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# TECHNICAL MEMORANDUM

**DATE:** April 2, 2025

**TO:** Scott Mathot, PE, Town of Truckee

**FROM:** Leslie Suen, PE, LSC Transportation Consultants, Inc.

**SUBJECT:** Truckee Pioneer East Business Park – Traffic Analysis

Per your request, LSC Transportation Consultants, Inc. has prepared a traffic analysis for the proposed development of the Truckee Pioneer East Business Park. The Business Park will be located at 10400 Pioneer Trail in Truckee, California. First, the land uses are discussed. Next, existing conditions are presented. Next, the trip generation of the proposed project is estimated. Finally, the intersection level of service analysis and vehicle miles traveled analysis are performed.

## LAND USES

The Truckee Pioneer East Business Park is an 11-lot mixed-use development consisting of 22 multifamily residential units and 78,500 square feet of industrial and commercial land uses. The industrial and commercial uses proposed are as follows:

- General Manufacturing (3,925 square feet)
- Wholesale Distribution (3,925 square feet)
- Warehouse (11,775 square feet)
- Indoor Food Service (5,493 square feet)
- Specialty Retail (3,043 square feet)
- Office (50,339 square feet)

It should be noted that the Office land use will not be a single building but multiple units amongst the lots available at the site.

## EXISTING CONDITIONS

Through the study area, Truckee Way runs north and south as a three-lane road with a posted speed limit of 45 mph and connects with Pioneer Trail at a Roundabout intersection. Pioneer Trail is a three-lane road with a posted speed limit of 25 miles per hour (mph) and connects as the west leg of the Truckee Way/Pioneer Trail intersection. Both project driveways exist, Coachland Drive (eastern site driveway) and the western site driveway, and intersect Pioneer Trail from the north to create two-way stop-controlled intersections (TWSC). Pioneer Trail is assumed to run east/west at all intersections for this analysis.

Pedestrian and bike facilities in the project area include sidewalks along both sides of Truckee Way and Pioneer Trail. Class I bike paths are located within the vicinity of the project. A bike path runs south of Pioneer Trail and west of Truckee Way. This trail connects to Rue Ivy, Alder Drive, and Comstock Drive, Tahoe Donner, downtown, the Community Recreation Center, Grey's Crossing, and Prosser Lakeview.

The proposed business park location will be serviced by the Truckee Local bus route. The closest eastbound and westbound transit stops are located less than a quarter mile from the proposed western driveway, with the eastbound stop in front of the Community Recreation Center and the westbound stop on Truckee Way north of the roundabout. Additional transit services are available through TART Connect microtransit.

## EXISTING TRAFFIC VOLUMES

PM turning-movement counts were conducted by LSC staff at Pioneer Trail/Truckee Way, Pioneer Trail/Coachland Drive, and Pioneer Trail/CHP Driveway/Western Site Access on Wednesday, February 26, 2025, from 3:00 PM to 6:00 PM. It should be noted that the western site access was chained off during the counts to prevent individuals from accessing the existing lot. The PM peak-hour occurred from 4:00 PM to 5:00 PM. As the volumes were collected in late February, a seasonal adjustment factor of a 25 percent increase was calculated based on seasonal variation at the closest Truckee Police Department Flock count station (Truckee Way near the I-80 WB On-Ramp). The intersection volumes were adjusted, and the resulting 'existing no-project' intersection volumes are shown in Table 1.

## FUTURE TRAFFIC VOLUMES

The future volumes are derived using the Town of Truckee TransCAD Travel Demand Model, which assumes full buildout of the Town's General Plan land uses. Consistent with previous use of the Truckee Model, existing model volumes were subtracted from future model volumes to obtain the growth in traffic on Truckee Way and Pioneer Trail. As the proposed project was assumed to be included in the Truckee Model's future land uses, reductions were applied to remove the proposed project from the model. Then the remaining future growth was added to the 'existing no project' peak-hour traffic volumes to result in the 'future no project' peak-hour traffic volumes. The resulting 'future no project' peak-hour traffic volumes are shown in Table 1.

## TABLE 1: Truckee Pioneer East Business Park - Peak-Hour Intersection Traffic Volumes

| | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Intersection | Left | Through | Right | Left | Through | Right | Left | Through | Right | Left | Through | Right | Total |
| **Existing No Project** | | | | | | | | | | | | | |
| Pioneer Trail/Truckee Way | 205 | 463 | 70 | 68 | 353 | 162 | 200 | 15 | 249 | 50 | 15 | 45 | 1,896 |
| Pioneer Trail/Coachland Drive | 0 | 0 | 1 | 69 | 0 | 3 | 4 | 395 | 0 | 0 | 291 | 91 | 853 |
| Pioneer Trail/Western Site Access | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 396 | 0 | 4 | 289 | 0 | 691 |
| **Existing Net Impact** | | | | | | | | | | | | | |
| Pioneer Trail/Truckee Way | 16 | 0 | 0 | 0 | 0 | 11 | 25 | 4 | 35 | 0 | 2 | 0 | 93 |
| Pioneer Trail/Coachland Drive | 0 | 0 | 0 | 18 | 0 | 7 | 6 | 45 | 0 | 0 | 7 | 22 | 105 |
| Pioneer Trail/Western Site Access | 0 | 0 | 0 | 49 | 0 | 5 | 1 | 2 | 0 | 0 | 2 | 14 | 73 |
| **Existing Plus Project** | | | | | | | | | | | | | |
| Pioneer Trail/Truckee Way | 221 | 463 | 70 | 68 | 353 | 173 | 225 | 19 | 284 | 50 | 17 | 45 | 1,989 |
| Pioneer Trail/Coachland Drive | 0 | 0 | 1 | 87 | 0 | 10 | 10 | 440 | 0 | 0 | 298 | 113 | 958 |
| Pioneer Trail/Western Site Access | 0 | 0 | 3 | 49 | 0 | 5 | 1 | 398 | 0 | 4 | 291 | 14 | 764 |
| **Future No Project** | | | | | | | | | | | | | |
| Pioneer Trail/Truckee Way | 263 | 617 | 70 | 68 | 513 | 220 | 295 | 15 | 312 | 50 | 15 | 45 | 2,483 |
| Pioneer Trail/Coachland Drive | 0 | 0 | 1 | 69 | 0 | 3 | 4 | 552 | 0 | 0 | 407 | 91 | 1,126 |
| Pioneer Trail/Western Site Access | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 553 | 0 | 4 | 405 | 0 | 964 |
| **Future Net Impact** | | | | | | | | | | | | | |
| Pioneer Trail/Truckee Way | 12 | 0 | 0 | 0 | 0 | 10 | 21 | 4 | 28 | 0 | 2 | 0 | 77 |
| Pioneer Trail/Coachland Drive | 0 | 0 | 0 | 12 | 0 | 13 | 9 | 40 | 0 | 0 | 5 | 19 | 98 |
| Pioneer Trail/Western Site Access | 0 | 0 | 0 | 44 | 0 | 10 | 3 | 5 | 0 | 0 | 8 | 12 | 82 |
| **Future Plus Project** | | | | | | | | | | | | | |
| Pioneer Trail/Truckee Way | 275 | 617 | 70 | 68 | 513 | 230 | 316 | 19 | 340 | 50 | 17 | 45 | 2,560 |
| Pioneer Trail/Coachland Drive | 0 | 0 | 1 | 81 | 0 | 15 | 13 | 591 | 0 | 0 | 412 | 110 | 1,224 |
| Pioneer Trail/Western Site Access | 0 | 0 | 3 | 44 | 0 | 10 | 3 | 558 | 0 | 4 | 413 | 12 | 1,046 |

*Source: LSC Transportation Consultants, Inc.*

## TRIP GENERATION

The first step in the analysis of traffic impacts is to prepare an estimate of the number of trips generated by the proposed project. Trip generation is the evaluation of the number of vehicle-trips that will either have an origin or destination at the project site. Daily vehicle trips and peak-hour vehicle trips need to be determined to analyze the potential impact of the proposed project.

Standard trip-generation rates are provided in the Institute of *Transportation Engineers (ITE) Trip Generation, 11th Edition Manual* (ITE, 2021). These standard rates are applied to the proposed land uses, as shown in Table 2.

### Reduction for Internal Trips

The proposed project is a mixed land use development. As such, some persons generating a trip at the site would visit more than one of the uses at the site during the same "trip." Standard traffic engineering practice dictates that a reduction in total trip generation can be applied to the project, as some of the persons generating trips at one of the land uses can generate a trip at another of the included land uses without generating an additional vehicle trip at the common site access point(s). As an example, a portion of the trips generated by a property with both retail and restaurant uses would be internal to the property, as some restaurant customers also visit the retail shops, or retail employees frequent the restaurant. The portion of the persons generating a trip at a mixed-use development that would visit two or more uses within the development is based on the types of uses within the development, the size of the individual uses, and the distances between them.

The internal trips are estimated primarily using the ITE's internal trip capture estimation tool, and the resulting percent reductions are shown in the middle columns of the Table 2. About 25% of proposed residential, restaurant, and retail trips are assumed to be internal, with an additional 10% from the office. Overall, about 19% of site-generated trips are expected to be made internally.

### Reduction for Non-Auto Trips

Non-auto trips, such as trips made to/from the site via bike, walking, or transit, reduce trip generation. The proposed site will be located in close proximity to good sidewalks, bike paths, and transit. Taking all this data into consideration, the non-auto access rate for residential and commercial land uses is assumed to be around 10%, as shown in Table 2. As employees are less likely to be living in the neighborhoods adjacent to the office or industrial land uses, a lower non-auto access rate of 5% is assumed mostly for those uses.

### Trip Generation at Site Driveways

Multiplying the land-use quantities by the trip rates and applying the internal and non-auto reduction yields the vehicle trips generated at the site driveways for the proposed project conditions. As shown in Table 2, the proposed land uses are forecast to generate a total of approximately 1,120 daily vehicle trips at the site driveways on a weekday, including 122 PM peak-hour vehicle trips (43 inbound plus 79 outbound).

**Table 2: Truckee Pioneer East Business Park- Trip Generation**

| Description | ITE Land Use | ITE Land Use | Quantity | Units | Trip Generation Rates: Daily | Trip Generation Rates: PM Peak Hour In | Trip Generation Rates: PM Peak Hour Out | Trip Generation Rates: PM Peak Hour Total | Reduction for Internal Trips | Reduction for Non-Auto Trips | Vehicle Trips at Site Driveways: Daily | Vehicle Trips at Site Driveways: PM Peak Hour In | Vehicle Trips at Site Driveways: PM Peak Hour Out | Vehicle Trips at Site Driveways: PM Peak Hour Total | Reduction for Pass-By Trips | Vehicle Trips on Adjacent Roadways: Daily | Vehicle Trips on Adjacent Roadways: PM Peak Hour In | Vehicle Trips on Adjacent Roadways: PM Peak Hour Out | Vehicle Trips on Adjacent Roadways: PM Peak Hour Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Residential** | | | **22** | **DU** | | | | | | | | | | | | **100** | **5** | **2** | **7** |
| Multifamily Housing | 220 | Multifamily Housing (Low-Rise) | 22 | DU | 6.74 | 0.32 | 0.19 | 0.51 | 25% | 10% | 100 | 5 | 2 | 7 | 0% | 100 | 5 | 2 | 7 |
| **Industrial** | | | **19.625** | **KSF** | | | | | | | | | | | | **44** | **2** | **4** | **6** |
| General Manufacturin | 140 | Manufacturing | 3.925 | KSF | 4.75 | 0.23 | 0.51 | 0.74 | 0% | 5% | 18 | 1 | 2 | 3 | 0% | 18 | 1 | 2 | 3 |
| Wholesale Distributio | 150 | Warehousing | 3.925 | KSF | 1.71 | 0.05 | 0.13 | 0.18 | 0% | 5% | 7 | 0 | 1 | 1 | 0% | 7 | 0 | 1 | 1 |
| Warehouse | 150 | Warehousing | 11.775 | KSF | 1.71 | 0.05 | 0.13 | 0.18 | 0% | 5% | 19 | 1 | 1 | 2 | 0% | 19 | 1 | 1 | 2 |
| **Commercial** | | | **58.875** | **KSF** | | | | | | | | | | | | **767** | **25** | **65** | **90** |
| Indoor Food Service | 932 | High-Turnover (Sit Down) Restaurar | 5.493 | KSF | 107.2 | 5.52 | 3.53 | 9.05 | 25% | 10% | 398 | 20 | 13 | 33 | 43% | 227 | 11 | 8 | 19 |
| Specialty Retail | 822 | Strip Retail Plaza (<40k) | 3.043 | KSF | 54.45 | 3.30 | 3.30 | 6.59 | 25% | 10% | 112 | 6 | 8 | 14 | 34% | 74 | 4 | 5 | 9 |
| Office | 710 | General Office Building | 50.339 | KSF | 10.84 | 0.24 | 1.20 | 1.44 | 10% | 5% | 466 | 10 | 52 | 62 | 0% | 466 | 10 | 52 | 62 |
| **Total Proposed** | | | | | | | | | | **7%** | **1,120** | **43** | **79** | **122** | | **911** | **32** | **71** | **103** |

Note 1: Peak-hour rates for the proposed museum visitors are based on the ITE Trip Generation Manual (11th Edition).

Source: LSC Transportation Consultants, Inc. and ITE Trip Generation Manual (11th Edition).

### Trip Generation on Adjacent Roadways

Not all trips on the project driveways would be new trips on area roadways. Some trips to a particular land use would be generated by vehicle traffic already present on Pioneer Trail, "passing by" the proposed land use as part of a longer trip. Pass-by trips add to the traffic volume at a specific access driveway, but do not add to the traffic along the adjacent roadway network. The *ITE Trip Generation Handbook* provides data on the amount of pass-by trips observed at various land use types. Pass-by trips are considered for retail and service-type land uses. For this analysis, ITE published data for pass-by trips are applied to the retail (34%) and restaurant (43%) land uses, these assumptions were not adjusted by LSC, as shown in Table 2.

After applying reductions for pass-by trips, the proposed uses would generate approximately 911 "new" daily vehicle trips and 103 new PM peak-hour trips on the adjacent roadway network.

### Trip Distribution and Assignment

The distribution of site-generated trips is based upon observed patterns of existing traffic movements and estimated future traffic movements, with the addition of the Pioneer Trail Extension. The estimated distributions are shown in Table 3.

**Table 3: Truckee Pioneer East Business Park - Trip Distribution**

| To/From | Existing | Future |
|---|---|---|
| West on Pioneer Trail | 10% | 25% |
| North on Truckee Way | 35% | 30% |
| South on Truckee Way | 50% | 40% |
| Truckee Recreation Center | 5% | 5% |
| Total | 100% | 100% |

*Source: LSC Transportation Consultants, Inc.*

The site-generated traffic volumes are assigned at the site driveways by applying the distribution percentages to the peak-hour vehicle trips. The site-generated traffic volumes are then added to the no-project sets of volumes to get the plus-project sets of volumes, as seen in Table 1.

## LEVEL OF SERVICE ANALYSIS

Level of Service (LOS) is a quantitative and qualitative measure of traffic conditions on isolated sections of roadways or intersections. LOS ranges from "A" (with no congestion) to "F" (where the system fails with gridlock or stop-and-go conditions prevailing). As is the standard for traffic engineering analyses, intersection LOS is analyzed based on the procedures presented in the *Highway Capacity Manual (Federal Highways Administration, 2016)* using the Synchro software application (Version 11.1, Trafficware). To be consistent with the way roundabouts have been analyzed in the Town of Truckee, the SIDRA Intersection 9 software application (version 9.0 PLUS) was also utilized. The LOS calculations are attached for further reference.

# LOS STANDARDS

## Town of Truckee LOS Standards

As stated in the *Town of Truckee 2040 General Plan* (May 2023), the Town's LOS standards are as follows:

> *Policy M-4.4 – Establish and maintain the following summer weekday PM peak-hour-level of service (LOS) standards in the portions of the town that are outside of the Downtown area depicted in Figure M-6:*
>
> - *LOS D or better on Donner Pass Road*
> - *Total intersection LOS D or better for signalized intersections and roundabouts*
> - *Individual turning movements at unsignalized intersections shall not be allowed to reach LOS F and to exceed a cumulative vehicle delay of four vehicle hours. Both of these conditions shall be met for traffic operations to be considered unacceptable.*

Based on the above standards, the LOS threshold for the Truckee Way/Pioneer Trail roundabout is LOS D and Pioneer Trail/Coachland Drive and Pioneer Trail/CHP Driveway/Western Site Access intersection is LOS F if the cumulative vehicle delay of four hours is not exceeded. Detailed LOS printouts can be found in Appendix A.

## Intersection Level of Service

As shown in Table 4, Pioneer Trail/Truckee Way and Pioneer Trail/Coachland Drive currently operate at LOS C. Pioneer Trail/Western Site Access operates at LOS B.

Under future conditions without the project, the LOS for Pioneer Trail/Truckee Way will degrade to a LOS F, Pioneer Trail/Coachland Drive will degrade to a LOS D, and Pioneer Trail/Western Site Access will remain the same. Intersection improvements were applied to the future no-project scenario at the Pioneer Trail/Truckee Way roundabout by implementing an additional lane to the roundabout. This improvement measure was chosen based on the planned improvements provided in the Mobility Element of the 2040 General Plan. As a dual-lane roundabout, Pioneer Trail/Truckee Way will operate at LOS A.

With the implementation of the proposed project, all intersections will operate at LOS C. Under future-plus-project conditions, the Pioneer Trail/Truckee Way will degrade to a LOS F, Pioneer Trail/Coachland Drive will degrade to an acceptable LOS E, and Pioneer Trail/Western Site Access will degrade to a LOS D. The same improvements were applied to the future plus project scenario at the Pioneer Trail/Truckee Way roundabout. As a dual-laned roundabout, Pioneer Trail/Truckee Way operates at LOS B.

In summary, the LOS at all study intersections would remain acceptable with the implementation of the project and the future roundabout improvements as part of the Town's AB1600 Program.

**Table 4: Truckee Pioneer East Business Park - LOS Summary**

| Intersection | Control Type | LOS Threshold[1,2] | No Project | | Plus Project | |
|---|---|---|---|---|---|---|
| | | | Delay (sec/veh) | LOS | Delay (sec/veh) | LOS |
| **Existing Volumes** | | | | | | |
| Pioneer Trail/Truckee Way[3] | Single-Lane Roundabout | D | 17.4 | C | 20.8 | C |
| Pioneer Trail/Coachland Drive | TWSC | F | 19.8 | C | 23.8 | C |
| Pioneer Trail/Western Site Access | TWSC | F | 10.8 | B | 18.2 | C |
| **Future Volumes** | | | | | | |
| Pioneer Trail/Truckee Way[3] | Single-Lane Roundabout | D | **69.9** | **F** | **80.7** | **F** |
| | Dual-Lane Roundabout | D | 7.6 | A | 11.1 | B |
| Pioneer Trail/Coachland Drive | TWSC | F | 32.5 | D | 41.1 | E |
| Pioneer Trail/Western Site Access | TWSC | F | 12.2 | B | 26.9 | D |

**BOLD** text indicates that LOS standard is exceeded.

TWSC = Two-Way Stop-Control

NOTE 1: Level of service for roundabouts and other unsignalized intersections is reported for the worst movement.

NOTE 2: Level of service threshold for unsignalized intersections (not including roundabouts) in the Town of Truckee outside of downtown are exceeded if Level of Service is F and 4 hours of vehicle delay is exceeded.

NOTE 3: The Sidra software was used to analyze the roundabout at Pioneer Trail/Truckee Way.

*Source: LSC Transportation Consultants, Inc.*

## VMT ANALYSIS

The Town of Truckee VMT standards are provided in *California Environmental Quality Act VMT Thresholds of Significance* (Town of Truckee, 2022). First, the project is compared to the screening criteria, which, if met, are presumed to have a less than significant VMT impact and do not require a full VMT analysis. Next, if the project doesn't meet the screening criteria, it is compared to the thresholds of significance.

### VMT Screening Review

As the project is a mixed-use development, each category of land uses (residential and non-residential) will be compared to the screening criteria.

- **Residential** – The residential screening criteria states that "Any new unrestricted residential development located within the area depicted in Figure A, which roughly represents areas within ½ mile of the Brockway Road, Donner Pass Road, and Truckee Way Corridors," would screen out. As the project is within this area, the residential uses meet this criteria; and the residential use is therefore screened out of further VMT analysis.

- **Non-Residential** – The non-residential land uses are within the non-residential screening area, but they are greater than the 15,000 square foot limit and therefore are not screened out.

### VMT Threshold of Significance

As the non-residential uses are not screened, a full VMT analysis of the non-residential uses was conducted. First, the VMT generated by each land use is calculated. Then the thresholds of significance are determined and compared to the project-generated VMT. The project is located in TAZ 79, which has an average trip length of 13.2 miles. As shown in Table 5, multiplying this trip length by the project's daily vehicle trips generated for each land use provides the 'proposed project VMT' by use.

The *Truckee Vehicle-Miles of Travel Standards* (LSC, 2023) provides thresholds of significance for common land uses (Table 3 in the standards) and the process for generating a threshold of significance for other land use not on the list (further mentioned as a special analysis). Within Table 5, all land use thresholds of significance were taken from the list provided in the *Truckee Vehicle-Miles of Travel Standards* (LSC, 2023) except the General Manufacturing and Specialty Retail land uses. As these two land uses are not provided, a special analysis was conducted, resulting in a standard of significance for General Manufacturing of 57 VMT per unit and Specialty Retail of 440 VMT per unit. As seen in Table 5, the threshold of significance per unit was multiplied by the proposed land use quantity to calculate the 'threshold of significance VMT' total. A direct comparison of each land use VMT to its respective threshold of significance VMT shows that that project does not meet all individual thresholds of significance. However, this project is a mixed-use project, so a cumulative trip generation rate can be developed to show that the total non-residential uses' VMT are less than the cumulative threshold of significance VMT. Therefore, the non-residential land uses are considered to have a less than significant impact on VMT.

## CONCLUSIONS

The following conclusions are made based on this analysis:

- The proposed project would generate approximately 911 new daily vehicle trips on adjacent roadways, with 103 trips in the PM peak-hour (32 inbound and 71 outbound).
- The project's study intersections operate at an acceptable LOS both without and with the proposed project under existing conditions. Under future conditions, the study intersections have an acceptable LOS with the Town's planned implementation of a dual-lane roundabout at Truckee Way/Pioneer Trail.
- The proposed project's residential uses meet the Town's VMT screening criteria. The non-residential areas were calculated to meet the Town's thresholds of significance, and therefore, the project would have a less than significant impact on VMT.

## Table 5: Truckee Pioneer East Business Park - VMT

| Description | ITE Land Use Code | ITE Land Use Category | Quantity | Units | New Daily Vehicle Trips | Trip Length (TAZ 79) | Proposed Project VMT | VMT Threshhold per Unit[1] | Threshold of Significance VMT | Meet Threshold of Significance |
|---|---|---|---|---|---|---|---|---|---|---|
| **Industrial** | | | | | | | | | | |
| General Manufacturing | 140 | Manufacturing | 3.925 | KSF | 18 | 13.2 | 238 | 57 | 224 | No |
| Wholesale Distribution | 150 | Warehousing | 3.925 | KSF | 7 | 13.2 | 92 | 15 | 59 | No |
| Warehouse | 150 | Warehousing | 11.775 | KSF | 19 | 13.2 | 251 | 15 | 177 | No |
| **Commercial** | | | | | | | | | | |
| Restaurant | 932 | High-Turnover (Sit Down) Restau | 5.493 | KSF | 227 | 13.2 | 2,996 | 607 | 3,334 | Yes |
| Specialty Retail | 822 | Strip Retail Plaza (<40k) | 3.043 | KSF | 74 | 13.2 | 977 | 440 | 1,339 | Yes |
| Office | 710 | General Office Building | 50.339 | KSF | 466 | 13.2 | 6,151 | 117 | 5,890 | No |
| **Total Non-Residential Uses** | | | | | **811** | | **10,705** | | **11,022** | **Yes** |

Note 1: VMT Threshold per Unit was taken from Table 3 of the *Truckee Vehicle-Miles of Travel Standards Technical Memo* (LSC, February 2023)

Source: LSC Transportation Consultants, Inc.

*Appendix A*

# LOS

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.7 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 4 | 395 | 0 | 0 | 291 | 91 | 0 | 0 | 1 | 69 | 0 | 3 |
| Future Vol, veh/h | 4 | 395 | 0 | 0 | 291 | 91 | 0 | 0 | 1 | 69 | 0 | 3 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 50 | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 416 | 0 | 0 | 306 | 96 | 0 | 0 | 1 | 73 | 0 | 3 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 402 | 0 | 0 | 416 | 0 | 0 | 780 | 826 | 416 | 779 | 778 | 354 |
| Stage 1 | - | - | - | - | - | - | 424 | 424 | - | 354 | 354 | - |
| Stage 2 | - | - | - | - | - | - | 356 | 402 | - | 425 | 424 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1157 | - | - | 1143 | - | - | 313 | 307 | 637 | 313 | 328 | 690 |
| Stage 1 | - | - | - | - | - | - | 608 | 587 | - | 663 | 630 | - |
| Stage 2 | - | - | - | - | - | - | 661 | 600 | - | 607 | 587 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1157 | - | - | 1143 | - | - | 311 | 306 | 637 | 312 | 327 | 690 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 311 | 306 | - | 312 | 327 | - |
| Stage 1 | - | - | - | - | - | - | 606 | 585 | - | 661 | 630 | - |
| Stage 2 | - | - | - | - | - | - | 658 | 600 | - | 604 | 585 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.1 | 0 | 10.7 | 19.8 |
| HCM LOS | | | B | C |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 637 | 1157 | - | - | 1143 | - | - | 319 |
| HCM Lane V/C Ratio | 0.002 | 0.004 | - | - | - | - | - | 0.238 |
| HCM Control Delay (s) | 10.7 | 8.1 | - | - | 0 | - | - | 19.8 |
| HCM Lane LOS | B | A | - | - | A | - | - | C |
| HCM 95th %tile Q(veh) | 0 | 0 | - | - | 0 | - | - | 0.9 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.1 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 396 | 0 | 4 | 289 | 0 | 0 | 0 | 3 | 0 | 0 | 0 |
| Future Vol, veh/h | 0 | 396 | 0 | 4 | 289 | 0 | 0 | 0 | 3 | 0 | 0 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 50 | - | - | 50 | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 430 | 0 | 4 | 314 | 0 | 0 | 0 | 3 | 0 | 0 | 0 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 314 | 0 | 0 | 430 | 0 | 0 | 752 | 752 | 430 | 754 | 752 | 314 |
| Stage 1 | - | - | - | - | - | - | 430 | 430 | - | 322 | 322 | - |
| Stage 2 | - | - | - | - | - | - | 322 | 322 | - | 432 | 430 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1246 | - | - | 1129 | - | - | 327 | 339 | 625 | 326 | 339 | 726 |
| Stage 1 | - | - | - | - | - | - | 603 | 583 | - | 690 | 651 | - |
| Stage 2 | - | - | - | - | - | - | 690 | 651 | - | 602 | 583 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1246 | - | - | 1129 | - | - | 326 | 338 | 625 | 323 | 338 | 726 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 326 | 338 | - | 323 | 338 | - |
| Stage 1 | - | - | - | - | - | - | 603 | 583 | - | 690 | 648 | - |
| Stage 2 | - | - | - | - | - | - | 688 | 648 | - | 599 | 583 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 0.1 | 10.8 | 0 |
| HCM LOS | | | B | A |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 625 | 1246 | - | - | 1129 | - | - | - |
| HCM Lane V/C Ratio | 0.005 | - | - | - | 0.004 | - | - | - |
| HCM Control Delay (s) | 10.8 | 0 | - | - | 8.2 | - | - | 0 |
| HCM Lane LOS | B | A | - | - | A | - | - | A |
| HCM 95th %tile Q(veh) | 0 | 0 | - | - | 0 | - | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.5 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 10 | 440 | 0 | 0 | 298 | 113 | 0 | 0 | 1 | 87 | 0 | 10 |
| Future Vol, veh/h | 10 | 440 | 0 | 0 | 298 | 113 | 0 | 0 | 1 | 87 | 0 | 10 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 50 | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 11 | 463 | 0 | 0 | 314 | 119 | 0 | 0 | 1 | 92 | 0 | 11 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 433 | 0 | 0 | 463 | 0 | 0 | 864 | 918 | 463 | 860 | 859 | 374 |
| Stage 1 | - | - | - | - | - | - | 485 | 485 | - | 374 | 374 | - |
| Stage 2 | - | - | - | - | - | - | 379 | 433 | - | 486 | 485 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1127 | - | - | 1098 | - | - | 274 | 272 | 599 | 276 | 294 | 672 |
| Stage 1 | - | - | - | - | - | - | 563 | 552 | - | 647 | 618 | - |
| Stage 2 | - | - | - | - | - | - | 643 | 582 | - | 563 | 552 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1127 | - | - | 1098 | - | - | 268 | 269 | 599 | 274 | 291 | 672 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 268 | 269 | - | 274 | 291 | - |
| Stage 1 | - | - | - | - | - | - | 557 | 546 | - | 641 | 618 | - |
| Stage 2 | - | - | - | - | - | - | 633 | 582 | - | 557 | 546 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.2 | 0 | 11 | 23.8 |
| HCM LOS | | | B | C |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 599 | 1127 | - | - | 1098 | - | - | 292 |
| HCM Lane V/C Ratio | 0.002 | 0.009 | - | - | - | - | - | 0.35 |
| HCM Control Delay (s) | 11 | 8.2 | - | - | 0 | - | - | 23.8 |
| HCM Lane LOS | B | A | - | - | A | - | - | C |
| HCM 95th %tile Q(veh) | 0 | 0 | - | - | 0 | - | - | 1.5 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.4 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 1 | 398 | 0 | 4 | 291 | 14 | 0 | 0 | 3 | 49 | 0 | 5 |
| Future Vol, veh/h | 1 | 398 | 0 | 4 | 291 | 14 | 0 | 0 | 3 | 49 | 0 | 5 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 50 | - | - | 50 | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1 | 433 | 0 | 4 | 316 | 15 | 0 | 0 | 3 | 53 | 0 | 5 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 331 | 0 | 0 | 433 | 0 | 0 | 769 | 774 | 433 | 769 | 767 | 324 |
| Stage 1 | - | - | - | - | - | - | 435 | 435 | - | 332 | 332 | - |
| Stage 2 | - | - | - | - | - | - | 334 | 339 | - | 437 | 435 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1228 | - | - | 1127 | - | - | 318 | 329 | 623 | 318 | 332 | 717 |
| Stage 1 | - | - | - | - | - | - | 600 | 580 | - | 681 | 644 | - |
| Stage 2 | - | - | - | - | - | - | 680 | 640 | - | 598 | 580 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1228 | - | - | 1127 | - | - | 315 | 327 | 623 | 315 | 330 | 717 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 315 | 327 | - | 315 | 330 | - |
| Stage 1 | - | - | - | - | - | - | 599 | 579 | - | 680 | 641 | - |
| Stage 2 | - | - | - | - | - | - | 672 | 637 | - | 594 | 579 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 0.1 | 10.8 | 18.2 |
| HCM LOS | | | B | C |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 623 | 1228 | - | - | 1127 | - | - | 332 |
| HCM Lane V/C Ratio | 0.005 | 0.001 | - | - | 0.004 | - | - | 0.177 |
| HCM Control Delay (s) | 10.8 | 7.9 | - | - | 8.2 | - | - | 18.2 |
| HCM Lane LOS | B | A | - | - | A | - | - | C |
| HCM 95th %tile Q(veh) | 0 | 0 | - | - | 0 | - | - | 0.6 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.1 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 4 | 552 | 0 | 0 | 407 | 91 | 0 | 0 | 1 | 69 | 0 | 3 |
| Future Vol, veh/h | 4 | 552 | 0 | 0 | 407 | 91 | 0 | 0 | 1 | 69 | 0 | 3 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 50 | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 581 | 0 | 0 | 428 | 96 | 0 | 0 | 1 | 73 | 0 | 3 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 524 | 0 | 0 | 581 | 0 | 0 | 1067 | 1113 | 581 | 1066 | 1065 | 476 |
| Stage 1 | - | - | - | - | - | - | 589 | 589 | - | 476 | 476 | - |
| Stage 2 | - | - | - | - | - | - | 478 | 524 | - | 590 | 589 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1043 | - | - | 993 | - | - | 200 | 208 | 514 | 200 | 223 | 589 |
| Stage 1 | - | - | - | - | - | - | 494 | 495 | - | 570 | 557 | - |
| Stage 2 | - | - | - | - | - | - | 568 | 530 | - | 494 | 495 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1043 | - | - | 993 | - | - | 198 | 207 | 514 | 199 | 222 | 589 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 198 | 207 | - | 199 | 222 | - |
| Stage 1 | - | - | - | - | - | - | 492 | 493 | - | 568 | 557 | - |
| Stage 2 | - | - | - | - | - | - | 565 | 530 | - | 491 | 493 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.1 | 0 | 12 | 32.5 |
| HCM LOS | | | B | D |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 514 | 1043 | - | - | 993 | - | - | 205 |
| HCM Lane V/C Ratio | 0.002 | 0.004 | - | - | - | - | - | 0.37 |
| HCM Control Delay (s) | 12 | 8.5 | - | - | 0 | - | - | 32.5 |
| HCM Lane LOS | B | A | - | - | A | - | - | D |
| HCM 95th %tile Q(veh) | 0 | 0 | - | - | 0 | - | - | 1.6 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.1 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 553 | 0 | 4 | 405 | 0 | 0 | 0 | 3 | 0 | 0 | 0 |
| Future Vol, veh/h | 0 | 553 | 0 | 4 | 405 | 0 | 0 | 0 | 3 | 0 | 0 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 50 | - | - | 50 | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 601 | 0 | 4 | 440 | 0 | 0 | 0 | 3 | 0 | 0 | 0 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 440 | 0 | 0 | 601 | 0 | 0 | 1049 | 1049 | 601 | 1051 | 1049 | 440 |
| Stage 1 | - | - | - | - | - | - | 601 | 601 | - | 448 | 448 | - |
| Stage 2 | - | - | - | - | - | - | 448 | 448 | - | 603 | 601 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1120 | - | - | 976 | - | - | 205 | 227 | 500 | 205 | 227 | 617 |
| Stage 1 | - | - | - | - | - | - | 487 | 489 | - | 590 | 573 | - |
| Stage 2 | - | - | - | - | - | - | 590 | 573 | - | 486 | 489 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1120 | - | - | 976 | - | - | 204 | 226 | 500 | 203 | 226 | 617 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 204 | 226 | - | 203 | 226 | - |
| Stage 1 | - | - | - | - | - | - | 487 | 489 | - | 590 | 571 | - |
| Stage 2 | - | - | - | - | - | - | 588 | 571 | - | 483 | 489 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 0.1 | 12.2 | 0 |
| HCM LOS | | | B | A |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 500 | 1120 | - | - | 976 | - | - | - |
| HCM Lane V/C Ratio | 0.007 | - | - | - | 0.004 | - | - | - |
| HCM Control Delay (s) | 12.2 | 0 | - | - | 8.7 | - | - | 0 |
| HCM Lane LOS | B | A | - | - | A | - | - | A |
| HCM 95th %tile Q(veh) | 0 | 0 | - | - | 0 | - | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 3.4 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 13 | 591 | 0 | 0 | 412 | 110 | 0 | 0 | 1 | 81 | 0 | 15 |
| Future Vol, veh/h | 13 | 591 | 0 | 0 | 412 | 110 | 0 | 0 | 1 | 81 | 0 | 15 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 50 | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 14 | 622 | 0 | 0 | 434 | 116 | 0 | 0 | 1 | 85 | 0 | 16 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 550 | 0 | 0 | 622 | 0 | 0 | 1150 | 1200 | 622 | 1143 | 1142 | 492 |
| Stage 1 | - | - | - | - | - | - | 650 | 650 | - | 492 | 492 | - |
| Stage 2 | - | - | - | - | - | - | 500 | 550 | - | 651 | 650 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1020 | - | - | 959 | - | - | 175 | 185 | 487 | 177 | 200 | 577 |
| Stage 1 | - | - | - | - | - | - | 458 | 465 | - | 558 | 548 | - |
| Stage 2 | - | - | - | - | - | - | 553 | 516 | - | 457 | 465 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1020 | - | - | 959 | - | - | 168 | 182 | 487 | 175 | 197 | 577 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 168 | 182 | - | 175 | 197 | - |
| Stage 1 | - | - | - | - | - | - | 452 | 458 | - | 550 | 548 | - |
| Stage 2 | - | - | - | - | - | - | 538 | 516 | - | 450 | 458 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0.2 | 0 | 12.4 | 41.4 |
| HCM LOS | | | B | E |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 487 | 1020 | - | - | 959 | - | - | 196 |
| HCM Lane V/C Ratio | 0.002 | 0.013 | - | - | - | - | - | 0.516 |
| HCM Control Delay (s) | 12.4 | 8.6 | - | - | 0 | - | - | 41.4 |
| HCM Lane LOS | B | A | - | - | A | - | - | E |
| HCM 95th %tile Q(veh) | 0 | 0 | - | - | 0 | - | - | 2.6 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.5 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 3 | 558 | 0 | 4 | 413 | 12 | 0 | 0 | 3 | 44 | 0 | 10 |
| Future Vol, veh/h | 3 | 558 | 0 | 4 | 413 | 12 | 0 | 0 | 3 | 44 | 0 | 10 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 50 | - | - | 50 | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 3 | 607 | 0 | 4 | 449 | 13 | 0 | 0 | 3 | 48 | 0 | 11 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 462 | 0 | 0 | 607 | 0 | 0 | 1082 | 1083 | 607 | 1079 | 1077 | 456 |
| Stage 1 | - | - | - | - | - | - | 613 | 613 | - | 464 | 464 | - |
| Stage 2 | - | - | - | - | - | - | 469 | 470 | - | 615 | 613 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1099 | - | - | 971 | - | - | 195 | 217 | 496 | 196 | 219 | 604 |
| Stage 1 | - | - | - | - | - | - | 480 | 483 | - | 578 | 564 | - |
| Stage 2 | - | - | - | - | - | - | 575 | 560 | - | 479 | 483 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1099 | - | - | 971 | - | - | 191 | 215 | 496 | 194 | 217 | 604 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 191 | 215 | - | 194 | 217 | - |
| Stage 1 | - | - | - | - | - | - | 479 | 482 | - | 576 | 562 | - |
| Stage 2 | - | - | - | - | - | - | 562 | 558 | - | 475 | 482 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 0.1 | 12.3 | 26.9 |
| HCM LOS | | | B | D |

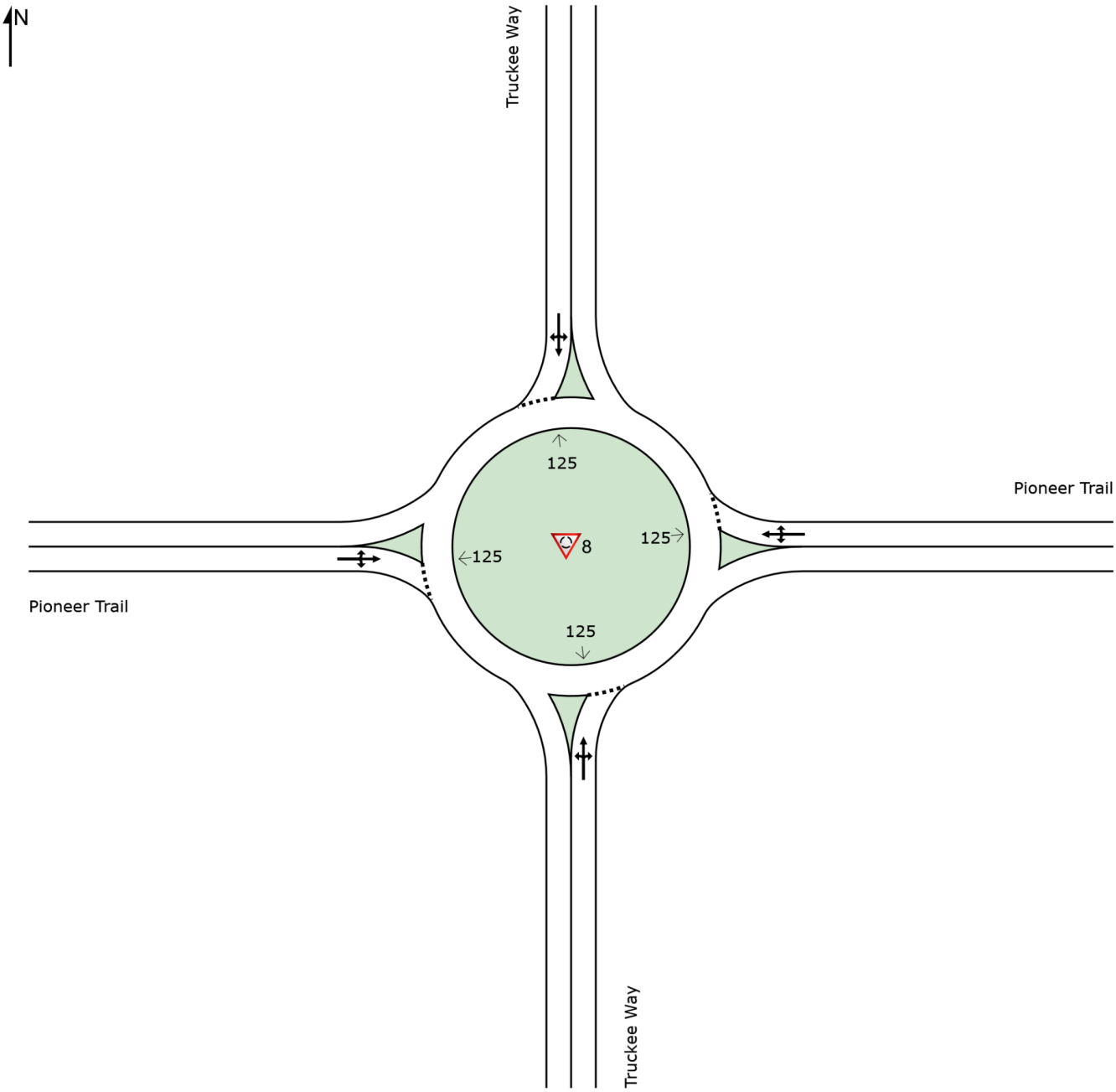
| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 496 | 1099 | - | - | 971 | - | - | 222 |
| HCM Lane V/C Ratio | 0.007 | 0.003 | - | - | 0.004 | - | - | 0.264 |
| HCM Control Delay (s) | 12.3 | 8.3 | - | - | 8.7 | - | - | 26.9 |
| HCM Lane LOS | B | A | - | - | A | - | - | D |
| HCM 95th %tile Q(veh) | 0 | 0 | - | - | 0 | - | - | 1 |

# SITE LAYOUT

## Site: 8 [Intx 8 - Existing No Project (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



# LANE SUMMARY

## Site: 8 [Intx 8 - Existing No Project (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

**Lane Use and Performance**

| | DEMAND FLOWS [ Total veh/h | HV ] % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Aver. Delay sec | Level of Service | 95% BACK OF QUEUE [ Veh | Dist ] ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Truckee Way | | | | | | | | | | | | | |
| Lane 1[d] | 802 | 3.0 | 970 | 0.827 | 100 | 22.8 | LOS C | 20.1 | 513.5 | Full | 1600 | 0.0 | 0.0 |
| Approach | 802 | 3.0 | | 0.827 | | 22.8 | LOS C | 20.1 | 513.5 | | | | |
| East: Pioneer Trail | | | | | | | | | | | | | |
| Lane 1[d] | 120 | 3.0 | 497 | 0.240 | 100 | 10.7 | LOS B | 0.9 | 23.6 | Full | 1600 | 0.0 | 0.0 |
| Approach | 120 | 3.0 | | 0.240 | | 10.7 | LOS B | 0.9 | 23.6 | | | | |
| North: Truckee Way | | | | | | | | | | | | | |
| Lane 1[d] | 634 | 3.0 | 984 | 0.644 | 100 | 13.2 | LOS B | 7.9 | 201.0 | Full | 1600 | 0.0 | 0.0 |
| Approach | 634 | 3.0 | | 0.644 | | 13.2 | LOS B | 7.9 | 201.0 | | | | |
| West: Pioneer Trail | | | | | | | | | | | | | |
| Lane 1[d] | 504 | 3.0 | 782 | 0.645 | 100 | 15.8 | LOS C | 6.4 | 163.5 | Full | 1600 | 0.0 | 0.0 |
| Approach | 504 | 3.0 | | 0.645 | | 15.8 | LOS C | 6.4 | 163.5 | | | | |
| Intersection | 2060 | 3.0 | | 0.827 | | 17.4 | LOS C | 20.1 | 513.5 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

**Approach Lane Flows (veh/h)**

South: Truckee Way

| Mov. From S To Exit: | L2 W | T1 N | R2 E | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane 1 | 223 | 503 | 76 | 802 | 3.0 | 970 | 0.827 | 100 | NA | NA |
| Approach | 223 | 503 | 76 | 802 | 3.0 | | 0.827 | | | |

East: Pioneer Trail

| Mov. From E To Exit: | L2 S | T1 W | R2 N | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane 1 | 54 | 16 | 49 | 120 | 3.0 | 497 | 0.240 | 100 | NA | NA |
| Approach | 54 | 16 | 49 | 120 | 3.0 | | 0.240 | | | |

| North: Truckee Way | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Mov. From N To Exit: | L2 E | T1 S | R2 W | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. |
| Lane 1 | 74 | 384 | 176 | 634 | 3.0 | 984 | 0.644 | 100 | NA | NA |
| Approach | 74 | 384 | 176 | 634 | 3.0 | | 0.644 | | | |
| West: Pioneer Trail | | | | | | | | | | |
| Mov. From W To Exit: | L2 N | T1 E | R2 S | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. |
| Lane 1 | 217 | 16 | 271 | 504 | 3.0 | 782 | 0.645 | 100 | NA | NA |
| Approach | 217 | 16 | 271 | 504 | 3.0 | | 0.645 | | | |
| | Total | %HV | Deg.Satn (v/c) | | | | | | | |
| Intersection | 2060 | 3.0 | | 0.827 | | | | | | |

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

**Merge Analysis**

| | Exit Lane Number | Short Lane Length ft | Percent Opng in Lane % | Opposing Flow Rate veh/h | Opposing Flow Rate pcu/h | Critical Gap sec | Follow-up Headway sec | Lane Flow Rate veh/h | Capacity veh/h | Deg. Satn v/c | Min. Delay sec | Merge Delay sec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South Exit: Truckee Way Merge Type: **Not Applied** | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |
| East Exit: Pioneer Trail Merge Type: **Not Applied** | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |
| North Exit: Truckee Way Merge Type: **Not Applied** | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |
| West Exit: Pioneer Trail Merge Type: **Not Applied** | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |

# LANE SUMMARY

## Site: 8 [Intx 8 - Existing Plus Project (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

**Lane Use and Performance**

| | DEMAND FLOWS [ Total veh/h | HV ] % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Aver. Delay sec | Level of Service | 95% BACK OF QUEUE [ Veh | Dist ] ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Truckee Way | | | | | | | | | | | | | |
| Lane 1[d] | 820 | 3.0 | 938 | 0.874 | 100 | 27.9 | LOS D | 24.0 | 613.8 | Full | 1600 | 0.0 | 0.0 |
| Approach | 820 | 3.0 | | 0.874 | | 27.9 | LOS D | 24.0 | 613.8 | | | | |
| East: Pioneer Trail | | | | | | | | | | | | | |
| Lane 1[d] | 122 | 3.0 | 474 | 0.257 | 100 | 11.5 | LOS B | 1.0 | 25.0 | Full | 1600 | 0.0 | 0.0 |
| Approach | 122 | 3.0 | | 0.257 | | 11.5 | LOS B | 1.0 | 25.0 | | | | |
| North: Truckee Way | | | | | | | | | | | | | |
| Lane 1[d] | 646 | 3.0 | 964 | 0.670 | 100 | 14.3 | LOS B | 8.9 | 227.2 | Full | 1600 | 0.0 | 0.0 |
| Approach | 646 | 3.0 | | 0.670 | | 14.3 | LOS B | 8.9 | 227.2 | | | | |
| West: Pioneer Trail | | | | | | | | | | | | | |
| Lane 1[d] | 574 | 3.0 | 782 | 0.733 | 100 | 19.8 | LOS C | 9.3 | 237.2 | Full | 1600 | 0.0 | 0.0 |
| Approach | 574 | 3.0 | | 0.733 | | 19.8 | LOS C | 9.3 | 237.2 | | | | |
| Intersection | 2161 | 3.0 | | 0.874 | | 20.8 | LOS C | 24.0 | 613.8 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

**Approach Lane Flows (veh/h)**

South: Truckee Way

| Mov. From S To Exit: | L2 W | T1 N | R2 E | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane 1 | 240 | 503 | 76 | 820 | 3.0 | 938 | 0.874 | 100 | NA | NA |
| Approach | 240 | 503 | 76 | 820 | 3.0 | | 0.874 | | | |

East: Pioneer Trail

| Mov. From E To Exit: | L2 S | T1 W | R2 N | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane 1 | 54 | 18 | 49 | 122 | 3.0 | 474 | 0.257 | 100 | NA | NA |
| Approach | 54 | 18 | 49 | 122 | 3.0 | | 0.257 | | | |

| North: Truckee Way | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Mov. From N To Exit: | L2 E | T1 S | R2 W | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. |
| Lane 1 | 74 | 384 | 188 | 646 | 3.0 | 964 | 0.670 | 100 | NA | NA |
| Approach | 74 | 384 | 188 | 646 | 3.0 | | 0.670 | | | |
| West: Pioneer Trail | | | | | | | | | | |
| Mov. From W To Exit: | L2 N | T1 E | R2 S | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. |
| Lane 1 | 245 | 21 | 309 | 574 | 3.0 | 782 | 0.733 | 100 | NA | NA |
| Approach | 245 | 21 | 309 | 574 | 3.0 | | 0.733 | | | |
| | Total | %HV | Deg.Satn (v/c) | | | | | | | |
| Intersection | 2161 | 3.0 | | 0.874 | | | | | | |

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

**Merge Analysis**

| | Exit Lane Number | Short Lane Length ft | Percent Opng in Lane % | Opposing Flow Rate veh/h | Opposing Flow Rate pcu/h | Critical Gap sec | Follow-up Headway sec | Lane Flow Rate veh/h | Capacity veh/h | Deg. Satn v/c | Min. Delay sec | Merge Delay sec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South Exit: Truckee Way Merge Type: **Not Applied** | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |
| East Exit: Pioneer Trail Merge Type: **Not Applied** | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |
| North Exit: Truckee Way Merge Type: **Not Applied** | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |
| West Exit: Pioneer Trail Merge Type: **Not Applied** | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |

# LANE SUMMARY

## Site: 8 [Intx 8 - Future No Project (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

**Lane Use and Performance**

| | DEMAND FLOWS [ Total veh/h | HV ] % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Aver. Delay sec | Level of Service | 95% BACK OF QUEUE [ Veh | Dist ] ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Truckee Way | | | | | | | | | | | | | |
| Lane 1[d] | 1033 | 3.0 | 881 | 1.173 | 100 | 108.5 | LOS F | 79.0 | 2022.7 | Full | 1600 | 0.0 | 12.4 |
| Approach | 1033 | 3.0 | | 1.173 | | 108.5 | LOS F | 79.0 | 2022.7 | | | | |
| East: Pioneer Trail | | | | | | | | | | | | | |
| Lane 1[d] | 120 | 3.0 | 408 | 0.293 | 100 | 13.8 | LOS B | 1.1 | 29.0 | Full | 1600 | 0.0 | 0.0 |
| Approach | 120 | 3.0 | | 0.293 | | 13.8 | LOS B | 1.1 | 29.0 | | | | |
| North: Truckee Way | | | | | | | | | | | | | |
| Lane 1[d] | 871 | 3.0 | 961 | 0.906 | 100 | 31.6 | LOS D | 29.8 | 761.8 | Full | 1600 | 0.0 | 0.0 |
| Approach | 871 | 3.0 | | 0.906 | | 31.6 | LOS D | 29.8 | 761.8 | | | | |
| West: Pioneer Trail | | | | | | | | | | | | | |
| Lane 1[d] | 676 | 3.0 | 652 | 1.037 | 100 | 70.4 | LOS F | 31.2 | 798.4 | Full | 1600 | 0.0 | 0.0 |
| Approach | 676 | 3.0 | | 1.037 | | 70.4 | LOS F | 31.2 | 798.4 | | | | |
| Intersection | 2699 | 3.0 | | 1.173 | | 69.9 | LOS F | 79.0 | 2022.7 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

**Approach Lane Flows (veh/h)**

South: Truckee Way

| Mov. From S To Exit: | L2 W | T1 N | R2 E | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane 1 | 286 | 671 | 76 | 1033 | 3.0 | 881 | 1.173 | 100 | NA | NA |
| Approach | 286 | 671 | 76 | 1033 | 3.0 | | 1.173 | | | |

East: Pioneer Trail

| Mov. From E To Exit: | L2 S | T1 W | R2 N | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane 1 | 54 | 16 | 49 | 120 | 3.0 | 408 | 0.293 | 100 | NA | NA |
| Approach | 54 | 16 | 49 | 120 | 3.0 | | 0.293 | | | |

| North: Truckee Way | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Mov. From N To Exit: | L2 E | T1 S | R2 W | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. |
| Lane 1 | 74 | 558 | 239 | 871 | 3.0 | 961 | 0.906 | 100 | NA | NA |
| Approach | 74 | 558 | 239 | 871 | 3.0 | | 0.906 | | | |
| West: Pioneer Trail | | | | | | | | | | |
| Mov. From W To Exit: | L2 N | T1 E | R2 S | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. |
| Lane 1 | 321 | 16 | 339 | 676 | 3.0 | 652 | 1.037 | 100 | NA | NA |
| Approach | 321 | 16 | 339 | 676 | 3.0 | | 1.037 | | | |
| | Total | %HV | Deg.Satn (v/c) | | | | | | | |
| Intersection | 2699 | 3.0 | | 1.173 | | | | | | |

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

**Merge Analysis**

| | Exit Lane Number | Short Lane Length ft | Percent Opng in Lane % | Opposing Flow Rate veh/h | Opposing Flow Rate pcu/h | Critical Gap sec | Follow-up Headway sec | Lane Flow Rate veh/h | Capacity veh/h | Deg. Satn v/c | Min. Delay sec | Merge Delay sec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South Exit: Truckee Way Merge Type: **Not Applied** | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |
| East Exit: Pioneer Trail Merge Type: **Not Applied** | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |
| North Exit: Truckee Way Merge Type: **Not Applied** | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |
| West Exit: Pioneer Trail Merge Type: **Not Applied** | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |

# LANE SUMMARY

## Site: 8 [Intx 8 - Future Plus Project (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

**Lane Use and Performance**

| | DEMAND FLOWS [ Total veh/h | HV ] % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Aver. Delay sec | Level of Service | 95% BACK OF QUEUE [ Veh | Dist ] ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Truckee Way | | | | | | | | | | | | | |
| Lane 1[d] | 1046 | 3.0 | 880 | 1.188 | 100 | 114.4 | LOS F | 82.8 | 2120.7 | Full | 1600 | 0.0 | 14.0 |
| Approach | 1046 | 3.0 | | 1.188 | | 114.4 | LOS F | 82.8 | 2120.7 | | | | |
| East: Pioneer Trail | | | | | | | | | | | | | |
| Lane 1[d] | 122 | 3.0 | 411 | 0.296 | 100 | 13.8 | LOS B | 1.2 | 29.5 | Full | 1600 | 0.0 | 0.0 |
| Approach | 122 | 3.0 | | 0.296 | | 13.8 | LOS B | 1.2 | 29.5 | | | | |
| North: Truckee Way | | | | | | | | | | | | | |
| Lane 1[d] | 882 | 3.0 | 952 | 0.926 | 100 | 34.8 | LOS D | 32.4 | 828.5 | Full | 1600 | 0.0 | 0.0 |
| Approach | 882 | 3.0 | | 0.926 | | 34.8 | LOS D | 32.4 | 828.5 | | | | |
| West: Pioneer Trail | | | | | | | | | | | | | |
| Lane 1[d] | 734 | 3.0 | 652 | 1.126 | 100 | 98.8 | LOS F | 45.4 | 1163.2 | Full | 1600 | 0.0 | 0.0 |
| Approach | 734 | 3.0 | | 1.126 | | 98.8 | LOS F | 45.4 | 1163.2 | | | | |
| Intersection | 2783 | 3.0 | | 1.188 | | 80.7 | LOS F | 82.8 | 2120.7 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

**Approach Lane Flows (veh/h)**

South: Truckee Way

| Mov. From S To Exit: | L2 W | T1 N | R2 E | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane 1 | 299 | 671 | 76 | 1046 | 3.0 | 880 | 1.188 | 100 | NA | NA |
| Approach | 299 | 671 | 76 | 1046 | 3.0 | | 1.188 | | | |

East: Pioneer Trail

| Mov. From E To Exit: | L2 S | T1 W | R2 N | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane 1 | 54 | 18 | 49 | 122 | 3.0 | 411 | 0.296 | 100 | NA | NA |
| Approach | 54 | 18 | 49 | 122 | 3.0 | | 0.296 | | | |

| North: Truckee Way | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Mov. From N To Exit: | L2 E | T1 S | R2 W | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. |
| Lane 1 | 74 | 558 | 250 | 882 | 3.0 | 952 | 0.926 | 100 | NA | NA |
| Approach | 74 | 558 | 250 | 882 | 3.0 | | 0.926 | | | |
| West: Pioneer Trail | | | | | | | | | | |
| Mov. From W To Exit: | L2 N | T1 E | R2 S | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. |
| Lane 1 | 343 | 21 | 370 | 734 | 3.0 | 652 | 1.126 | 100 | NA | NA |
| Approach | 343 | 21 | 370 | 734 | 3.0 | | 1.126 | | | |
| | Total | %HV | Deg.Satn (v/c) | | | | | | | |
| Intersection | 2783 | 3.0 | | 1.188 | | | | | | |

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

**Merge Analysis**

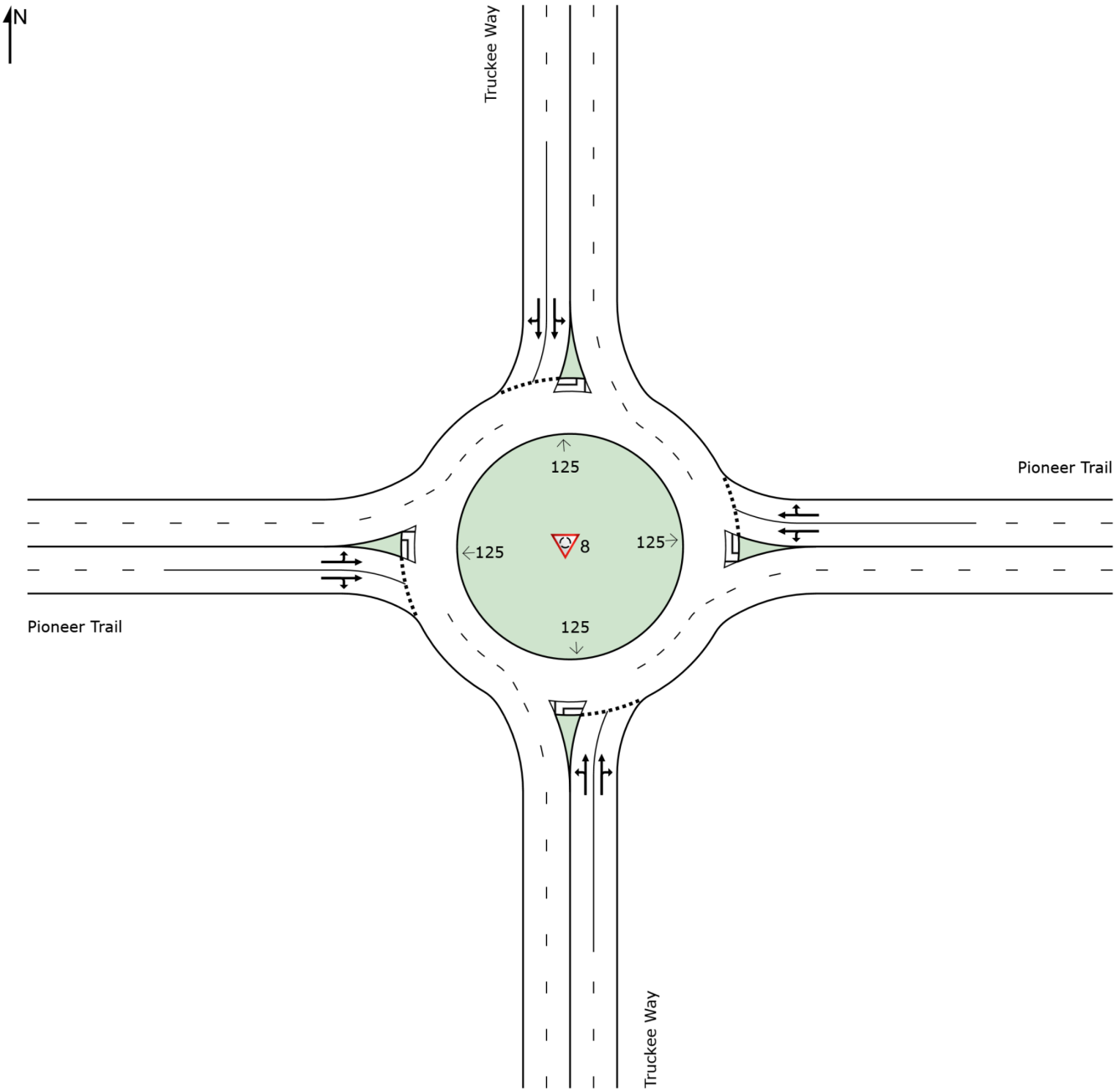
| | Exit Lane Number | Short Lane Length ft | Percent Opng in Lane % | Opposing Flow Rate veh/h | Opposing Flow Rate pcu/h | Critical Gap sec | Follow-up Headway sec | Lane Flow Rate veh/h | Capacity veh/h | Deg. Satn v/c | Min. Delay sec | Merge Delay sec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South Exit: Truckee Way Merge Type: **Not Applied** | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |
| East Exit: Pioneer Trail Merge Type: **Not Applied** | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |
| North Exit: Truckee Way Merge Type: **Not Applied** | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |
| West Exit: Pioneer Trail Merge Type: **Not Applied** | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |

# SITE LAYOUT

## Site: 8 [Intx 8 - Existing Plus Project (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



# LANE SUMMARY

## Site: 8 [Intx 8 - Existing Plus Project (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

**Lane Use and Performance**

| | DEMAND FLOWS [ Total veh/h | HV ] % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Aver. Delay sec | Level of Service | 95% BACK OF QUEUE [ Veh | Dist ] ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Truckee Way | | | | | | | | | | | | | |
| Lane 1 | 410 | 3.0 | 1003 | 0.408 | 100 | 8.1 | LOS A | 2.1 | 52.9 | Full | 1600 | 0.0 | 0.0 |
| Lane 2[d] | 410 | 3.0 | 1003 | 0.408 | 100 | 8.1 | LOS A | 2.1 | 52.9 | Full | 1600 | 0.0 | 0.0 |
| Approach | 820 | 3.0 | | 0.408 | | 8.1 | LOS A | 2.1 | 52.9 | | | | |
| East: Pioneer Trail | | | | | | | | | | | | | |
| Lane 1 | 61 | 3.0 | 546 | 0.111 | 100 | 8.0 | LOS A | 0.4 | 9.9 | Full | 1600 | 0.0 | 0.0 |
| Lane 2[d] | 61 | 3.0 | 546 | 0.111 | 100 | 8.0 | LOS A | 0.4 | 9.9 | Full | 1600 | 0.0 | 0.0 |
| Approach | 122 | 3.0 | | 0.111 | | 8.0 | LOS A | 0.4 | 9.9 | | | | |
| North: Truckee Way | | | | | | | | | | | | | |
| Lane 1 | 323 | 3.0 | 1028 | 0.314 | 100 | 6.7 | LOS A | 1.5 | 37.6 | Full | 1600 | 0.0 | 0.0 |
| Lane 2[d] | 323 | 3.0 | 1028 | 0.314 | 100 | 6.7 | LOS A | 1.5 | 37.6 | Full | 1600 | 0.0 | 0.0 |
| Approach | 646 | 3.0 | | 0.314 | | 6.7 | LOS A | 1.5 | 37.6 | | | | |
| West: Pioneer Trail | | | | | | | | | | | | | |
| Lane 1 | 265 | 3.0 | 853 | 0.311 | 86[5] | 7.7 | LOS A | 1.3 | 34.5 | Full | 1600 | 0.0 | 0.0 |
| Lane 2[d] | 309 | 3.0 | 853 | 0.362 | 100 | 8.4 | LOS A | 1.6 | 41.8 | Full | 1600 | 0.0 | 0.0 |
| Approach | 574 | 3.0 | | 0.362 | | 8.1 | LOS A | 1.6 | 41.8 | | | | |
| Intersection | 2161 | 3.0 | | 0.408 | | 7.6 | LOS A | 2.1 | 52.9 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

5 Lane under-utilisation found by the program
d Dominant lane on roundabout approach

**Approach Lane Flows (veh/h)**

South: Truckee Way

| Mov. From S To Exit: | L2 W | T1 N | R2 E | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane 1 | 240 | 170 | - | 410 | 3.0 | 1003 | 0.408 | 100 | NA | NA |
| Lane 2 | - | 334 | 76 | 410 | 3.0 | 1003 | 0.408 | 100 | NA | NA |
| Approach | 240 | 503 | 76 | 820 | 3.0 | | 0.408 | | | |
| East: Pioneer Trail | | | | | | | | | | |

| Mov. From E To Exit: | L2 S | T1 W | R2 N | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane 1 | 54 | 7 | - | 61 | 3.0 | 546 | 0.111 | 100 | NA | NA |
| Lane 2 | - | 12 | 49 | 61 | 3.0 | 546 | 0.111 | 100 | NA | NA |
| Approach | 54 | 18 | 49 | 122 | 3.0 | | 0.111 | | | |
| North: Truckee Way | | | | | | | | | | |
| Mov. From N To Exit: | L2 E | T1 S | R2 W | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. |
| Lane 1 | 74 | 249 | - | 323 | 3.0 | 1028 | 0.314 | 100 | NA | NA |
| Lane 2 | - | 135 | 188 | 323 | 3.0 | 1028 | 0.314 | 100 | NA | NA |
| Approach | 74 | 384 | 188 | 646 | 3.0 | | 0.314 | | | |
| West: Pioneer Trail | | | | | | | | | | |
| Mov. From W To Exit: | L2 N | T1 E | R2 S | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. |
| Lane 1 | 245 | 21 | - | 265 | 3.0 | 853 | 0.311 | 86[5] | NA | NA |
| Lane 2 | - | - | 309 | 309 | 3.0 | 853 | 0.362 | 100 | NA | NA |
| Approach | 245 | 21 | 309 | 574 | 3.0 | | 0.362 | | | |

| | Total | %HV | Deg.Satn (v/c) |
|---|---|---|---|
| Intersection | 2161 | 3.0 | 0.408 |

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

5 Lane under-utilisation found by the program

## Merge Analysis

| | Exit Lane Number | Short Lane Length ft | Percent Opng in Lane % | Opposing Flow Rate veh/h | Opposing Flow Rate pcu/h | Critical Gap sec | Follow-up Headway sec | Lane Flow Rate veh/h | Capacity veh/h | Deg. Satn v/c | Min. Delay sec | Merge Delay sec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South Exit: Truckee Way Merge Type: **Not Applied** | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |
| Full Length Lane | 2 | Merge Analysis not applied. | | | | | | | | | | |
| East Exit: Pioneer Trail Merge Type: **Not Applied** | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |
| Full Length Lane | 2 | Merge Analysis not applied. | | | | | | | | | | |
| North Exit: Truckee Way Merge Type: **Not Applied** | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |
| Full Length Lane | 2 | Merge Analysis not applied. | | | | | | | | | | |
| West Exit: Pioneer Trail Merge Type: **Not Applied** | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |
| Full Length Lane | 2 | Merge Analysis not applied. | | | | | | | | | | |

# LANE SUMMARY

## Site: 8 [Intx 8 - Future Plus Project (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

**Lane Use and Performance**

| | DEMAND FLOWS [ Total veh/h | HV ] % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Aver. Delay sec | Level of Service | 95% BACK OF QUEUE [ Veh | Dist ] ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Truckee Way | | | | | | | | | | | | | |
| Lane 1 | 523 | 3.0 | 914 | 0.572 | 100 | 11.9 | LOS B | 4.9 | 125.8 | Full | 1600 | 0.0 | 0.0 |
| Lane 2[d] | 523 | 3.0 | 914 | 0.572 | 100 | 11.9 | LOS B | 4.9 | 125.8 | Full | 1600 | 0.0 | 0.0 |
| Approach | 1046 | 3.0 | | 0.572 | | 11.9 | LOS B | 4.9 | 125.8 | | | | |
| East: Pioneer Trail | | | | | | | | | | | | | |
| Lane 1 | 61 | 3.0 | 403 | 0.151 | 100 | 11.3 | LOS B | 0.5 | 12.8 | Full | 1600 | 0.0 | 0.0 |
| Lane 2[d] | 61 | 3.0 | 403 | 0.151 | 100 | 11.3 | LOS B | 0.5 | 12.8 | Full | 1600 | 0.0 | 0.0 |
| Approach | 122 | 3.0 | | 0.151 | | 11.3 | LOS B | 0.5 | 12.8 | | | | |
| North: Truckee Way | | | | | | | | | | | | | |
| Lane 1 | 441 | 3.0 | 973 | 0.453 | 100 | 9.0 | LOS A | 2.6 | 66.1 | Full | 1600 | 0.0 | 0.0 |
| Lane 2[d] | 441 | 3.0 | 973 | 0.453 | 100 | 9.0 | LOS A | 2.6 | 66.1 | Full | 1600 | 0.0 | 0.0 |
| Approach | 882 | 3.0 | | 0.453 | | 9.0 | LOS A | 2.6 | 66.1 | | | | |
| West: Pioneer Trail | | | | | | | | | | | | | |
| Lane 1 | 364 | 3.0 | 725 | 0.502 | 99[5] | 12.4 | LOS B | 3.1 | 79.9 | Full | 1600 | 0.0 | 0.0 |
| Lane 2[d] | 370 | 3.0 | 725 | 0.510 | 100 | 12.6 | LOS B | 3.2 | 82.3 | Full | 1600 | 0.0 | 0.0 |
| Approach | 734 | 3.0 | | 0.510 | | 12.5 | LOS B | 3.2 | 82.3 | | | | |
| Intersection | 2783 | 3.0 | | 0.572 | | 11.1 | LOS B | 4.9 | 125.8 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

5 Lane under-utilisation found by the program
d Dominant lane on roundabout approach

**Approach Lane Flows (veh/h)**

South: Truckee Way

| Mov. From S To Exit: | L2 W | T1 N | R2 E | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane 1 | 299 | 224 | - | 523 | 3.0 | 914 | 0.572 | 100 | NA | NA |
| Lane 2 | - | 447 | 76 | 523 | 3.0 | 914 | 0.572 | 100 | NA | NA |
| Approach | 299 | 671 | 76 | 1046 | 3.0 | | 0.572 | | | |
| East: Pioneer Trail | | | | | | | | | | |

| Mov. From E To Exit: | L2 S | T1 W | R2 N | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane 1 | 54 | 7 | - | 61 | 3.0 | 403 | 0.151 | 100 | NA | NA |
| Lane 2 | - | 12 | 49 | 61 | 3.0 | 403 | 0.151 | 100 | NA | NA |
| Approach | 54 | 18 | 49 | 122 | 3.0 | | 0.151 | | | |
| North: Truckee Way | | | | | | | | | | |
| Mov. From N To Exit: | L2 E | T1 S | R2 W | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. |
| Lane 1 | 74 | 367 | - | 441 | 3.0 | 973 | 0.453 | 100 | NA | NA |
| Lane 2 | - | 191 | 250 | 441 | 3.0 | 973 | 0.453 | 100 | NA | NA |
| Approach | 74 | 558 | 250 | 882 | 3.0 | | 0.453 | | | |
| West: Pioneer Trail | | | | | | | | | | |
| Mov. From W To Exit: | L2 N | T1 E | R2 S | Total | %HV | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Prob. SL Ov. % | Ov. Lane No. |
| Lane 1 | 343 | 21 | - | 364 | 3.0 | 725 | 0.502 | 99[5] | NA | NA |
| Lane 2 | - | - | 370 | 370 | 3.0 | 725 | 0.510 | 100 | NA | NA |
| Approach | 343 | 21 | 370 | 734 | 3.0 | | 0.510 | | | |

| | Total | %HV | Deg.Satn (v/c) |
|---|---|---|---|
| Intersection | 2783 | 3.0 | 0.572 |

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

5 Lane under-utilisation found by the program

## Merge Analysis

| | Exit Lane Number | Short Lane Length ft | Percent Opng in Lane % | Opposing Flow Rate veh/h | Opposing Flow Rate pcu/h | Critical Gap sec | Follow-up Headway sec | Lane Flow Rate veh/h | Capacity veh/h | Deg. Satn v/c | Min. Delay sec | Merge Delay sec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South Exit: Truckee Way Merge Type: **Not Applied** | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |
| Full Length Lane | 2 | Merge Analysis not applied. | | | | | | | | | | |
| East Exit: Pioneer Trail Merge Type: **Not Applied** | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |
| Full Length Lane | 2 | Merge Analysis not applied. | | | | | | | | | | |
| North Exit: Truckee Way Merge Type: **Not Applied** | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |
| Full Length Lane | 2 | Merge Analysis not applied. | | | | | | | | | | |
| West Exit: Pioneer Trail Merge Type: **Not Applied** | | | | | | | | | | | | |
| Full Length Lane | 1 | Merge Analysis not applied. | | | | | | | | | | |
| Full Length Lane | 2 | Merge Analysis not applied. | | | | | | | | | | |