0.13 | 0.45 | 0.45 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 24.66 | 0.69 | 2.07 | 61.51 | 5.43 | 2.87 | 10.48 | 64.98 | 64.98 | 2.20 | 92.69 | 92.69 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 1.03 | 0.49 | 0.40 | 1.13 | 0.86 | 0.48 | 0.83 | 1.10 | 1.10 | 0.65 | 1.15 | 1.15 |
| d, Delay for Lane Group [s/veh] | 72.81 | 30.70 | 30.98 | 109.67 | 41.20 | 32.79 | 64.35 | 119.74 | 119.74 | 45.20 | 139.87 | 139.87 |
| Lane Group LOS | F | C | C | F | D | C | E | F | F | D | F | F |
| Critical Lane Group | Yes | No | No | No | Yes | No | No | Yes | No | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 12.72 | 6.75 | 5.23 | 16.28 | 14.87 | 6.56 | 4.49 | 6.99 | 6.99 | 7.01 | 19.12 | 19.12 |
| 50th-Percentile Queue Length [ft/ln] | 318.12 | 168.64 | 130.86 | 406.96 | 371.73 | 164.01 | 112.17 | 174.66 | 174.66 | 175.16 | 477.88 | 477.88 |
| 95th-Percentile Queue Length [veh/ln] | 18.88 | 11.00 | 8.99 | 24.34 | 21.19 | 10.76 | 7.96 | 11.71 | 11.71 | 11.35 | 28.28 | 28.28 |
| 95th-Percentile Queue Length [ft/ln] | 472.06 | 275.12 | 224.67 | 608.52 | 529.83 | 269.03 | 199.02 | 292.63 | 292.63 | 283.69 | 706.98 | 706.98 |

**Movement, Approach, & Intersection Results**

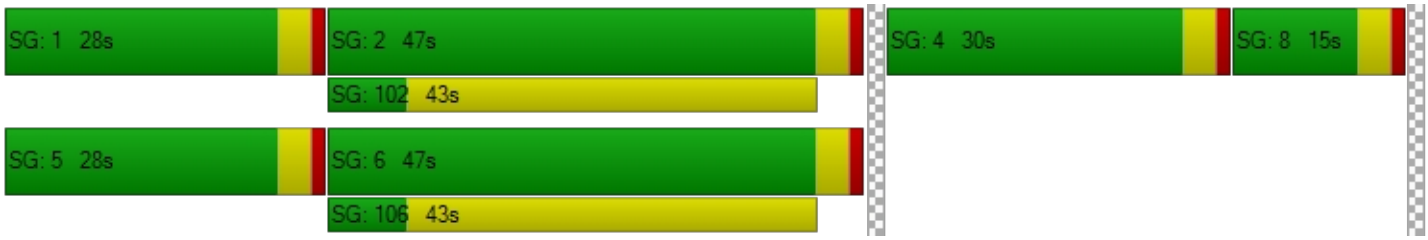
| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 72.81 | 30.70 | 30.98 | 109.67 | 41.20 | 32.79 | 64.35 | 119.74 | 119.74 | 45.20 | 139.87 | 139.87 |
| Movement LOS | F | C | C | F | D | C | E | F | F | D | F | F |
| d_A, Approach Delay [s/veh] | 44.92 | | | 60.76 | | | 103.23 | | | 117.14 | | |
| Approach LOS | D | | | E | | | F | | | F | | |
| d_I, Intersection Delay [s/veh] | 67.86 | | | | | | | | | | | |
| Intersection LOS | E | | | | | | | | | | | |
| Intersection V/C | 0.996 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 0.0 | 11.0 | 11.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 0.00 | 49.50 | 49.50 |
| I_p,int, Pedestrian LOS Score for Intersection | 0.000 | 0.000 | 2.595 | 2.713 |
| Crosswalk LOS | F | F | B | B |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 717 | 717 | 183 | 433 |
| d_b, Bicycle Delay [s] | 24.70 | 24.70 | 49.50 | 36.82 |
| I_b,int, Bicycle LOS Score for Intersection | 2.436 | 3.001 | 2.307 | 3.277 |
| Bicycle LOS | B | C | B | C |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 4 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**Intersection 4: I-5 SB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 24.8 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.747 |

**Intersection Setup**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Curb Present | No | | No | | No | |
| Crosswalk | Yes | | No | | No | |

**Volumes**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 447 | 96 | 837 | 1605 | 1043 | 422 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 447 | 96 | 837 | 1605 | 1043 | 422 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 112 | 24 | 209 | 401 | 261 | 106 |
| Total Analysis Volume [veh/h] | 447 | 96 | 837 | 1605 | 1043 | 422 |
| Presence of On-Street Parking | No | No | No | No | No | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | 0 | | 0 | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | 0 | | 0 | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 12.00 |

**Phasing & Timing**

| Control Type | Split | Split | Protected | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Signal Group | 7 | 4 | 5 | 2 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | Lead | - | - | - |
| Minimum Green [s] | 6 | 0 | 6 | 6 | 6 | 0 |
| Maximum Green [s] | 30 | 0 | 30 | 30 | 30 | 0 |
| Amber [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 0.0 | 1.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 22 | 0 | 44 | 98 | 54 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 43 | 0 |
| Rest In Walk | No | | | No | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | No | | No | No | No | |
| Maximum Recall | No | | No | No | No | |
| Pedestrian Recall | No | | No | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | R | L | C | C | C |
|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 17 | 17 | 32 | 95 | 58 | 58 |
| g / C, Green / Cycle | 0.14 | 0.14 | 0.27 | 0.79 | 0.49 | 0.49 |
| (v / s)_i Volume / Saturation Flow Rate | 0.13 | 0.06 | 0.24 | 0.32 | 0.27 | 0.30 |
| s, saturation flow rate [veh/h] | 3459 | 1589 | 3459 | 5094 | 3560 | 1623 |
| c, Capacity [veh/h] | 501 | 230 | 925 | 4016 | 1736 | 791 |
| d1, Uniform Delay [s] | 50.35 | 46.67 | 42.44 | 3.92 | 21.70 | 22.53 |
| k, delay calibration | 0.11 | 0.11 | 0.11 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 5.73 | 1.20 | 3.67 | 0.30 | 1.33 | 3.60 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| X, volume / capacity | 0.89 | 0.42 | 0.90 | 0.40 | 0.56 | 0.62 |
| d, Delay for Lane Group [s/veh] | 56.09 | 47.87 | 46.11 | 4.22 | 23.03 | 26.13 |
| Lane Group LOS | E | D | D | A | C | C |
| Critical Lane Group | Yes | No | Yes | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 6.97 | 2.69 | 12.35 | 3.37 | 9.88 | 10.71 |
| 50th-Percentile Queue Length [ft/ln] | 174.31 | 67.34 | 308.79 | 84.15 | 246.88 | 267.76 |
| 95th-Percentile Queue Length [veh/ln] | 11.30 | 4.85 | 18.12 | 6.06 | 15.03 | 16.08 |
| 95th-Percentile Queue Length [ft/ln] | 282.57 | 121.21 | 452.88 | 151.46 | 375.72 | 401.94 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 56.09 | 47.87 | 46.11 | 4.22 | 23.23 | 26.13 |
| Movement LOS | E | D | D | A | C | C |
| d_A, Approach Delay [s/veh] | 54.63 | | 18.58 | | 24.06 | |
| Approach LOS | D | | B | | C | |
| d_I, Intersection Delay [s/veh] | 24.78 | | | | | |
| Intersection LOS | C | | | | | |
| Intersection V/C | 0.747 | | | | | |

**Other Modes**

| | | | |
|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 49.50 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.665 | 0.000 | 0.000 |
| Crosswalk LOS | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 0 | 0 | 0 |
| d_b, Bicycle Delay [s] | 60.00 | 60.00 | 60.00 |
| I_b,int, Bicycle LOS Score for Intersection | 4.132 | 5.476 | 4.938 |
| Bicycle LOS | D | F | E |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 7 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 6: Wilshire Avenue/I-5 NB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 42.3 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.841 |

**Intersection Setup**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | No | | | No | | |

**Volumes**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 281 | 183 | 226 | 196 | 21 | 300 | 111 | 1369 | 182 | 228 | 901 | 190 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 281 | 183 | 226 | 196 | 21 | 300 | 111 | 1369 | 182 | 228 | 901 | 190 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 70 | 46 | 57 | 49 | 5 | 75 | 28 | 342 | 46 | 57 | 225 | 48 |
| Total Analysis Volume [veh/h] | 281 | 183 | 226 | 196 | 21 | 300 | 111 | 1369 | 182 | 228 | 901 | 190 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 95 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Split | Split | Split | Split | Split | Split | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 6 | 0 | 0 | 2 | 0 | 3 | 8 | 0 | 7 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lag | - | - | Lead | - | - |
| Minimum Green [s] | 0 | 6 | 0 | 0 | 6 | 0 | 6 | 6 | 0 | 6 | 6 | 0 |
| Maximum Green [s] | 0 | 30 | 0 | 0 | 30 | 0 | 30 | 30 | 0 | 30 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 0 | 17 | 0 | 0 | 21 | 0 | 10 | 46 | 0 | 11 | 47 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 0 | 0 | 25 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | | No | | | No | | No | No | | No | No | |
| Maximum Recall | | No | | | No | | No | No | | No | No | |
| Pedestrian Recall | | No | | | No | | No | No | | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | L | C | C | L | C | C |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 20 | 20 | 20 | 20 | 20 | 15 | 30 | 30 | 9 | 24 | 24 |
| g / C, Green / Cycle | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.15 | 0.31 | 0.31 | 0.09 | 0.25 | 0.25 |
| (v / s)_i Volume / Saturation Flow Rate | 0.13 | 0.13 | 0.14 | 0.06 | 0.20 | 0.06 | 0.29 | 0.29 | 0.07 | 0.21 | 0.21 |
| s, saturation flow rate [veh/h] | 1781 | 1849 | 1589 | 3459 | 1605 | 1781 | 3560 | 1760 | 3459 | 3560 | 1708 |
| c, Capacity [veh/h] | 381 | 395 | 340 | 740 | 343 | 276 | 1111 | 549 | 319 | 887 | 425 |
| d1, Uniform Delay [s] | 33.73 | 33.70 | 34.28 | 31.17 | 36.76 | 36.22 | 31.79 | 31.81 | 41.97 | 33.83 | 33.84 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.11 | 0.11 | 0.40 | 0.11 | 0.11 | 0.11 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 6.82 | 6.48 | 9.87 | 0.88 | 34.61 | 0.94 | 4.34 | 21.58 | 2.97 | 2.10 | 4.28 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.60 | 0.60 | 0.66 | 0.27 | 0.94 | 0.40 | 0.93 | 0.94 | 0.71 | 0.83 | 0.83 |
| d, Delay for Lane Group [s/veh] | 40.56 | 40.18 | 44.15 | 32.05 | 71.37 | 37.16 | 36.13 | 53.39 | 44.94 | 35.94 | 38.12 |
| Lane Group LOS | D | D | D | C | E | D | D | D | D | D | D |
| Critical Lane Group | No | No | Yes | No | Yes | No | No | Yes | Yes | No | No |
| 50th-Percentile Queue Length [veh/ln] | 5.40 | 5.54 | 5.64 | 1.95 | 10.47 | 2.37 | 11.87 | 14.38 | 2.71 | 8.14 | 8.08 |
| 50th-Percentile Queue Length [ft/ln] | 135.10 | 138.45 | 141.01 | 48.67 | 261.78 | 59.32 | 296.66 | 359.43 | 67.68 | 203.55 | 201.94 |
| 95th-Percentile Queue Length [veh/ln] | 9.22 | 9.40 | 9.54 | 3.50 | 15.78 | 4.27 | 17.52 | 20.60 | 4.87 | 12.82 | 12.74 |
| 95th-Percentile Queue Length [ft/ln] | 230.41 | 234.94 | 238.38 | 87.60 | 394.45 | 106.78 | 437.89 | 514.90 | 121.83 | 320.54 | 318.46 |

**Movement, Approach, & Intersection Results**

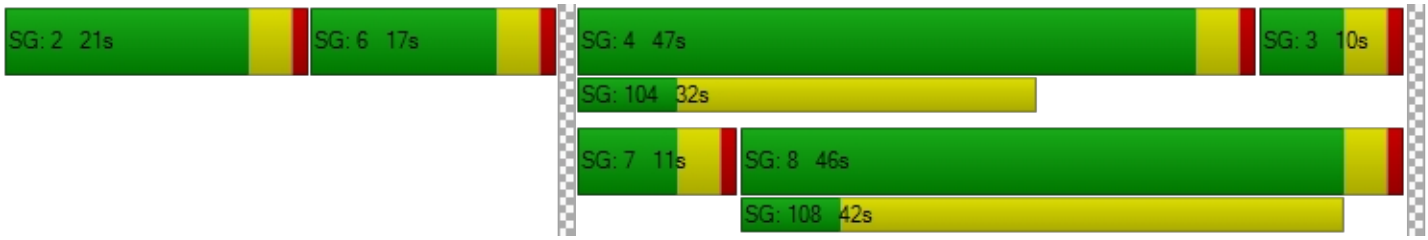
| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 40.49 | 40.18 | 44.15 | 32.05 | 71.37 | 71.37 | 37.16 | 40.31 | 53.39 | 44.94 | 36.33 | 38.12 |
| Movement LOS | D | D | D | C | E | E | D | D | D | D | D | D |
| d_A, Approach Delay [s/veh] | 41.61 | | | 56.46 | | | 41.53 | | | 38.08 | | |
| Approach LOS | D | | | E | | | D | | | D | | |
| d_I, Intersection Delay [s/veh] | 42.30 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.841 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 37.14 | 37.14 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.521 | 2.377 | 0.000 | 0.000 |
| Crosswalk LOS | B | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 274 | 358 | 884 | 905 |
| d_b, Bicycle Delay [s] | 35.39 | 32.02 | 14.78 | 14.23 |
| I_b,int, Bicycle LOS Score for Intersection | 2.698 | 2.413 | 2.474 | 2.285 |
| Bicycle LOS | B | B | B | B |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | 6 | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | - | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**Intersection 1: Euclid Street at I-5 Ramps**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 69.5 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | E |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 1.003 |

**Intersection Setup**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | No | | | No | | | Yes | | | Yes | | |

**Volumes**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 381 | 1412 | 228 | 413 | 1589 | 200 | 365 | 0 | 373 | 411 | 2 | 916 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 381 | 1412 | 228 | 413 | 1589 | 200 | 365 | 0 | 373 | 411 | 2 | 916 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 95 | 353 | 57 | 103 | 397 | 50 | 91 | 0 | 93 | 103 | 1 | 229 |
| Total Analysis Volume [veh/h] | 381 | 1412 | 228 | 413 | 1589 | 200 | 365 | 0 | 373 | 411 | 2 | 916 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Split | Split | Split | Split | Split | Split |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 1 | 6 | 0 | 5 | 2 | 0 | 0 | 8 | 0 | 0 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 6 | 6 | 0 | 6 | 6 | 0 | 0 | 6 | 0 | 0 | 6 | 0 |
| Maximum Green [s] | 30 | 30 | 0 | 30 | 30 | 0 | 0 | 30 | 0 | 0 | 30 | 0 |
| Amber [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 17 | 47 | 0 | 17 | 47 | 0 | 0 | 24 | 0 | 0 | 32 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Clearance [s] | 0 | 36 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | No | No | | No | No | | | No | | | No | |
| Maximum Recall | No | No | | No | No | | | No | | | No | |
| Pedestrian Recall | No | No | | No | No | | | No | | | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 13 | 43 | 43 | 13 | 43 | 43 | 20 | 20 | 20 | 28 | 28 | 28 |
| g / C, Green / Cycle | 0.11 | 0.36 | 0.36 | 0.11 | 0.36 | 0.36 | 0.16 | 0.16 | 0.16 | 0.23 | 0.23 | 0.23 |
| (v / s)_i Volume / Saturation Flow Rate | 0.11 | 0.21 | 0.14 | 0.12 | 0.31 | 0.13 | 0.14 | 0.15 | 0.15 | 0.23 | 0.30 | 0.28 |
| s, saturation flow rate [veh/h] | 3459 | 6792 | 1589 | 3459 | 5094 | 1589 | 1781 | 1669 | 1589 | 1781 | 1590 | 1589 |
| c, Capacity [veh/h] | 378 | 2446 | 572 | 378 | 1834 | 572 | 292 | 274 | 261 | 415 | 371 | 371 |
| d1, Uniform Delay [s] | 53.50 | 31.05 | 28.71 | 53.50 | 35.74 | 28.13 | 49.05 | 49.18 | 49.28 | 45.91 | 46.05 | 46.05 |
| k, delay calibration | 0.11 | 0.50 | 0.50 | 0.11 | 0.50 | 0.50 | 0.14 | 0.15 | 0.15 | 0.40 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 23.38 | 1.00 | 2.07 | 51.36 | 5.79 | 1.68 | 10.61 | 12.93 | 14.88 | 36.77 | 145.47 | 111.24 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 1.01 | 0.58 | 0.40 | 1.09 | 0.87 | 0.35 | 0.88 | 0.89 | 0.90 | 0.99 | 1.28 | 1.20 |
| d, Delay for Lane Group [s/veh] | 76.88 | 32.05 | 30.78 | 104.86 | 41.54 | 29.81 | 59.65 | 62.11 | 64.17 | 82.68 | 191.52 | 157.29 |
| Lane Group LOS | F | C | C | F | D | C | E | E | E | F | F | F |
| Critical Lane Group | Yes | No | No | No | Yes | No | No | No | Yes | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 6.92 | 8.39 | 5.24 | 8.39 | 15.18 | 4.49 | 8.37 | 8.16 | 8.01 | 16.36 | 25.96 | 22.42 |
| 50th-Percentile Queue Length [ft/ln] | 173.11 | 209.66 | 130.90 | 209.85 | 379.44 | 112.13 | 209.33 | 203.94 | 200.19 | 409.10 | 649.09 | 560.56 |
| 95th-Percentile Queue Length [veh/ln] | 11.27 | 13.14 | 8.99 | 13.60 | 21.57 | 7.96 | 13.12 | 12.84 | 12.65 | 23.00 | 38.98 | 33.22 |
| 95th-Percentile Queue Length [ft/ln] | 281.85 | 328.39 | 224.72 | 340.12 | 539.16 | 198.96 | 327.97 | 321.04 | 316.21 | 574.95 | 974.50 | 830.38 |

**Movement, Approach, & Intersection Results**

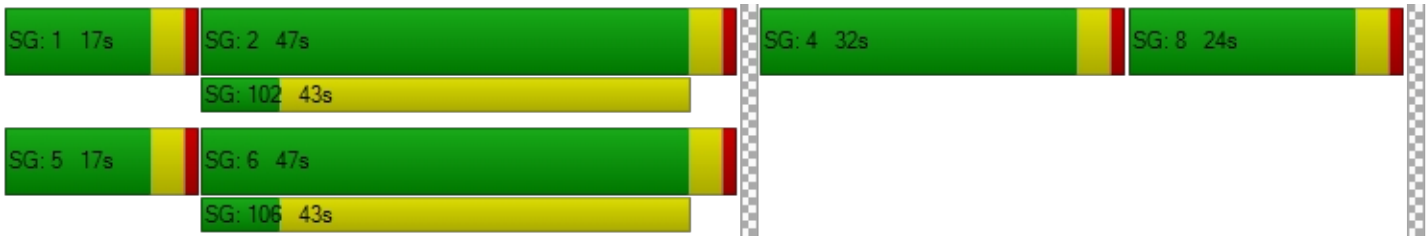
| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 76.88 | 32.05 | 30.78 | 104.86 | 41.54 | 29.81 | 60.43 | 62.11 | 63.45 | 82.68 | 191.52 | 174.97 |
| Movement LOS | F | C | C | F | D | C | E | E | E | F | F | F |
| d_A, Approach Delay [s/veh] | 40.35 | | | 52.35 | | | 61.91 | | | 146.45 | | |
| Approach LOS | D | | | D | | | E | | | F | | |
| d_I, Intersection Delay [s/veh] | 69.50 | | | | | | | | | | | |
| Intersection LOS | E | | | | | | | | | | | |
| Intersection V/C | 1.003 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 0.0 | 11.0 | 11.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 0.00 | 49.50 | 49.50 |
| I_p,int, Pedestrian LOS Score for Intersection | 0.000 | 0.000 | 2.571 | 2.698 |
| Crosswalk LOS | F | F | B | B |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 717 | 717 | 333 | 467 |
| d_b, Bicycle Delay [s] | 24.70 | 24.70 | 41.67 | 35.27 |
| I_b,int, Bicycle LOS Score for Intersection | 2.393 | 2.771 | 2.777 | 3.752 |
| Bicycle LOS | B | C | C | D |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 4 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**Intersection 4: I-5 SB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 24.4 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.869 |

**Intersection Setup**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Curb Present | No | | No | | No | |
| Crosswalk | Yes | | No | | No | |

**Volumes**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 478 | 46 | 354 | 1358 | 2472 | 369 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 478 | 46 | 354 | 1358 | 2472 | 369 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 120 | 12 | 89 | 340 | 618 | 92 |
| Total Analysis Volume [veh/h] | 478 | 46 | 354 | 1358 | 2472 | 369 |
| Presence of On-Street Parking | No | No | No | No | No | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | 0 | | 0 | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | 0 | | 0 | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 12.00 |

**Phasing & Timing**

| Control Type | Split | Split | Protected | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Signal Group | 7 | 4 | 5 | 2 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | Lead | - | - | - |
| Minimum Green [s] | 6 | 0 | 6 | 6 | 6 | 0 |
| Maximum Green [s] | 30 | 0 | 30 | 30 | 30 | 0 |
| Amber [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 0.0 | 1.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 29 | 0 | 19 | 91 | 72 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 43 | 0 |
| Rest In Walk | No | | | No | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | No | | No | No | No | |
| Maximum Recall | No | | No | No | No | |
| Pedestrian Recall | No | | No | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | R | L | C | C | C |
|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 19 | 19 | 14 | 93 | 75 | 75 |
| g / C, Green / Cycle | 0.16 | 0.16 | 0.12 | 0.77 | 0.62 | 0.62 |
| (v / s)_i Volume / Saturation Flow Rate | 0.14 | 0.03 | 0.10 | 0.27 | 0.53 | 0.54 |
| s, saturation flow rate [veh/h] | 3459 | 1589 | 3459 | 5094 | 3560 | 1750 |
| c, Capacity [veh/h] | 551 | 253 | 409 | 3942 | 2216 | 1089 |
| d1, Uniform Delay [s] | 49.17 | 43.63 | 51.94 | 4.18 | 18.27 | 18.64 |
| k, delay calibration | 0.11 | 0.11 | 0.11 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 4.29 | 0.34 | 5.62 | 0.24 | 4.48 | 9.50 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| X, volume / capacity | 0.87 | 0.18 | 0.87 | 0.34 | 0.85 | 0.87 |
| d, Delay for Lane Group [s/veh] | 53.46 | 43.97 | 57.56 | 4.42 | 22.75 | 28.14 |
| Lane Group LOS | D | D | E | A | C | C |
| Critical Lane Group | Yes | No | Yes | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 7.30 | 1.21 | 5.54 | 2.96 | 21.01 | 22.90 |
| 50th-Percentile Queue Length [ft/ln] | 182.41 | 30.35 | 138.62 | 73.98 | 525.17 | 572.48 |
| 95th-Percentile Queue Length [veh/ln] | 11.73 | 2.19 | 9.41 | 5.33 | 28.52 | 30.75 |
| 95th-Percentile Queue Length [ft/ln] | 293.16 | 54.64 | 235.16 | 133.16 | 713.08 | 768.68 |

**Movement, Approach, & Intersection Results**

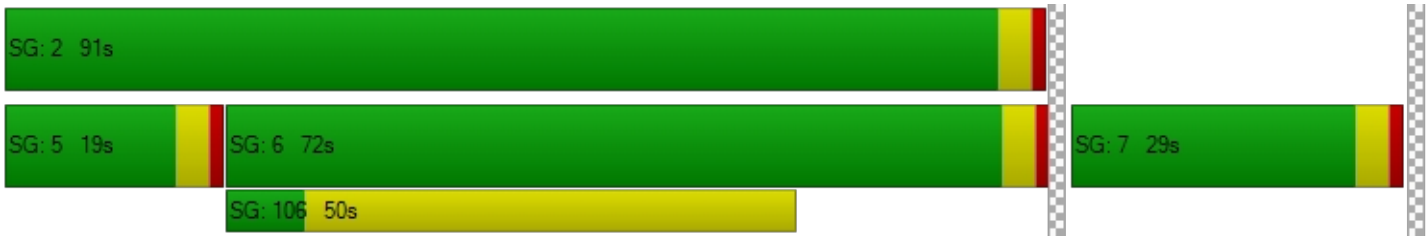
| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 53.46 | 43.97 | 57.56 | 4.42 | 24.01 | 28.14 |
| Movement LOS | D | D | E | A | C | C |
| d_A, Approach Delay [s/veh] | 52.62 | | 15.41 | | 24.55 | |
| Approach LOS | D | | B | | C | |
| d_I, Intersection Delay [s/veh] | 24.36 | | | | | |
| Intersection LOS | C | | | | | |
| Intersection V/C | 0.869 | | | | | |

**Other Modes**

| | | | |
|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 49.50 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.557 | 0.000 | 0.000 |
| Crosswalk LOS | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 0 | 0 | 0 |
| d_b, Bicycle Delay [s] | 60.00 | 60.00 | 60.00 |
| I_b,int, Bicycle LOS Score for Intersection | 4.132 | 5.074 | 5.695 |
| Bicycle LOS | D | F | F |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 7 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**Intersection 6: Wilshire Avenue/I-5 NB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 44.0 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.826 |

**Intersection Setup**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | No | | | No | | |

**Volumes**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 440 | 202 | 221 | 244 | 15 | 215 | 122 | 1289 | 158 | 360 | 1363 | 260 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 440 | 202 | 221 | 244 | 15 | 215 | 122 | 1289 | 158 | 360 | 1363 | 260 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 110 | 51 | 55 | 61 | 4 | 54 | 31 | 322 | 40 | 90 | 341 | 65 |
| Total Analysis Volume [veh/h] | 440 | 202 | 221 | 244 | 15 | 215 | 122 | 1289 | 158 | 360 | 1363 | 260 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 105 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Split | Split | Split | Split | Split | Split | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 6 | 0 | 0 | 2 | 0 | 3 | 8 | 0 | 7 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 0 | 6 | 0 | 0 | 6 | 0 | 6 | 6 | 0 | 6 | 6 | 0 |
| Maximum Green [s] | 0 | 30 | 0 | 0 | 30 | 0 | 30 | 30 | 0 | 30 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 0 | 23 | 0 | 0 | 20 | 0 | 25 | 47 | 0 | 15 | 37 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 0 | 0 | 25 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | | No | | | No | | No | No | | No | No | |
| Maximum Recall | | No | | | No | | No | No | | No | No | |
| Pedestrian Recall | | No | | | No | | No | No | | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | L | C | C | L | C | C |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 21 | 21 | 21 | 21 | 21 | 9 | 32 | 32 | 14 | 37 | 37 |
| g / C, Green / Cycle | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.09 | 0.31 | 0.31 | 0.13 | 0.35 | 0.35 |
| (v / s)_i Volume / Saturation Flow Rate | 0.18 | 0.18 | 0.14 | 0.07 | 0.14 | 0.07 | 0.27 | 0.27 | 0.10 | 0.31 | 0.31 |
| s, saturation flow rate [veh/h] | 1781 | 1836 | 1589 | 3459 | 1605 | 1781 | 3560 | 1767 | 3459 | 3560 | 1722 |
| c, Capacity [veh/h] | 363 | 374 | 324 | 705 | 327 | 155 | 1101 | 547 | 452 | 1256 | 608 |
| d1, Uniform Delay [s] | 40.62 | 40.46 | 38.73 | 35.87 | 38.92 | 47.08 | 34.47 | 34.47 | 44.38 | 31.76 | 31.91 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.11 | 0.11 | 0.42 | 0.11 | 0.11 | 0.26 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 24.65 | 22.21 | 11.04 | 1.34 | 11.92 | 8.47 | 2.44 | 15.45 | 3.24 | 1.97 | 9.48 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.88 | 0.86 | 0.68 | 0.35 | 0.70 | 0.79 | 0.88 | 0.88 | 0.80 | 0.87 | 0.88 |
| d, Delay for Lane Group [s/veh] | 65.27 | 62.68 | 49.77 | 37.22 | 50.84 | 55.55 | 36.90 | 49.92 | 47.62 | 33.73 | 41.38 |
| Lane Group LOS | E | E | D | D | D | E | D | D | D | C | D |
| Critical Lane Group | Yes | No | No | No | Yes | Yes | No | No | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 10.40 | 10.29 | 6.22 | 2.80 | 6.55 | 3.48 | 11.85 | 13.74 | 4.73 | 12.93 | 13.95 |
| 50th-Percentile Queue Length [ft/ln] | 259.89 | 257.16 | 155.44 | 70.07 | 163.69 | 87.04 | 296.19 | 343.57 | 118.19 | 323.14 | 348.74 |
| 95th-Percentile Queue Length [veh/ln] | 15.68 | 15.55 | 10.31 | 5.04 | 10.74 | 6.27 | 17.49 | 19.82 | 8.29 | 18.82 | 20.08 |
| 95th-Percentile Queue Length [ft/ln] | 392.08 | 388.66 | 257.68 | 126.12 | 268.60 | 156.68 | 437.32 | 495.56 | 207.34 | 470.55 | 501.88 |

**Movement, Approach, & Intersection Results**

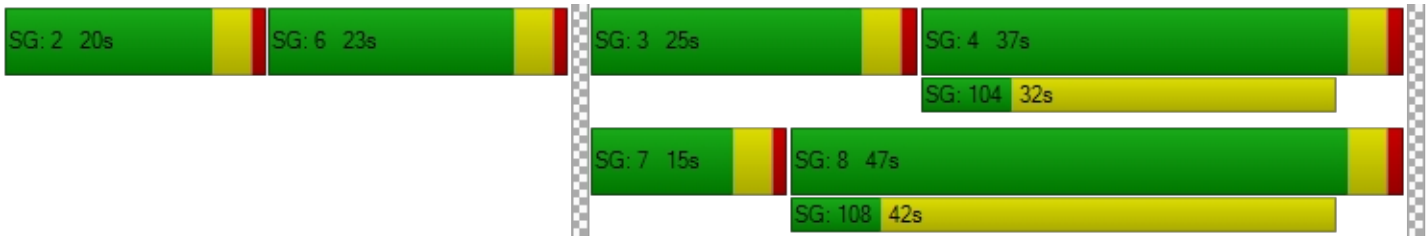
| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 64.56 | 62.68 | 49.77 | 37.22 | 50.84 | 50.84 | 55.55 | 40.16 | 49.92 | 47.62 | 35.26 | 41.38 |
| Movement LOS | E | E | D | D | D | D | E | D | D | D | D | D |
| d_A, Approach Delay [s/veh] | 60.33 | | | 43.83 | | | 42.34 | | | 38.30 | | |
| Approach LOS | E | | | D | | | D | | | D | | |
| d_I, Intersection Delay [s/veh] | 44.02 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.826 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 42.08 | 42.08 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.579 | 2.396 | 0.000 | 0.000 |
| Crosswalk LOS | B | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 362 | 305 | 819 | 629 |
| d_b, Bicycle Delay [s] | 35.22 | 37.72 | 18.30 | 24.69 |
| I_b,int, Bicycle LOS Score for Intersection | 2.984 | 2.342 | 2.423 | 2.650 |
| Bicycle LOS | C | B | B | B |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | 6 | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | - | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



*APPENDIX D-XI*

# GENERAL PLAN BUILDOUT PLUS PROJECT (SCENARIO NO.2) TRAFFIC CONDITIONS

**Intersection Level Of Service Report**
**Intersection 1: Euclid Street at I-5 Ramps**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 72.3 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | E |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 1.031 |

**Intersection Setup**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | No | | | No | | | Yes | | | Yes | | |

**Volumes**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 716 | 1182 | 230 | 782 | 1565 | 273 | 135 | 3 | 318 | 252 | 0 | 791 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 716 | 1182 | 230 | 782 | 1565 | 273 | 135 | 3 | 318 | 252 | 0 | 791 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 179 | 296 | 58 | 196 | 391 | 68 | 34 | 1 | 80 | 63 | 0 | 198 |
| Total Analysis Volume [veh/h] | 716 | 1182 | 230 | 782 | 1565 | 273 | 135 | 3 | 318 | 252 | 0 | 791 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Split | Split | Split | Split | Split | Split |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 1 | 6 | 0 | 5 | 2 | 0 | 0 | 8 | 0 | 0 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 6 | 6 | 0 | 6 | 6 | 0 | 0 | 6 | 0 | 0 | 6 | 0 |
| Maximum Green [s] | 30 | 30 | 0 | 30 | 30 | 0 | 0 | 30 | 0 | 0 | 30 | 0 |
| Amber [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 27 | 47 | 0 | 27 | 47 | 0 | 0 | 14 | 0 | 0 | 32 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Clearance [s] | 0 | 36 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | No | No | | No | No | | | No | | | No | |
| Maximum Recall | No | No | | No | No | | | No | | | No | |
| Pedestrian Recall | No | No | | No | No | | | No | | | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 23 | 43 | 43 | 23 | 43 | 43 | 10 | 10 | 10 | 28 | 28 | 28 |
| g / C, Green / Cycle | 0.19 | 0.36 | 0.36 | 0.19 | 0.36 | 0.36 | 0.08 | 0.08 | 0.08 | 0.23 | 0.23 | 0.23 |
| (v / s)_i Volume / Saturation Flow Rate | 0.21 | 0.17 | 0.14 | 0.23 | 0.31 | 0.17 | 0.08 | 0.10 | 0.10 | 0.14 | 0.28 | 0.22 |
| s, saturation flow rate [veh/h] | 3459 | 6792 | 1589 | 3459 | 5094 | 1589 | 1781 | 1594 | 1589 | 1781 | 1589 | 1589 |
| c, Capacity [veh/h] | 665 | 2428 | 568 | 665 | 1821 | 568 | 150 | 134 | 134 | 415 | 371 | 371 |
| d1, Uniform Delay [s] | 48.57 | 30.05 | 29.02 | 48.57 | 35.83 | 29.97 | 54.56 | 55.06 | 55.06 | 41.19 | 46.11 | 45.26 |
| k, delay calibration | 0.11 | 0.50 | 0.50 | 0.11 | 0.50 | 0.50 | 0.11 | 0.11 | 0.11 | 0.13 | 0.50 | 0.36 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 41.58 | 0.70 | 2.14 | 83.17 | 5.56 | 2.89 | 16.99 | 103.93 | 103.97 | 1.76 | 111.82 | 27.00 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 1.08 | 0.49 | 0.40 | 1.18 | 0.86 | 0.48 | 0.90 | 1.20 | 1.20 | 0.61 | 1.20 | 0.94 |
| d, Delay for Lane Group [s/veh] | 90.15 | 30.75 | 31.16 | 131.74 | 41.39 | 32.87 | 71.55 | 158.99 | 159.03 | 42.95 | 157.93 | 72.26 |
| Lane Group LOS | F | C | C | F | D | C | E | F | F | D | F | E |
| Critical Lane Group | Yes | No | No | No | Yes | No | No | No | Yes | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 13.74 | 6.75 | 5.32 | 17.58 | 14.90 | 6.57 | 4.75 | 7.93 | 7.91 | 6.87 | 22.48 | 12.88 |
| 50th-Percentile Queue Length [ft/ln] | 343.62 | 168.75 | 133.06 | 439.59 | 372.40 | 164.17 | 118.82 | 198.32 | 197.81 | 171.68 | 561.93 | 322.04 |
| 95th-Percentile Queue Length [veh/ln] | 20.60 | 11.01 | 9.11 | 26.51 | 21.23 | 10.77 | 8.33 | 13.32 | 13.29 | 11.16 | 33.31 | 18.77 |
| 95th-Percentile Queue Length [ft/ln] | 514.89 | 275.28 | 227.64 | 662.76 | 530.64 | 269.24 | 208.20 | 333.09 | 332.37 | 279.12 | 832.63 | 469.19 |

**Movement, Approach, & Intersection Results**

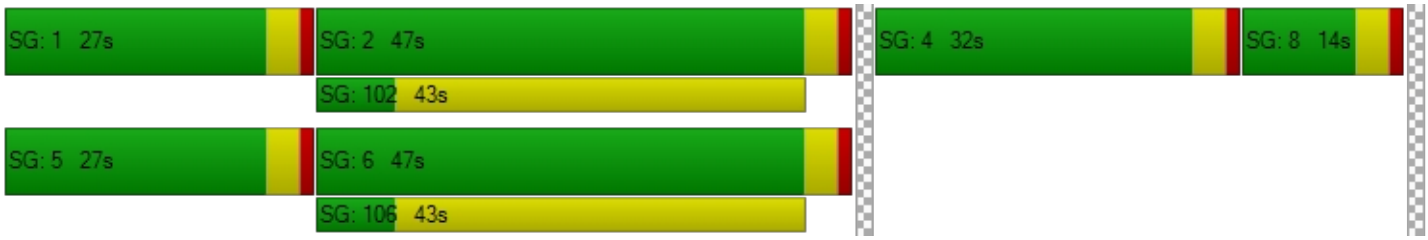
| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 90.15 | 30.75 | 31.16 | 131.74 | 41.39 | 32.87 | 71.55 | 158.99 | 159.01 | 42.95 | 157.93 | 120.28 |
| Movement LOS | F | C | C | F | D | C | E | F | F | D | F | F |
| d_A, Approach Delay [s/veh] | 50.78 | | | 67.47 | | | 133.12 | | | 101.59 | | |
| Approach LOS | D | | | E | | | F | | | F | | |
| d_I, Intersection Delay [s/veh] | 72.27 | | | | | | | | | | | |
| Intersection LOS | E | | | | | | | | | | | |
| Intersection V/C | 1.031 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 0.0 | 11.0 | 11.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 0.00 | 49.50 | 49.50 |
| I_p,int, Pedestrian LOS Score for Intersection | 0.000 | 0.000 | 2.595 | 2.715 |
| Crosswalk LOS | F | F | B | B |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 717 | 717 | 167 | 467 |
| d_b, Bicycle Delay [s] | 24.70 | 24.70 | 50.42 | 35.27 |
| I_b,int, Bicycle LOS Score for Intersection | 2.437 | 3.001 | 2.312 | 3.281 |
| Bicycle LOS | B | C | B | C |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 4 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**Intersection 4: I-5 SB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 24.7 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.727 |

**Intersection Setup**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Curb Present | No | | No | | No | |
| Crosswalk | Yes | | No | | No | |

**Volumes**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 443 | 96 | 828 | 1534 | 966 | 419 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 443 | 96 | 828 | 1534 | 966 | 419 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 111 | 24 | 207 | 384 | 242 | 105 |
| Total Analysis Volume [veh/h] | 443 | 96 | 828 | 1534 | 966 | 419 |
| Presence of On-Street Parking | No | No | No | No | No | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | 0 | | 0 | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | 0 | | 0 | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 12.00 |

**Phasing & Timing**

| Control Type | Split | Split | Protected | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Signal Group | 7 | 4 | 5 | 2 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | Lead | - | - | - |
| Minimum Green [s] | 6 | 0 | 6 | 6 | 6 | 0 |
| Maximum Green [s] | 30 | 0 | 30 | 30 | 30 | 0 |
| Amber [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 0.0 | 1.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 22 | 0 | 44 | 98 | 54 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 43 | 0 |
| Rest In Walk | No | | | No | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | No | | No | No | No | |
| Maximum Recall | No | | No | No | No | |
| Pedestrian Recall | No | | No | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | R | L | C | C | C |
|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 17 | 17 | 32 | 95 | 59 | 59 |
| g / C, Green / Cycle | 0.14 | 0.14 | 0.27 | 0.79 | 0.49 | 0.49 |
| (v / s)_i Volume / Saturation Flow Rate | 0.13 | 0.06 | 0.24 | 0.30 | 0.26 | 0.29 |
| s, saturation flow rate [veh/h] | 3459 | 1589 | 3459 | 5094 | 3560 | 1612 |
| c, Capacity [veh/h] | 498 | 229 | 917 | 4021 | 1748 | 791 |
| d1, Uniform Delay [s] | 50.40 | 46.77 | 42.59 | 3.81 | 20.98 | 21.78 |
| k, delay calibration | 0.11 | 0.11 | 0.11 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 5.66 | 1.22 | 3.65 | 0.28 | 1.15 | 3.13 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| X, volume / capacity | 0.89 | 0.42 | 0.90 | 0.38 | 0.53 | 0.58 |
| d, Delay for Lane Group [s/veh] | 56.06 | 47.99 | 46.24 | 4.08 | 22.13 | 24.91 |
| Lane Group LOS | E | D | D | A | C | C |
| Critical Lane Group | Yes | No | Yes | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 6.91 | 2.70 | 12.22 | 3.13 | 9.06 | 9.80 |
| 50th-Percentile Queue Length [ft/ln] | 172.63 | 67.44 | 305.57 | 78.22 | 226.45 | 245.04 |
| 95th-Percentile Queue Length [veh/ln] | 11.21 | 4.86 | 17.96 | 5.63 | 13.99 | 14.94 |
| 95th-Percentile Queue Length [ft/ln] | 280.37 | 121.39 | 448.91 | 140.80 | 349.85 | 373.41 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 56.06 | 47.99 | 46.24 | 4.08 | 22.25 | 24.91 |
| Movement LOS | E | D | D | A | C | C |
| d_A, Approach Delay [s/veh] | 54.62 | | 18.86 | | 23.06 | |
| Approach LOS | D | | B | | C | |
| d_I, Intersection Delay [s/veh] | 24.71 | | | | | |
| Intersection LOS | C | | | | | |
| Intersection V/C | 0.727 | | | | | |

**Other Modes**

| | | | |
|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 49.50 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.662 | 0.000 | 0.000 |
| Crosswalk LOS | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 0 | 0 | 0 |
| d_b, Bicycle Delay [s] | 60.00 | 60.00 | 60.00 |
| I_b,int, Bicycle LOS Score for Intersection | 4.132 | 5.432 | 4.894 |
| Bicycle LOS | D | F | E |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 7 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Intersection Level Of Service Report**
**Intersection 6: Wilshire Avenue/I-5 NB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 42.8 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.848 |

**Intersection Setup**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | No | | | No | | |

**Volumes**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 281 | 183 | 226 | 196 | 21 | 300 | 121 | 1369 | 205 | 228 | 901 | 190 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 281 | 183 | 226 | 196 | 21 | 300 | 121 | 1369 | 205 | 228 | 901 | 190 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 70 | 46 | 57 | 49 | 5 | 75 | 30 | 342 | 51 | 57 | 225 | 48 |
| Total Analysis Volume [veh/h] | 281 | 183 | 226 | 196 | 21 | 300 | 121 | 1369 | 205 | 228 | 901 | 190 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 95 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Split | Split | Split | Split | Split | Split | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 6 | 0 | 0 | 2 | 0 | 3 | 8 | 0 | 7 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lag | - | - | Lead | - | - |
| Minimum Green [s] | 0 | 6 | 0 | 0 | 6 | 0 | 6 | 6 | 0 | 6 | 6 | 0 |
| Maximum Green [s] | 0 | 30 | 0 | 0 | 30 | 0 | 30 | 30 | 0 | 30 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 0 | 17 | 0 | 0 | 21 | 0 | 10 | 46 | 0 | 11 | 47 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 0 | 0 | 25 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | | No | | | No | | No | No | | No | No | |
| Maximum Recall | | No | | | No | | No | No | | No | No | |
| Pedestrian Recall | | No | | | No | | No | No | | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | L | C | C | L | C | C |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 20 | 20 | 20 | 20 | 20 | 15 | 30 | 30 | 9 | 24 | 24 |
| g / C, Green / Cycle | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.16 | 0.31 | 0.31 | 0.09 | 0.25 | 0.25 |
| (v / s)_i Volume / Saturation Flow Rate | 0.13 | 0.13 | 0.14 | 0.06 | 0.20 | 0.07 | 0.30 | 0.30 | 0.07 | 0.21 | 0.21 |
| s, saturation flow rate [veh/h] | 1781 | 1849 | 1589 | 3459 | 1605 | 1781 | 3560 | 1748 | 3459 | 3560 | 1708 |
| c, Capacity [veh/h] | 379 | 393 | 338 | 736 | 341 | 280 | 1119 | 549 | 319 | 887 | 425 |
| d1, Uniform Delay [s] | 33.83 | 33.80 | 34.38 | 31.26 | 36.86 | 36.24 | 31.81 | 31.83 | 41.97 | 33.83 | 33.84 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.11 | 0.11 | 0.41 | 0.11 | 0.11 | 0.11 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 6.94 | 6.60 | 10.06 | 0.89 | 35.65 | 1.05 | 4.86 | 23.53 | 2.97 | 2.10 | 4.28 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.60 | 0.60 | 0.67 | 0.27 | 0.94 | 0.43 | 0.94 | 0.94 | 0.71 | 0.83 | 0.83 |
| d, Delay for Lane Group [s/veh] | 40.78 | 40.39 | 44.44 | 32.15 | 72.51 | 37.29 | 36.66 | 55.36 | 44.94 | 35.94 | 38.12 |
| Lane Group LOS | D | D | D | C | E | D | D | E | D | D | D |
| Critical Lane Group | No | No | Yes | No | Yes | No | No | Yes | Yes | No | No |
| 50th-Percentile Queue Length [veh/ln] | 5.42 | 5.56 | 5.66 | 1.95 | 10.56 | 2.60 | 12.17 | 14.83 | 2.71 | 8.14 | 8.08 |
| 50th-Percentile Queue Length [ft/ln] | 135.53 | 138.88 | 141.54 | 48.76 | 264.12 | 64.91 | 304.32 | 370.72 | 67.68 | 203.55 | 201.94 |
| 95th-Percentile Queue Length [veh/ln] | 9.24 | 9.42 | 9.56 | 3.51 | 15.90 | 4.67 | 17.89 | 21.14 | 4.87 | 12.82 | 12.74 |
| 95th-Percentile Queue Length [ft/ln] | 230.99 | 235.52 | 239.10 | 87.78 | 397.38 | 116.84 | 447.37 | 528.61 | 121.83 | 320.54 | 318.46 |

**Movement, Approach, & Intersection Results**

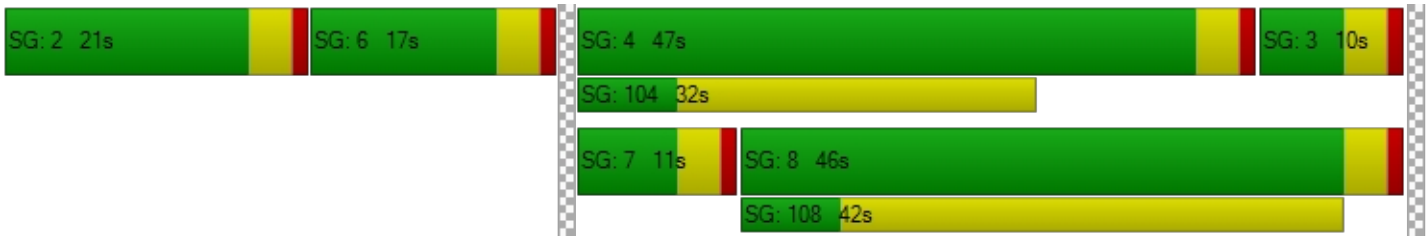
| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 40.71 | 40.39 | 44.44 | 32.15 | 72.51 | 72.51 | 37.29 | 40.95 | 55.36 | 44.94 | 36.33 | 38.12 |
| Movement LOS | D | D | D | C | E | E | D | D | E | D | D | D |
| d_A, Approach Delay [s/veh] | 41.85 | | | 57.21 | | | 42.43 | | | 38.08 | | |
| Approach LOS | D | | | E | | | D | | | D | | |
| d_I, Intersection Delay [s/veh] | 42.79 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.848 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 37.14 | 37.14 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.525 | 2.380 | 0.000 | 0.000 |
| Crosswalk LOS | B | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 274 | 358 | 884 | 905 |
| d_b, Bicycle Delay [s] | 35.39 | 32.02 | 14.78 | 14.23 |
| I_b,int, Bicycle LOS Score for Intersection | 2.698 | 2.413 | 2.492 | 2.285 |
| Bicycle LOS | B | B | B | B |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | 6 | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | - | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**Intersection 1: Euclid Street at I-5 Ramps**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 69.5 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | E |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 1.003 |

**Intersection Setup**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | No | | | No | | | Yes | | | Yes | | |

**Volumes**

| Name | Euclid Street | | | Euclid Street | | | I-5 Ramps | | | I-5 Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 381 | 1412 | 228 | 413 | 1589 | 200 | 365 | 0 | 373 | 411 | 2 | 916 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 381 | 1412 | 228 | 413 | 1589 | 200 | 365 | 0 | 373 | 411 | 2 | 916 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 95 | 353 | 57 | 103 | 397 | 50 | 91 | 0 | 93 | 103 | 1 | 229 |
| Total Analysis Volume [veh/h] | 381 | 1412 | 228 | 413 | 1589 | 200 | 365 | 0 | 373 | 411 | 2 | 916 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Split | Split | Split | Split | Split | Split |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 1 | 6 | 0 | 5 | 2 | 0 | 0 | 8 | 0 | 0 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 6 | 6 | 0 | 6 | 6 | 0 | 0 | 6 | 0 | 0 | 6 | 0 |
| Maximum Green [s] | 30 | 30 | 0 | 30 | 30 | 0 | 0 | 30 | 0 | 0 | 30 | 0 |
| Amber [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 17 | 47 | 0 | 17 | 47 | 0 | 0 | 24 | 0 | 0 | 32 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Clearance [s] | 0 | 36 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | No | No | | No | No | | | No | | | No | |
| Maximum Recall | No | No | | No | No | | | No | | | No | |
| Pedestrian Recall | No | No | | No | No | | | No | | | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 13 | 43 | 43 | 13 | 43 | 43 | 20 | 20 | 20 | 28 | 28 | 28 |
| g / C, Green / Cycle | 0.11 | 0.36 | 0.36 | 0.11 | 0.36 | 0.36 | 0.16 | 0.16 | 0.16 | 0.23 | 0.23 | 0.23 |
| (v / s)_i Volume / Saturation Flow Rate | 0.11 | 0.21 | 0.14 | 0.12 | 0.31 | 0.13 | 0.14 | 0.15 | 0.15 | 0.23 | 0.30 | 0.28 |
| s, saturation flow rate [veh/h] | 3459 | 6792 | 1589 | 3459 | 5094 | 1589 | 1781 | 1669 | 1589 | 1781 | 1590 | 1589 |
| c, Capacity [veh/h] | 378 | 2446 | 572 | 378 | 1834 | 572 | 292 | 274 | 261 | 415 | 371 | 371 |
| d1, Uniform Delay [s] | 53.50 | 31.05 | 28.71 | 53.50 | 35.74 | 28.13 | 49.05 | 49.18 | 49.28 | 45.91 | 46.05 | 46.05 |
| k, delay calibration | 0.11 | 0.50 | 0.50 | 0.11 | 0.50 | 0.50 | 0.14 | 0.15 | 0.15 | 0.40 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 23.38 | 1.00 | 2.07 | 51.36 | 5.79 | 1.68 | 10.61 | 12.93 | 14.88 | 36.77 | 145.47 | 111.24 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 1.01 | 0.58 | 0.40 | 1.09 | 0.87 | 0.35 | 0.88 | 0.89 | 0.90 | 0.99 | 1.28 | 1.20 |
| d, Delay for Lane Group [s/veh] | 76.88 | 32.05 | 30.78 | 104.86 | 41.54 | 29.81 | 59.65 | 62.11 | 64.17 | 82.68 | 191.52 | 157.29 |
| Lane Group LOS | F | C | C | F | D | C | E | E | E | F | F | F |
| Critical Lane Group | Yes | No | No | No | Yes | No | No | No | Yes | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 6.92 | 8.39 | 5.24 | 8.39 | 15.18 | 4.49 | 8.37 | 8.16 | 8.01 | 16.36 | 25.96 | 22.42 |
| 50th-Percentile Queue Length [ft/ln] | 173.11 | 209.66 | 130.90 | 209.85 | 379.44 | 112.13 | 209.33 | 203.94 | 200.19 | 409.10 | 649.09 | 560.56 |
| 95th-Percentile Queue Length [veh/ln] | 11.27 | 13.14 | 8.99 | 13.60 | 21.57 | 7.96 | 13.12 | 12.84 | 12.65 | 23.00 | 38.98 | 33.22 |
| 95th-Percentile Queue Length [ft/ln] | 281.85 | 328.39 | 224.72 | 340.12 | 539.16 | 198.96 | 327.97 | 321.04 | 316.21 | 574.95 | 974.50 | 830.38 |

**Movement, Approach, & Intersection Results**

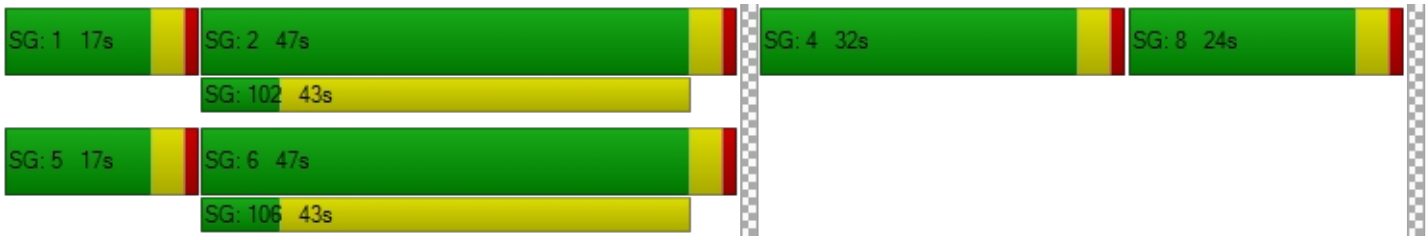
| d_M, Delay for Movement [s/veh] | 76.88 | 32.05 | 30.78 | 104.86 | 41.54 | 29.81 | 60.43 | 62.11 | 63.45 | 82.68 | 191.52 | 174.97 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement LOS | F | C | C | F | D | C | E | E | E | F | F | F |
| d_A, Approach Delay [s/veh] | 40.35 | | | 52.35 | | | 61.91 | | | 146.45 | | |
| Approach LOS | D | | | D | | | E | | | F | | |
| d_I, Intersection Delay [s/veh] | 69.50 | | | | | | | | | | | |
| Intersection LOS | E | | | | | | | | | | | |
| Intersection V/C | 1.003 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 0.0 | 11.0 | 11.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 0.00 | 49.50 | 49.50 |
| I_p,int, Pedestrian LOS Score for Intersection | 0.000 | 0.000 | 2.571 | 2.698 |
| Crosswalk LOS | F | F | B | B |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 717 | 717 | 333 | 467 |
| d_b, Bicycle Delay [s] | 24.70 | 24.70 | 41.67 | 35.27 |
| I_b,int, Bicycle LOS Score for Intersection | 2.393 | 2.771 | 2.777 | 3.752 |
| Bicycle LOS | B | C | C | D |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 4 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**Intersection 4: I-5 SB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 23.6 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.869 |

**Intersection Setup**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Right | Left | Thru | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Curb Present | No | | No | | No | |
| Crosswalk | Yes | | No | | No | |

**Volumes**

| Name | I-5 SB Ramps | | Lincoln Avenue | | Lincoln Avenue | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 478 | 48 | 342 | 1341 | 2468 | 371 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 478 | 48 | 342 | 1341 | 2468 | 371 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 120 | 12 | 86 | 335 | 617 | 93 |
| Total Analysis Volume [veh/h] | 478 | 48 | 342 | 1341 | 2468 | 371 |
| Presence of On-Street Parking | No | No | No | No | No | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | 0 | | 0 | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | 0 | | 0 | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 115 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 12.00 |

**Phasing & Timing**

| Control Type | Split | Split | Protected | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Signal Group | 7 | 4 | 5 | 2 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | Lead | - | Lead | - | - | - |
| Minimum Green [s] | 6 | 0 | 6 | 6 | 6 | 0 |
| Maximum Green [s] | 30 | 0 | 30 | 30 | 30 | 0 |
| Amber [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 0.0 | 1.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 26 | 0 | 18 | 89 | 71 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 43 | 0 |
| Rest In Walk | No | | | No | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | No | | No | No | No | |
| Maximum Recall | No | | No | No | No | |
| Pedestrian Recall | No | | No | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | R | L | C | C | C |
|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 115 | 115 | 115 | 115 | 115 | 115 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 18 | 18 | 13 | 89 | 71 | 71 |
| g / C, Green / Cycle | 0.16 | 0.16 | 0.12 | 0.77 | 0.62 | 0.62 |
| (v / s)_i Volume / Saturation Flow Rate | 0.14 | 0.03 | 0.10 | 0.26 | 0.53 | 0.54 |
| s, saturation flow rate [veh/h] | 3459 | 1589 | 3459 | 5094 | 3560 | 1749 |
| c, Capacity [veh/h] | 549 | 252 | 399 | 3931 | 2213 | 1087 |
| d1, Uniform Delay [s] | 47.20 | 41.95 | 49.90 | 4.07 | 17.58 | 17.95 |
| k, delay calibration | 0.11 | 0.11 | 0.11 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 4.44 | 0.36 | 5.37 | 0.24 | 4.50 | 9.57 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| X, volume / capacity | 0.87 | 0.19 | 0.86 | 0.34 | 0.86 | 0.87 |
| d, Delay for Lane Group [s/veh] | 51.64 | 42.31 | 55.27 | 4.30 | 22.08 | 27.52 |
| Lane Group LOS | D | D | E | A | C | C |
| Critical Lane Group | Yes | No | Yes | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 6.99 | 1.21 | 5.11 | 2.76 | 19.98 | 21.87 |
| 50th-Percentile Queue Length [ft/ln] | 174.75 | 30.31 | 127.79 | 69.00 | 499.39 | 546.69 |
| 95th-Percentile Queue Length [veh/ln] | 11.33 | 2.18 | 8.82 | 4.97 | 27.31 | 29.54 |
| 95th-Percentile Queue Length [ft/ln] | 283.15 | 54.56 | 220.49 | 124.21 | 682.63 | 738.41 |

**Movement, Approach, & Intersection Results**

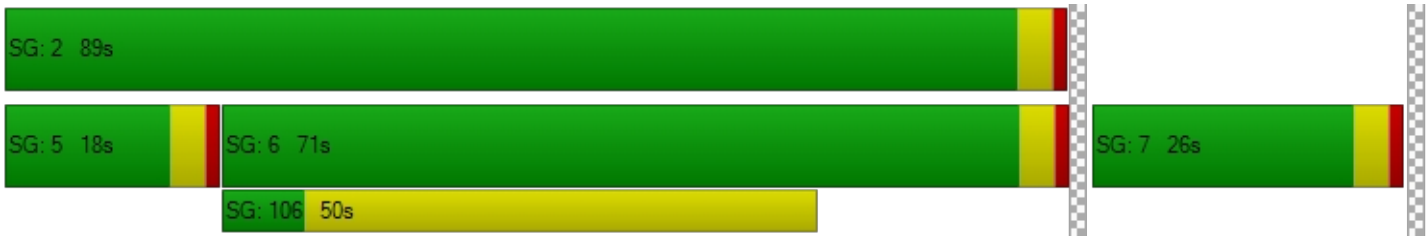
| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 51.64 | 42.31 | 55.27 | 4.30 | 23.35 | 27.52 |
| Movement LOS | D | D | E | A | C | C |
| d_A, Approach Delay [s/veh] | 50.79 | | 14.66 | | 23.89 | |
| Approach LOS | D | | B | | C | |
| d_I, Intersection Delay [s/veh] | 23.62 | | | | | |
| Intersection LOS | C | | | | | |
| Intersection V/C | 0.869 | | | | | |

**Other Modes**

| | | | |
|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 47.03 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.553 | 0.000 | 0.000 |
| Crosswalk LOS | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 0 | 0 | 0 |
| d_b, Bicycle Delay [s] | 57.50 | 57.50 | 57.50 |
| I_b,int, Bicycle LOS Score for Intersection | 4.132 | 5.058 | 5.694 |
| Bicycle LOS | D | F | F |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 7 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**Intersection 6: Wilshire Avenue/I-5 NB Ramps at Lincoln Avenue**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 44.0 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.826 |

**Intersection Setup**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | No | | | No | | |

**Volumes**

| Name | I-5 NB Ramps | | | Wilshire Avenue | | | Lincoln Avenue | | | Lincoln Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 440 | 202 | 221 | 244 | 15 | 215 | 122 | 1289 | 158 | 360 | 1363 | 260 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right-Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 440 | 202 | 221 | 244 | 15 | 215 | 122 | 1289 | 158 | 360 | 1363 | 260 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 110 | 51 | 55 | 61 | 4 | 54 | 31 | 322 | 40 | 90 | 341 | 65 |
| Total Analysis Volume [veh/h] | 440 | 202 | 221 | 244 | 15 | 215 | 122 | 1289 | 158 | 360 | 1363 | 260 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 105 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | LeadGreen |
| Permissive Mode | SingleBand |
| Lost time [s] | 16.00 |

**Phasing & Timing**

| Control Type | Split | Split | Split | Split | Split | Split | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 6 | 0 | 0 | 2 | 0 | 3 | 8 | 0 | 7 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 0 | 6 | 0 | 0 | 6 | 0 | 6 | 6 | 0 | 6 | 6 | 0 |
| Maximum Green [s] | 0 | 30 | 0 | 0 | 30 | 0 | 30 | 30 | 0 | 30 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 0 | 23 | 0 | 0 | 20 | 0 | 25 | 47 | 0 | 15 | 37 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 0 | 0 | 25 | 0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | | No | | | No | | No | No | | No | No | |
| Maximum Recall | | No | | | No | | No | No | | No | No | |
| Pedestrian Recall | | No | | | No | | No | No | | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | R | L | C | L | C | C | L | C | C |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 21 | 21 | 21 | 21 | 21 | 9 | 32 | 32 | 14 | 37 | 37 |
| g / C, Green / Cycle | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.09 | 0.31 | 0.31 | 0.13 | 0.35 | 0.35 |
| (v / s)_i Volume / Saturation Flow Rate | 0.18 | 0.18 | 0.14 | 0.07 | 0.14 | 0.07 | 0.27 | 0.27 | 0.10 | 0.31 | 0.31 |
| s, saturation flow rate [veh/h] | 1781 | 1836 | 1589 | 3459 | 1605 | 1781 | 3560 | 1767 | 3459 | 3560 | 1722 |
| c, Capacity [veh/h] | 363 | 374 | 324 | 705 | 327 | 155 | 1101 | 547 | 452 | 1256 | 608 |
| d1, Uniform Delay [s] | 40.62 | 40.46 | 38.73 | 35.87 | 38.92 | 47.08 | 34.47 | 34.47 | 44.38 | 31.76 | 31.91 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.11 | 0.11 | 0.42 | 0.11 | 0.11 | 0.26 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 24.65 | 22.21 | 11.04 | 1.34 | 11.92 | 8.47 | 2.44 | 15.45 | 3.24 | 1.97 | 9.48 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

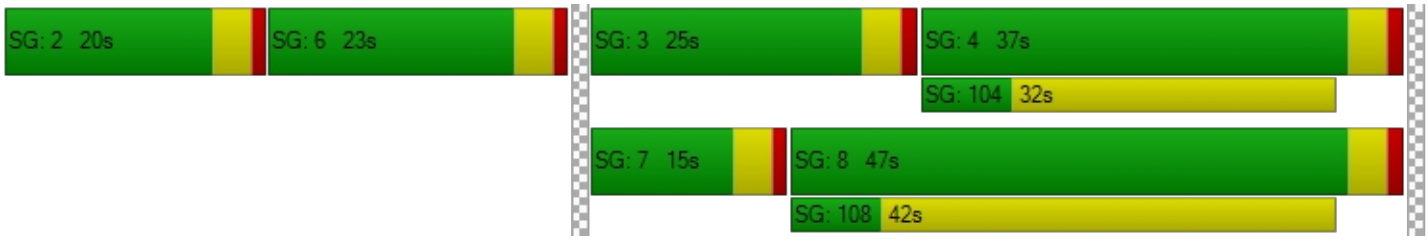
| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.88 | 0.86 | 0.68 | 0.35 | 0.70 | 0.79 | 0.88 | 0.88 | 0.80 | 0.87 | 0.88 |
| d, Delay for Lane Group [s/veh] | 65.27 | 62.68 | 49.77 | 37.22 | 50.84 | 55.55 | 36.90 | 49.92 | 47.62 | 33.73 | 41.38 |
| Lane Group LOS | E | E | D | D | D | E | D | D | D | C | D |
| Critical Lane Group | Yes | No | No | No | Yes | Yes | No | No | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 10.40 | 10.29 | 6.22 | 2.80 | 6.55 | 3.48 | 11.85 | 13.74 | 4.73 | 12.93 | 13.95 |
| 50th-Percentile Queue Length [ft/ln] | 259.89 | 257.16 | 155.44 | 70.07 | 163.69 | 87.04 | 296.19 | 343.57 | 118.19 | 323.14 | 348.74 |
| 95th-Percentile Queue Length [veh/ln] | 15.68 | 15.55 | 10.31 | 5.04 | 10.74 | 6.27 | 17.49 | 19.82 | 8.29 | 18.82 | 20.08 |
| 95th-Percentile Queue Length [ft/ln] | 392.08 | 388.66 | 257.68 | 126.12 | 268.60 | 156.68 | 437.32 | 495.56 | 207.34 | 470.55 | 501.88 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 64.56 | 62.68 | 49.77 | 37.22 | 50.84 | 50.84 | 55.55 | 40.16 | 49.92 | 47.62 | 35.26 | 41.38 |
| Movement LOS | E | E | D | D | D | D | E | D | D | D | D | D |
| d_A, Approach Delay [s/veh] | 60.33 | | | 43.83 | | | 42.34 | | | 38.30 | | |
| Approach LOS | E | | | D | | | D | | | D | | |
| d_I, Intersection Delay [s/veh] | 44.02 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.826 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 11.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 42.08 | 42.08 | 0.00 | 0.00 |
| I_p,int, Pedestrian LOS Score for Intersection | 2.579 | 2.396 | 0.000 | 0.000 |
| Crosswalk LOS | B | B | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 362 | 305 | 819 | 629 |
| d_b, Bicycle Delay [s] | 35.22 | 37.72 | 18.30 | 24.69 |
| I_b,int, Bicycle LOS Score for Intersection | 2.984 | 2.342 | 2.423 | 2.650 |
| Bicycle LOS | C | B | B | B |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | 6 | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | - | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |