

# SwashWare

## HCM-CALC

### Project Properties

|                      |                           |                           |  |                            |                          |
|----------------------|---------------------------|---------------------------|--|----------------------------|--------------------------|
| <b>Analyst</b>       |                           | <b>Roadway Name</b>       |  | <b>Analysis Period</b>     | AM Peak                  |
| <b>Analysis Date</b> | 2024-07-16<br>10:15:34 PM | <b>From</b>               |  | <b>Analysis Module</b>     | Two-Lane Highway Segment |
| <b>Agency</b>        |                           | <b>To</b>                 |  | <b>Module Version Date</b> | 11/25/2016               |
| <b>Location</b>      |                           | <b>Analysis Direction</b> |  | <b>HCM Edition</b>         | HCM2016                  |
| <b>User Notes</b>    |                           |                           |  |                            |                          |
| <b>File Name</b>     |                           |                           |  |                            |                          |

### Input Values and Intermediate Calculation Results

|                                 |                              |                 |                         |
|---------------------------------|------------------------------|-----------------|-------------------------|
| <b>Highway Class</b>            | 1                            |                 |                         |
| <b>Demand, d (veh/h)</b>        | <b>Demand, o (veh/h)</b>     | <b>D Factor</b> | <b>Peak Hour Factor</b> |
| 175                             | 232                          | 0.43            | 0.820                   |
| <b>Percent No-Passing Zones</b> | <b>Passing Lane (Yes/No)</b> |                 |                         |
| 30                              | No                           |                 |                         |

| Grade Adjustment Factor Values    |                                   |                                  |                                  |
|-----------------------------------|-----------------------------------|----------------------------------|----------------------------------|
| <b>Terrain</b>                    | Level                             |                                  |                                  |
| <b>Grade Adj. Factor PTSF (d)</b> | <b>Grade Adj. Factor PTSF (o)</b> | <b>Grade Adj. Factor ATS (d)</b> | <b>Grade Adj. Factor ATS (o)</b> |
| 1.00                              | 1.00                              | 1.00                             | 1.00                             |

| Heavy Vehicle Factor Values |                        |                                      |                          |                       |                                     |
|-----------------------------|------------------------|--------------------------------------|--------------------------|-----------------------|-------------------------------------|
| <b>Terrain</b>              | <b>% Grade</b>         | <b>Length (mi)</b>                   | <b>% Trucks</b>          | <b>% RVs</b>          |                                     |
| Level                       | N/A                    | N/A                                  | 25.0                     | 0.0                   |                                     |
| <b>Truck PCE PTSF (d)</b>   | <b>RV PCE PTSF (d)</b> | <b>Heavy Vehicle Factor PTSF (d)</b> | <b>Truck PCE ATS (d)</b> | <b>RV PCE ATS (d)</b> | <b>Heavy Vehicle Factor ATS (d)</b> |
| 1.10                        | 1.00                   | 0.976                                | 1.50                     | 1.00                  | 0.889                               |
| <b>Truck PCE PTSF (o)</b>   | <b>RV PCE PTSF (o)</b> | <b>Heavy Vehicle Factor PTSF (o)</b> | <b>Truck PCE ATS (o)</b> | <b>RV PCE ATS (o)</b> | <b>Heavy Vehicle Factor ATS (o)</b> |
| 1.10                        | 1.00                   | 0.976                                | 1.40                     | 1.00                  | 0.909                               |

| Free Flow Speed Adjustment Values |                            |                                         |                   |
|-----------------------------------|----------------------------|-----------------------------------------|-------------------|
| <b>FFS Method</b>                 | <b>Measured FFS (mi/h)</b> | <b>FFS Prevailing Flow Rate (veh/h)</b> | <b>FFS (mi/h)</b> |
| Measured                          |                            | 354                                     | 43.2              |

|                                    |                                    |                                   |                                   |
|------------------------------------|------------------------------------|-----------------------------------|-----------------------------------|
| <b>PTSF Analysis Flow Rate (d)</b> | <b>PTSF Analysis Flow Rate (o)</b> | <b>ATS Analysis Flow Rate (d)</b> | <b>ATS Analysis Flow Rate (o)</b> |
|------------------------------------|------------------------------------|-----------------------------------|-----------------------------------|

| (pc/h)                | (pc/h)          | (pc/h)               | (pc/h)              |
|-----------------------|-----------------|----------------------|---------------------|
| 219                   | 290             | 240                  | 311                 |
| PTSF Capacity (veh/h) |                 | ATS Capacity (veh/h) |                     |
| 1700                  |                 | 1700                 |                     |
| PTSF Coeff. 'a'       | PTSF Coeff. 'b' | PTSF f <sub>np</sub> | ATS f <sub>np</sub> |
| -0.0018               | 0.9505          | 42.60                | 0.94                |

### Performance Measures and LOS

| v/c ratio | PTSF (%) | Avg. Speed (mi/h) | Pct. FFS |
|-----------|----------|-------------------|----------|
| 0.14      | 43.9     | 38.0              | 87.9     |
| LOS       |          | Service Measure   |          |
| E         |          | ATS               |          |

## Service Volumes

|              | A                                                  | B  | C  | D  | E  |
|--------------|----------------------------------------------------|----|----|----|----|
| <b>Lanes</b> | <b>Hourly Volume In Peak Direction</b>             |    |    |    |    |
| 1            | --                                                 | -- | -- | -- | -- |
| <b>Lanes</b> | <b>Hourly Volume In Both Directions [D = 0.43]</b> |    |    |    |    |
| 2            | --                                                 | -- | -- | -- | -- |
| <b>Lanes</b> | <b>Annual Average Daily Traffic [K = 0.1]</b>      |    |    |    |    |
| 2            | --                                                 | -- | -- | -- | -- |
|              | <b>Notes</b>                                       |    |    |    |    |
| --           | Not applicable for this facility type.             |    |    |    |    |
| *            | Cannot be achieved based on input data provided.   |    |    |    |    |
| **           | No defined LOS threshold for this LOS level.       |    |    |    |    |
| ***          | Service volume the same as for previous LOS level. |    |    |    |    |