

**La Foret Conference & Retreat Center Expansion
Traffic Assessment Letter**

PCD File # PPR2324

El Paso County, Colorado

Traffic Engineer's Statement

The attached traffic report and supporting information were prepared under my responsible charge and they comport with the standard of care. So far as is consistent with the standard of care, said report was prepared in general conformance with the criteria established by the County for traffic reports.



Jeffrey R. Planck, P.E., PE #53006

September 1, 2023

Date

Developer's Statement

I, the Developer, have read and will comply with all commitments made on my behalf within this report.

Brad Carroll
Executive Director
La Foret Conference & Retreat Center
6145 Shoup Rd
Colorado Springs, CO 80908

10/18/23
Date

Accepted for File

By: **Gilbert LaForce, P.E.**
Engineering Manager

Date: **11/08/2023 9:25:58 AM**

El Paso County Department of Public Works



September 1, 2023

Amy Umiamaka
HB&A LLC
102 E Moreno Avenue
Colorado Springs, CO 80903

Re: Traffic Study Letter
La Foret Conference & Retreat Center – PCD File # PPR2324
6145 Shoup Road
El Paso County, Colorado

Dear Ms. Amy Umiamaka:

This Traffic Study Letter has been prepared for the proposed expansion associated with the existing La Foret Conference & Retreat Center located at 6145 Shoup Road in El Paso County, Colorado. A vicinity map illustrating the location of the property is attached as **Figure 1**. The site currently consists of 204 beds for guests of the retreat and conference center and is expected to increase by 75 beds for a total of 279 beds. The La Foret site currently has one access located on the south side of Shoup Road and access will remain the same with completion of project. This study also follows El Paso County guidelines to serve as a Traffic Memorandum based on the daily trip generation being between 100 and 500 trips per day; however, the proposed expansion is expected to only generate 52 trips per day during peak season while the overall development including existing conditions is expected to generate 193 trips. A conceptual site plan of the property is attached.

EXISTING ROADWAY NETWORK

Direct access to the existing facility is currently provided by an existing full movement private access along the south side of Shoup Road. Shoup Road extends eastbound and westbound with one through lane of travel in each direction. The posted speed limit is 45 miles per hour for eastbound traffic and 40 miles per hour for westbound traffic within the limits of the project. Shoup Road is classified as a minor arterial roadway.

The existing project access along Shoup Road currently operates with stop control on the northbound approach of the private access and assumed (no stop sign posted) on the southbound approach of the private residence driveway aligning on the north side of the project access. Of note, the driveway located along the north side of Shoup Road is slightly misaligned to the east. The intersection does not provide auxiliary turn lanes along Shoup Road, and single lane approaches are provided on all four legs of the access intersection. An aerial photo that illustrates the existing access intersection configuration is below (north is up).



Shoup Road & La Foret Access

The intersection lane configuration and control for this study area access intersection is shown in attached **Figure 2**.

MULTIMODAL FACILITY REVIEW

There are not any pedestrian or bicycle facilities along Shoup Road or within the study area. This project is not anticipated to create the need for these alternate travel mode facilities. There is no public transportation service in this area. With the rural nature, it is believed that public transportation to serve this area is not feasible.

TRIP GENERATION AND EXISTING COUNTS

Site-generated traffic estimates are determined through a process known as trip generation. Rates and equations are applied to the proposed land use to estimate traffic generated by

the development during a specific time interval. The acknowledged source for trip generation rates is the *Trip Generation Manual*¹ published by the Institute of Transportation Engineers (ITE). ITE has established trip rates in nationwide studies of similar land uses.

Given the specific nature of this site and that the site is existing, a methodology different from the typical ITE Trip Generation Manual and Handbook was utilized in this study. Sales data (attached) from the existing La Foret facility indicate that August is the busiest month and Friday through Sunday are the busiest days of the week. Therefore, directional 24-hour counts were collected at the project access from Friday, August 11, 2023 through Sunday, August 13, 2023. Existing turning movement counts were also collected at the existing project access along Shoup Road on Friday, August 11, 2023, during the morning and afternoon peak hours. The turning movement counts were conducted during the morning and afternoon peak hours of adjacent street traffic in 15-minute intervals from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM on this count date. The trip generation of the existing facility is shown in **Table 1**. The existing intersection traffic volumes are also shown in attached **Figure 3**.

The proposed increase of 75 beds equates to approximately a 37 percent increase ($204 \text{ existing beds} + 75 \text{ proposed beds} / 204 \text{ existing beds} = 1.368 = 36.8\%$) in the number of potential guests. The trip generation for the proposed expansion and the ultimate site generated trip estimates is also shown in Table 1. Existing traffic counts, trip generation calculations, and existing site guest and sales data is attached.

Table 1 – La Foret Conference & Retreat Center Expansion Traffic Generation

| Use | Weekday Vehicles Trips | | | | | | |
|--|------------------------|--------------|-----|-------|--------------|-----|-------|
| | Daily | AM Peak Hour | | | PM Peak Hour | | |
| | | In | Out | Total | In | Out | Total |
| Existing Access Count (User Specific) – 204 Beds | 141 | 5 | 2 | 7 | 14 | 8 | 22 |
| Proposed Expansion (37% Increase) – 75 Beds | 52 | 2 | 1 | 3 | 5 | 3 | 8 |
| Total Site Generated Trips (1.37 GF) – 279 Beds | 193 | 7 | 3 | 10 | 19 | 11 | 30 |

As shown in table above, the current site is generating 141 daily trips, seven (7) morning peak hour trips, and 22 afternoon peak hour trips. Accounting for the proposed bed space expansion, the La Foret project is anticipated to generate approximately 52 additional daily trips, with three (3) of these vehicle trips occurring during the morning peak hour, and eight (8) occurring during the afternoon peak hour. Therefore, the project at full buildout of the proposed expansion is expected to generate a total of approximately 193 daily trips, 10 AM peak hour trips, and 30 PM peak hour trips.

¹ Institute of Transportation Engineers, *Trip Generation Manual*, Eleventh Edition, Washington DC, 2021.

FUTURE TRAFFIC VOLUME PROJECTIONS

According to traffic projections provided in the El Paso County (EPC) 2016 Major Transportation Corridors Plan Update (MTCP), the surrounding street system is expected to have an annual traffic growth rate of approximately 3.73 percent. Therefore, an annual growth rate of 3.73 percent was used to calculate short-term 2025 and long-term 2045 background traffic projections along Shoup Road. Traffic projection information and calculations are attached. The 2025 and 2045 background traffic volumes are also shown in **Figure 4** and **Figure 5**, respectively.

NET PROJECT TRAFFIC ASSIGNMENT AND TOTAL TRAFFIC

The net project traffic assignment was obtained by applying a scaling factor of the existing and proposed bed count to the existing driveway counts. **Figure 6** illustrates the net project traffic assignment associated with proposed expansion of 75 beds. Site traffic volumes were added to the background volumes to represent estimated total traffic conditions for the 2025 and 2045 horizons. These total traffic volumes for the study area are illustrated for the 2025 and 2045 horizon years in **Figure 7** and **Figure 8**, respectively.

TRAFFIC OPERATIONS ANALYSIS

Kimley-Horn’s analysis of traffic operations was conducted to determine potential capacity deficiencies at the project access intersection along Shoup Road for the buildout 2025 year and long-term planning 2045 year. The acknowledged source for determining overall capacity is the Highway Capacity Manual². Capacity analysis results are listed in terms of Level of Service (LOS). LOS is a qualitative term describing operating conditions a driver will experience while traveling on a particular street or highway during a specific time interval. It ranges from A (very little delay) to F (long delays and congestion). For intersections and roadways, standard traffic engineering practice recommends LOS D as the minimum threshold for acceptable operations for intersections and LOS E for movements. **Table 2** below shows the definition of level of service for unsignalized intersections.

Table 2 – Level of Service Definitions

| Level of Service | Unsignalized Intersection Average Total Delay (sec/veh) |
|------------------|---|
| A | ≤ 10 |
| B | > 10 and ≤ 15 |
| C | > 15 and ≤ 25 |
| D | > 25 and ≤ 35 |
| E | > 35 and ≤ 50 |
| F | > 50 |

Transportation Research Board, *Highway Capacity Manual*, Sixth Edition, Washington DC, 2016.

² Transportation Research Board, *Highway Capacity Manual*, Sixth Edition, Washington DC, 2016.

Shoup Road La Foret Access

The proposed La Foret project access intersection currently operates with stop control on the northbound approach of the private access and assumed (no stop sign posted) on the southbound approach of the private residence driveway aligning on the north side of the project access. **Table 3** provides the results of the level of service at this intersection (calculations attached).

Table 3 – Shoup Road La Foret Access LOS Results

| Scenario | AM Peak Hour | | PM Peak Hour | |
|------------------------|-----------------|-----|-----------------|-----|
| | Delay (sec/veh) | LOS | Delay (sec/veh) | LOS |
| 2023 Existing | | | | |
| Northbound Approach | 10.2 | B | 11.6 | B |
| Westbound Left | 7.5 | A | 7.9 | A |
| Southbound Approach | 0.0 | A | 13.6 | B |
| 2025 Background | | | | |
| Northbound Approach | 10.4 | B | 11.9 | B |
| Westbound Left | 7.5 | A | 8.0 | A |
| Southbound Approach | 0.0 | A | 14.2 | B |
| 2025 Total | | | | |
| Northbound Approach | 10.9 | B | 12.3 | B |
| Westbound Left | 7.5 | A | 8.0 | A |
| Southbound Approach | 0.0 | A | 14.3 | B |
| 2045 Background | | | | |
| Northbound Approach | 14.2 | B | 21.3 | C |
| Westbound Left | 7.9 | A | 9.1 | A |
| Southbound Approach | 0.0 | A | 30.9 | D |
| 2045 Total | | | | |
| Northbound Approach | 15.8 | C | 22.7 | C |
| Westbound Left | 7.9 | A | 9.7 | A |
| Southbound Approach | 0.0 | A | 31.3 | D |

As shown in the table, the intersection movements currently operate acceptably with LOS B or better during the peak hours. With the addition of the proposed expansion to La Foret, all movements are anticipated to continue to acceptably during the studied peak hours throughout the 2045 horizon.

TURN LANE EVALAUTION

The El Paso County Engineering Criteria Manual (ECM) was used to determine if left and right turn lanes are warranted along Shoup Road at the existing La Foret access. El Paso County classifies Shoup Road as a Minor Arterial roadway. According to El Paso County ECM guidelines for Minor Arterials, a left turn lane is required for any access with a projected peak hour left turning volume of 25 vehicles per hour or greater, a right turn lane is required for any access with a projected peak hour right turning volume of 50 vehicles per hour or greater, and a right turn acceleration lane is generally not required.

Based on Shoup Road providing a posted speed limit of 45 miles per hour, the turn lane requirements are as follows:

Shoup Road La Foret Access:

- A westbound left turn lane **is not** warranted at this intersection based on projected 2045 total traffic volumes being four (4) westbound left turns during the peak hour and the threshold being 25 vehicles per hour.
- An eastbound right turn lane **is not** warranted at this intersection based on projected 2045 total traffic volumes being 15 eastbound right turns during the peak hour and the threshold being 50 vehicles per hour.

SIGHT DISTANCE EVALUATION

It is recommended that sight triangles be provided at the site access point to give drivers exiting the site a clear view of oncoming traffic. Landscaping and objects within sight triangles must not obstruct drivers' views of the adjacent travel lanes. EPC Engineering Criteria Manual (ECM) design sight distances for left turn from stop from public street intersections (Table 2-21) was evaluated at the project access intersection along Shoup Road. ECM does not provide sight distances for right-turning vehicles from stop for public street intersections; therefore, AASHTO standards were used for right-turn from stop distances at the access intersection.

According to Table 2-21 from ECM and a roadway design speed of 45 miles per hour along Vollmer Road, the intersection sight distance for a vehicle turning left from stop is 500 feet for a two-lane roadway. With AASHTO standards, the sight distance for a vehicle turning right from stop is 430 feet. Therefore, all obstructions for left turning vehicles from stop should be clear to the right within the triangle created with a vertex point located 10 feet from the edge of the major road traveled way (typical position of the minor road driver's eye when stopped) and a line-of-sight distance of 500 feet located in the middle of the westbound through lane along Shoup Road. Likewise, all obstructions for right turning vehicles from stop should be clear to the left within the triangle created with a vertex point located 10 feet from the edge of the major road traveled way and a line-of-sight distance of 430 feet located in the middle of the eastbound through lane along Shoup Road. It is believed that the access intersection along Shoup Road is appropriately located to provide necessary sight distances.

CONCLUSIONS


It is believed that the expansion associated with the La Foret project will be accommodated successfully on the surrounding street network. The following outlines the conclusions from the traffic analysis:

- No improvements were identified as being needed based on a traffic operational analysis and turn lane evaluation for the existing access intersection along Shoup Road.

Please let us know if El Paso County would like any additional information. If you have any questions, please feel free to call me at (720) 943-9962.

Sincerely,

KIMLEY-HORN AND ASSOCIATES, INC.



Jeffrey R. Planck, P.E.
Project Traffic Engineer



Figures

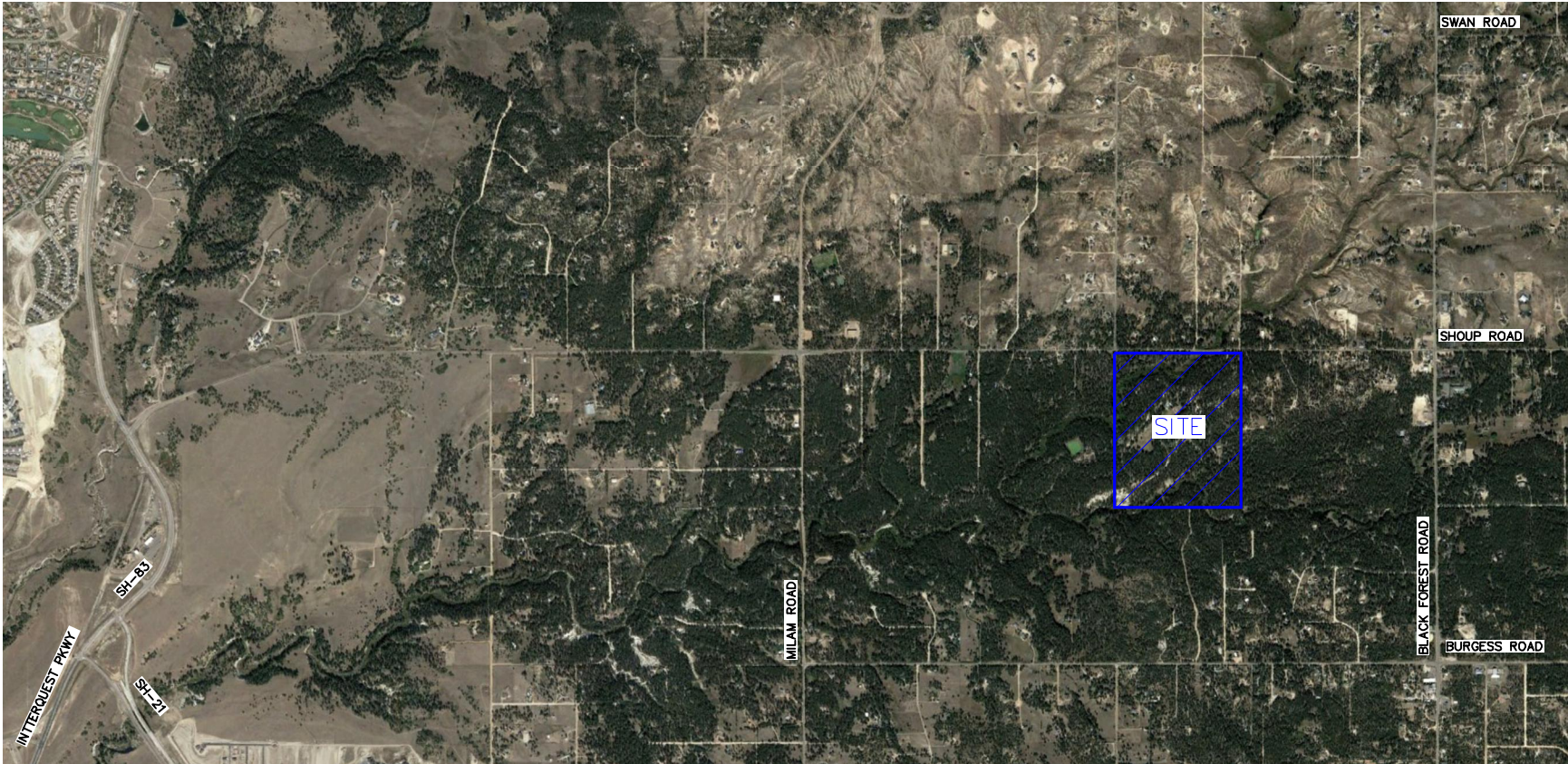
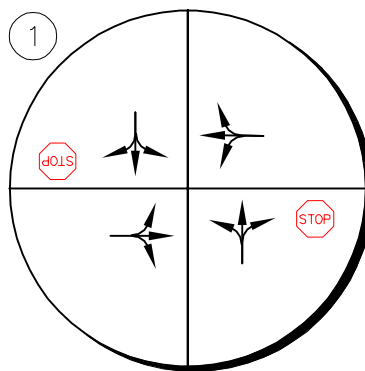
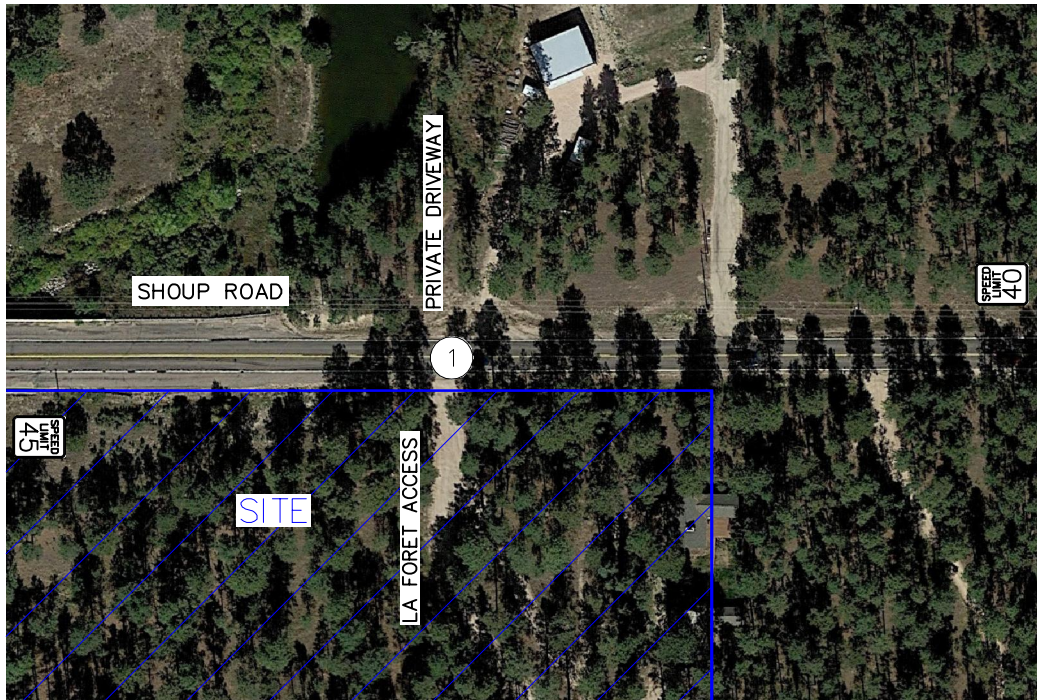
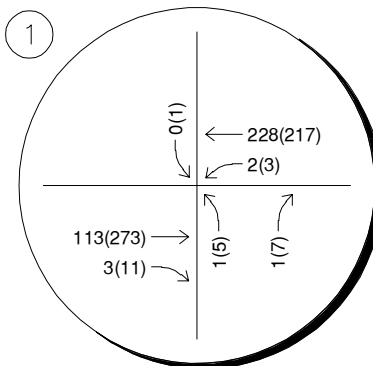
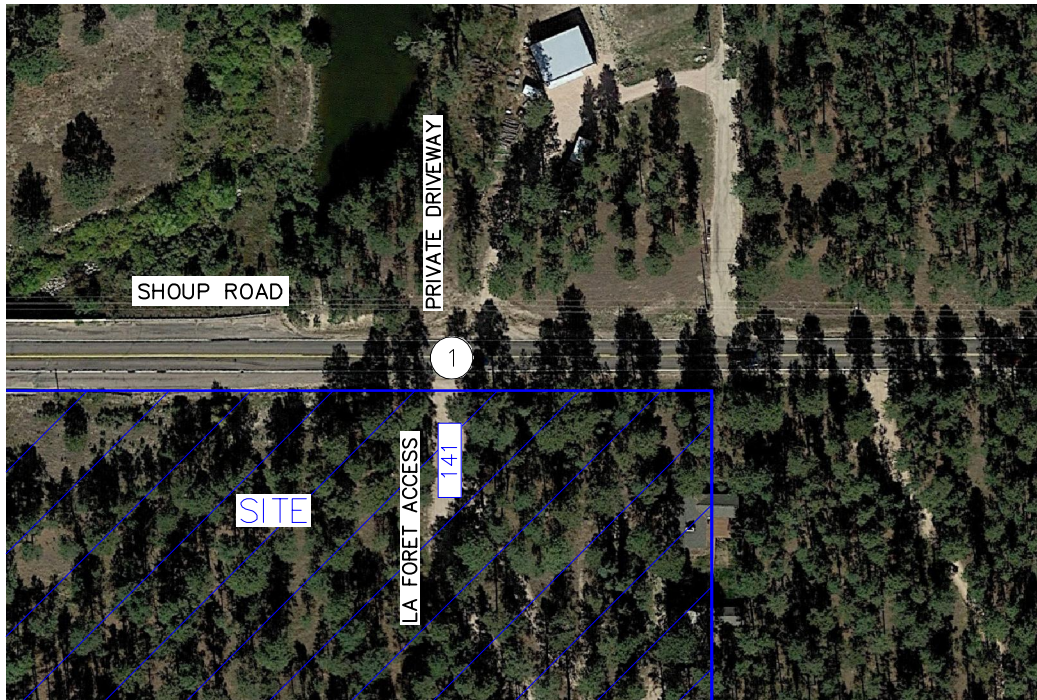


FIGURE 1
LA FORET EXPANSION
EL PASO COUNTY, COLORADO
VICINITY MAP



| LEGEND | |
|--------|------------------------------|
| | Study Area Key Intersection |
| | Signalized Intersection |
| | Stop Controlled Approach |
| | Roadway Speed Limit |
| | 100' Turn Lane Length (feet) |

FIGURE 2
 LA FORET EXPANSION
 EL PASO COUNTY, COLORADO
 EXISTING GEOMETRY AND CONTROL

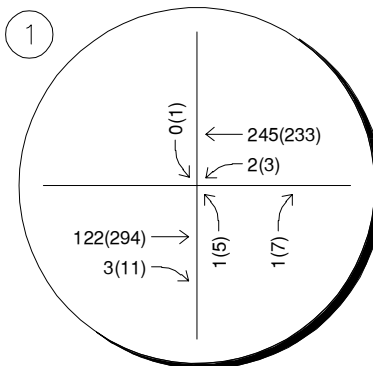
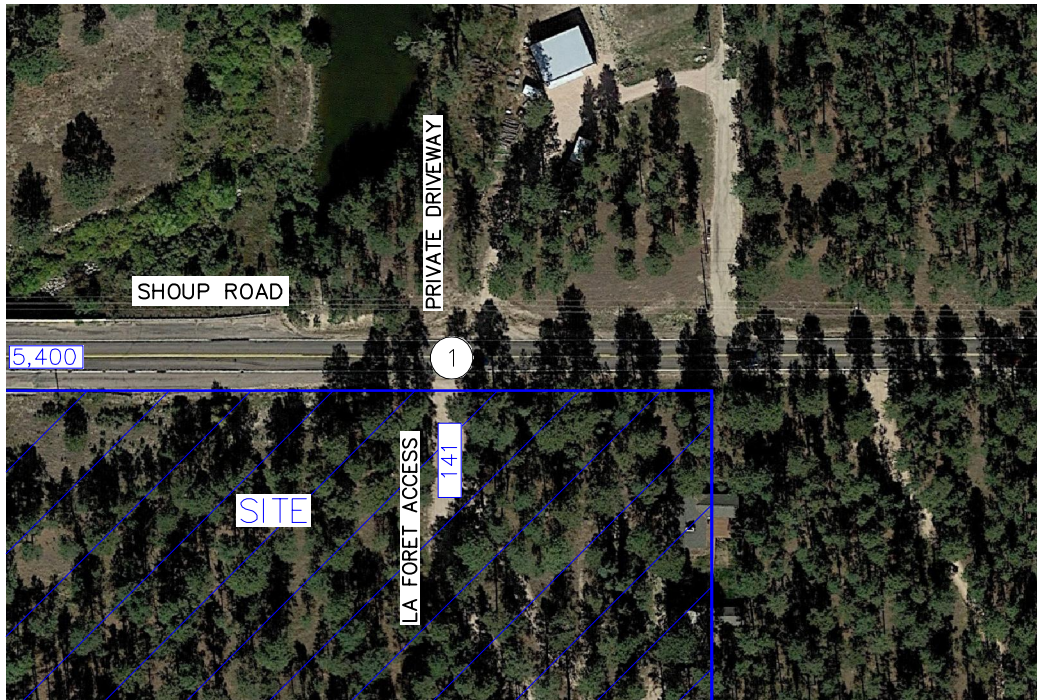


Friday, August 11, 2023
 7:45 to 8:45AM (4:45 to 5:45PM)

LEGEND

- (X) Study Area Key Intersection
- XXX(XXX) Weekday AM(PM)
Peak Hour Traffic Volumes
- XX,X00 Daily Traffic Volume

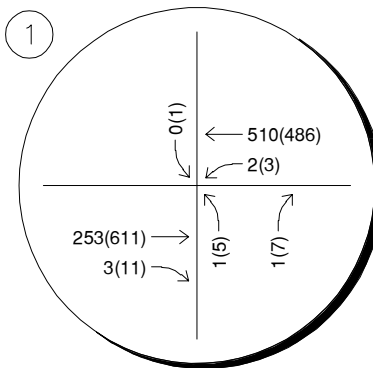
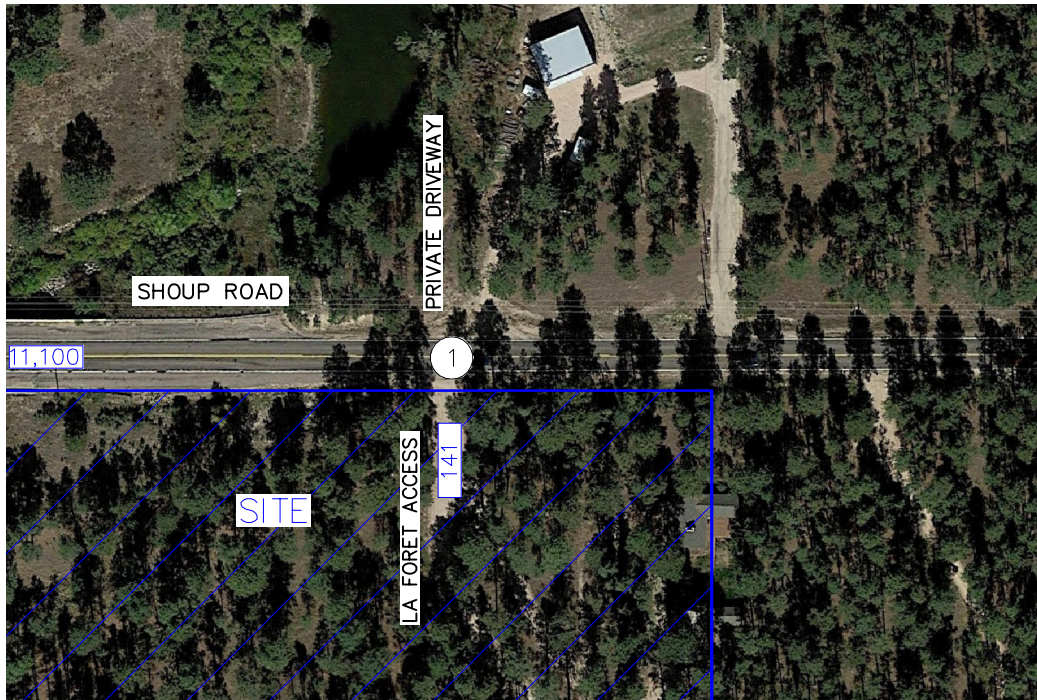
FIGURE 3
 LA FORET EXPANSION
 EL PASO COUNTY, COLORADO
 2023 EXISTING TRAFFIC VOLUMES



LEGEND

- (X) Study Area Key Intersection
- XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes
- XX,X00 Daily Traffic Volume

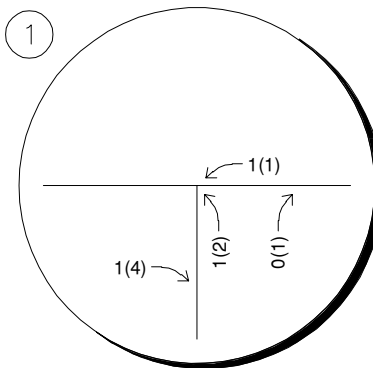
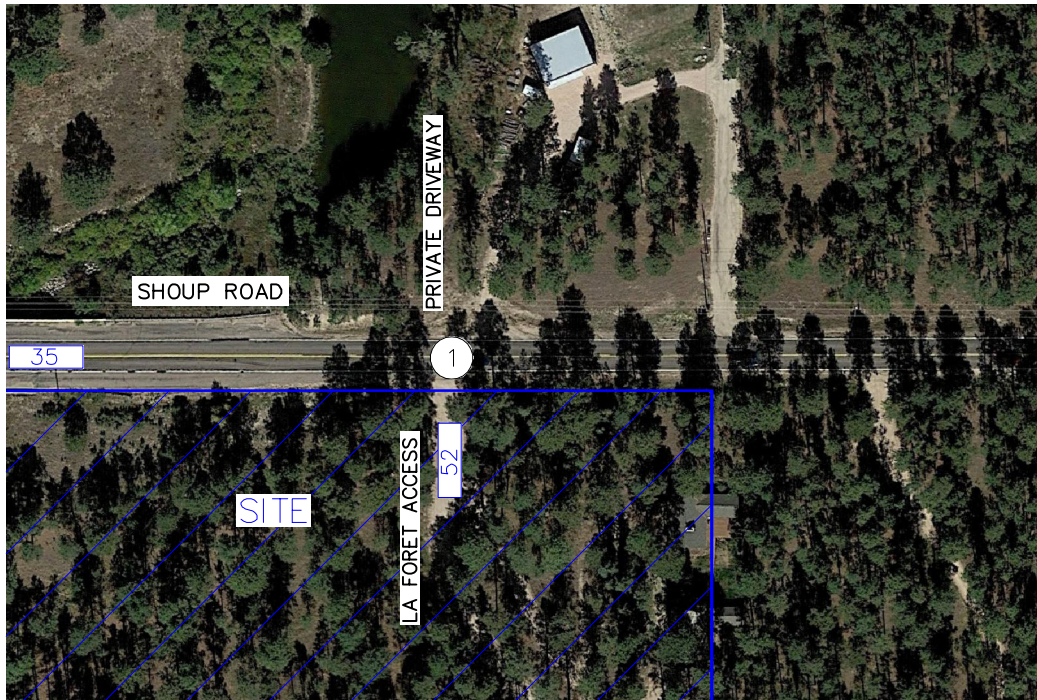
FIGURE 4
 LA FORET EXPANSION
 EL PASO COUNTY, COLORADO
 2025 BACKGROUND TRAFFIC VOLUMES



LEGEND

- (X) Study Area Key Intersection
- XXX(XXX) Weekday AM(PM)
Peak Hour Traffic Volumes
- XX,X00 Daily Traffic Volume

FIGURE 5
 LA FORET EXPANSION
 EL PASO COUNTY, COLORADO
 2045 BACKGROUND TRAFFIC VOLUMES



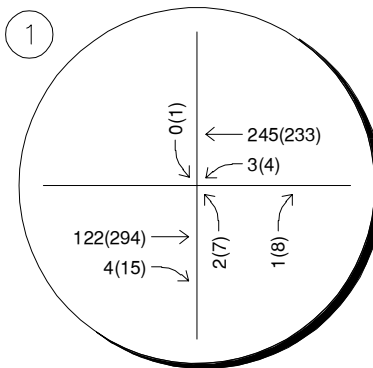
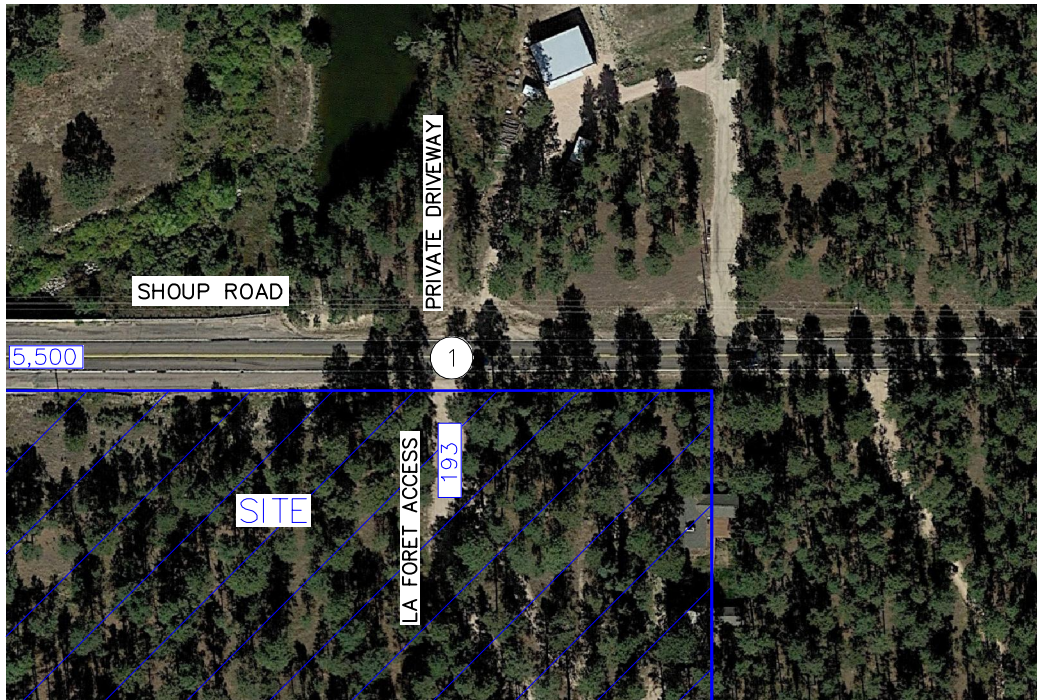
LEGEND

(X) Study Area Key Intersection

XXX(XXX) Weekday AM(PM)
Peak Hour Traffic Volumes

XX,X00 Daily Traffic Volume

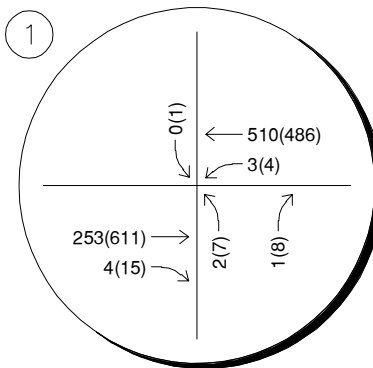
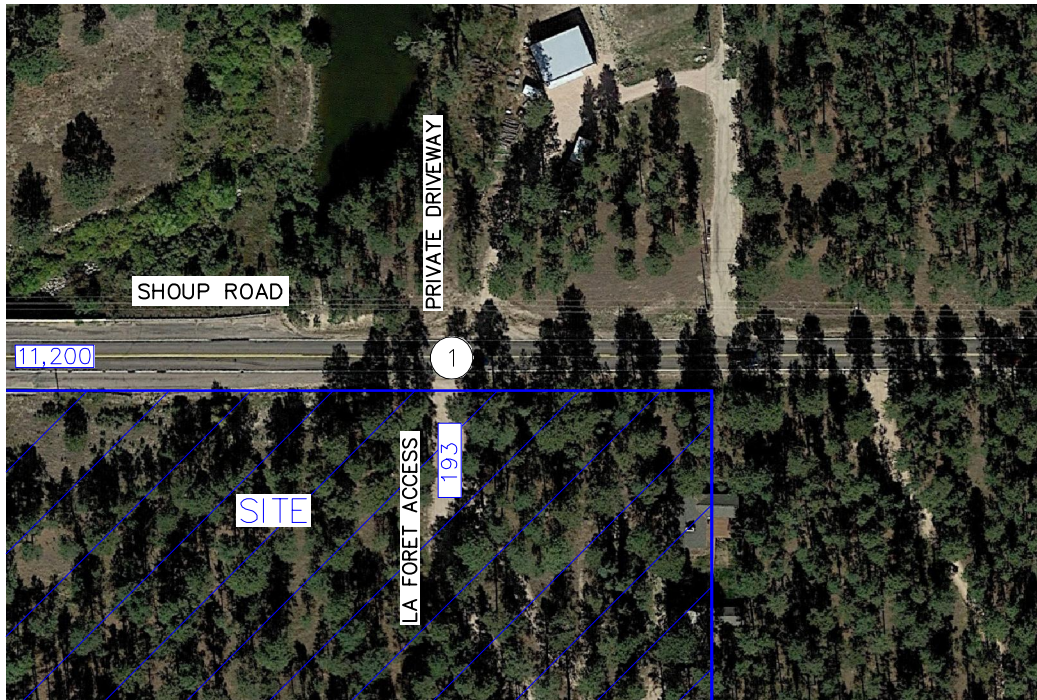
FIGURE 6
 LA FORET EXPANSION
 EL PASO COUNTY, COLORADO
 NET PROJECT TRAFFIC ASSIGNMENT



LEGEND

- (X) Study Area Key Intersection
- XXX(XXX) Weekday AM(PM)
Peak Hour Traffic Volumes
- XX,X00 Daily Traffic Volume

FIGURE 7
 LA FORET EXPANSION
 EL PASO COUNTY, COLORADO
 2025 TOTAL TRAFFIC VOLUMES



LEGEND

(X) Study Area Key Intersection

XXX(XXX) Weekday AM(PM)
Peak Hour Traffic Volumes

XX,X00 Daily Traffic Volume

FIGURE 8
 LA FORET EXPANSION
 EL PASO COUNTY, COLORADO
 2045 TOTAL TRAFFIC VOLUMES

Traffic Counts

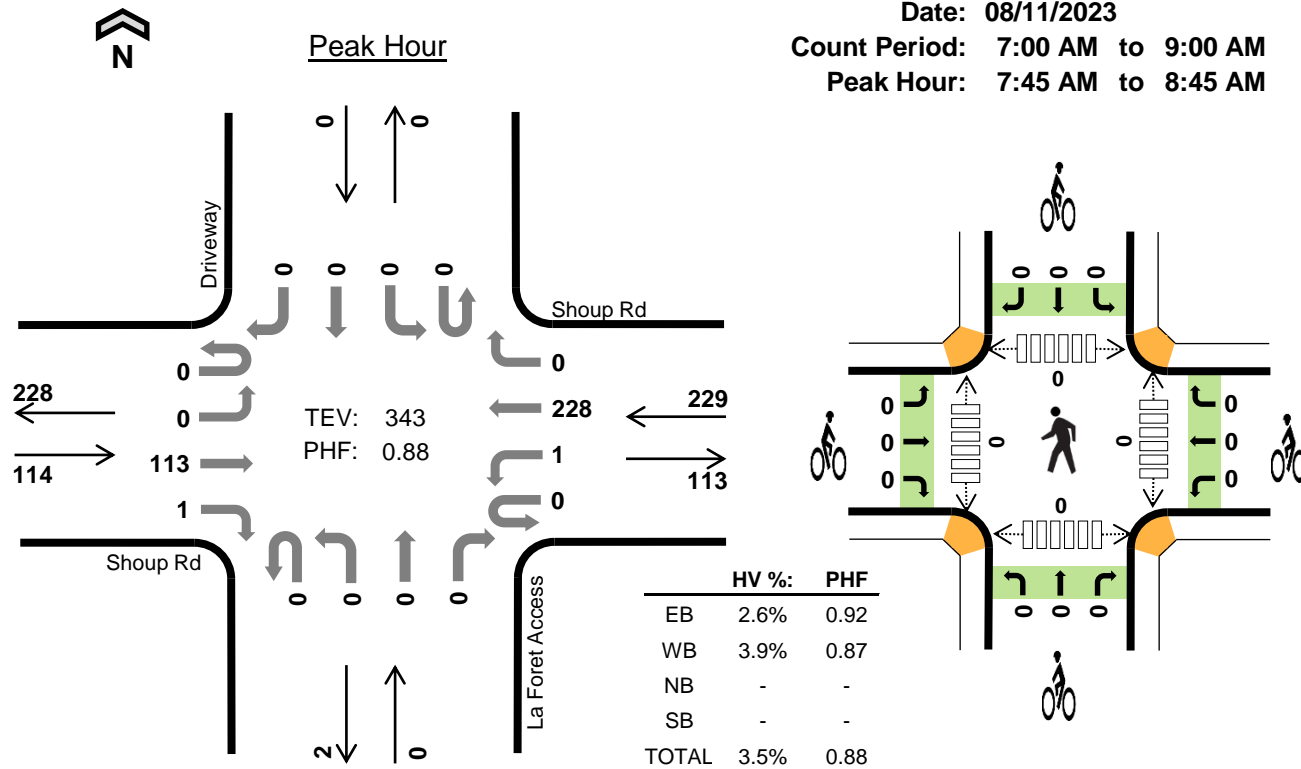
La Foret Access Shoup Rd



Date: 08/11/2023

Count Period: 7:00 AM to 9:00 AM

Peak Hour: 7:45 AM to 8:45 AM



Two-Hour Count Summaries

| Interval Start | Shoup Rd | | | | Shoup Rd | | | | La Foret Access | | | | Driveway | | | | 15-min Total | Rolling One Hour | |
|----------------|-----------|----------|-----------|----------|------------|----------|------------|----------|-----------------|----------|------------|----------|----------|----------|----------|----------|--------------|------------------|---|
| | Eastbound | | Westbound | | Northbound | | Southbound | | Eastbound | | Southbound | | | | | | | | |
| | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | | | |
| 7:00 AM | 0 | 0 | 7 | 1 | 0 | 1 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 66 | 0 | |
| 7:15 AM | 0 | 0 | 15 | 2 | 0 | 0 | 57 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 75 | 0 | |
| 7:30 AM | 0 | 0 | 19 | 0 | 0 | 1 | 54 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 75 | 0 | |
| 7:45 AM | 0 | 0 | 31 | 0 | 0 | 0 | 66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 97 | 313 | |
| 8:00 AM | 0 | 0 | 29 | 1 | 0 | 0 | 52 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 82 | 329 | |
| 8:15 AM | 0 | 0 | 30 | 0 | 0 | 0 | 45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 75 | 329 | |
| 8:30 AM | 0 | 0 | 23 | 0 | 0 | 1 | 65 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 89 | 343 | |
| 8:45 AM | 0 | 0 | 24 | 0 | 0 | 0 | 41 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 66 | 312 | |
| Count Total | 0 | 0 | 178 | 4 | 0 | 3 | 437 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 625 | 0 | |
| Peak Hour | All | 0 | 0 | 113 | 1 | 0 | 1 | 228 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 343 | 0 |
| | HV | 0 | 0 | 3 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 |
| | HV% | - | - | 3% | 0% | - | 0% | 4% | - | - | - | - | - | - | - | - | - | 3% | 0 |

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

| Interval Start | Heavy Vehicle Totals | | | | | Bicycles | | | | | Pedestrians (Crossing Leg) | | | | |
|----------------|----------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------------------------|----------|----------|----------|----------|
| | EB | WB | NB | SB | Total | EB | WB | NB | SB | Total | East | West | North | South | Total |
| 7:00 AM | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 AM | 1 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 AM | 1 | 2 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 AM | 2 | 3 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 AM | 4 | 1 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Count Total | 8 | 12 | 1 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Peak Hour | 3 | 9 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Two-Hour Count Summaries - Heavy Vehicles | | | | | | | | | | | | | | | | | | |
|--|-----------|----------|----------|----------|-----------|----------|----------|----------|-----------------|----------|----------|----------|------------|----------|----------|----------|--------------|------------------|
| Interval Start | Shoup Rd | | | | Shoup Rd | | | | La Foret Access | | | | Driveway | | | | 15-min Total | Rolling One Hour |
| | Eastbound | | | | Westbound | | | | Northbound | | | | Southbound | | | | | |
| | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | | |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 7:15 AM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 8:00 AM | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 6 |
| 8:15 AM | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 9 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 12 |
| 8:45 AM | 0 | 0 | 4 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 17 |
| Count Total | 0 | 0 | 7 | 1 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 21 | 0 |
| Peak Hour | 0 | 0 | 3 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 |

| Two-Hour Count Summaries - Bikes | | | | | | | | | | | | | | | | | |
|---|-----------|----------|----------|-----------|----------|----------|-----------------|----------|----------|------------|----------|----------|--------------|------------------|----------|----------|----------|
| Interval Start | Shoup Rd | | | Shoup Rd | | | La Foret Access | | | Driveway | | | 15-min Total | Rolling One Hour | | | |
| | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | | | | | |
| | LT | TH | RT | LT | TH | RT | LT | TH | RT | LT | TH | RT | | | | | |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Count Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Peak Hour | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

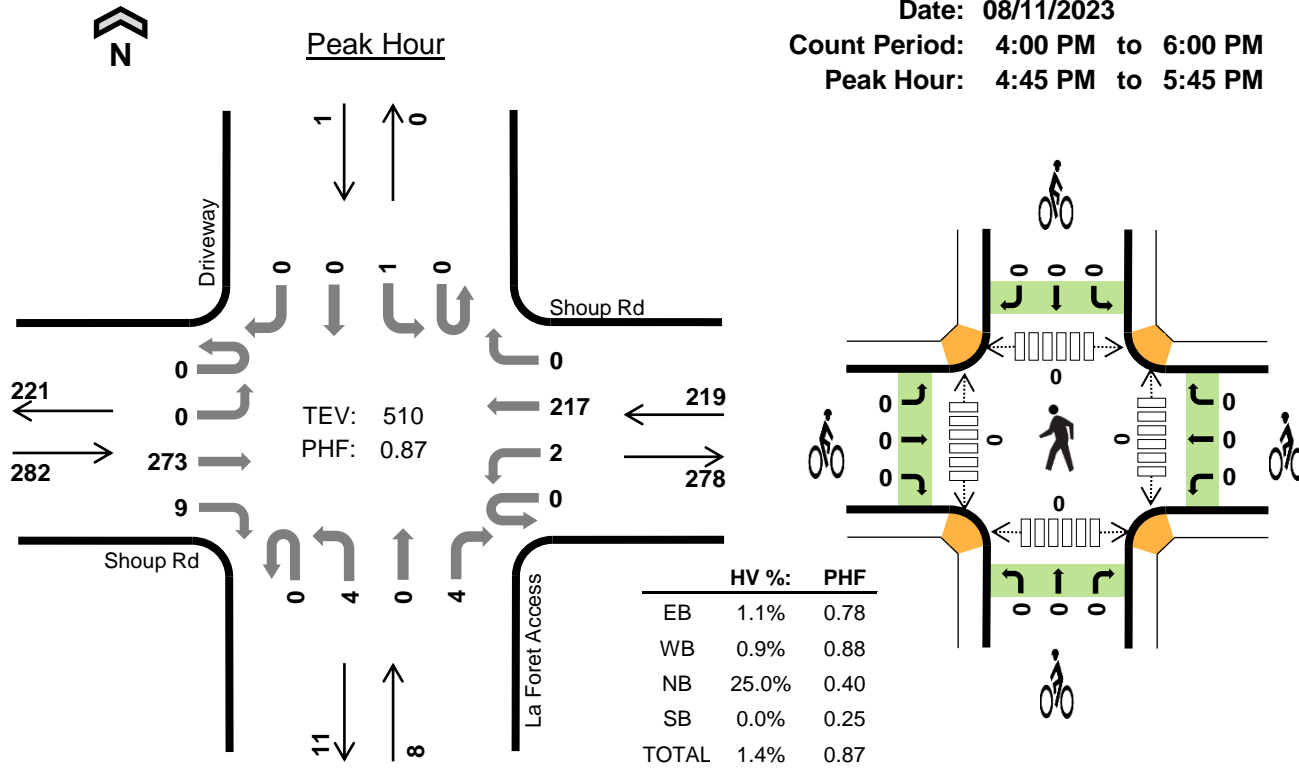
La Foret Access Shoup Rd



Date: 08/11/2023

Count Period: 4:00 PM to 6:00 PM

Peak Hour: 4:45 PM to 5:45 PM



Two-Hour Count Summaries

| Interval Start | Shoup Rd | | | | Shoup Rd | | | | La Foret Access | | | | Driveway | | | | 15-min Total | Rolling One Hour | |
|----------------|-----------|----|-----------|-----|------------|----|------------|-----|-----------------|----|------------|----|----------|----|----|----|--------------|------------------|---|
| | Eastbound | | Westbound | | Northbound | | Southbound | | Eastbound | | Southbound | | | | | | | | |
| | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | | | |
| 4:00 PM | 0 | 0 | 55 | 0 | 0 | 0 | 54 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 111 | 0 | |
| 4:15 PM | 0 | 0 | 59 | 0 | 0 | 0 | 57 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 119 | 0 | |
| 4:30 PM | 0 | 0 | 67 | 1 | 0 | 0 | 53 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 123 | 0 | |
| 4:45 PM | 0 | 0 | 76 | 0 | 0 | 1 | 49 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 127 | 480 | |
| 5:00 PM | 0 | 0 | 45 | 4 | 0 | 0 | 52 | 0 | 0 | 2 | 0 | 3 | 0 | 1 | 0 | 0 | 107 | 476 | |
| 5:15 PM | 0 | 0 | 87 | 3 | 0 | 0 | 55 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 146 | 503 | |
| 5:30 PM | 0 | 0 | 65 | 2 | 0 | 1 | 61 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 130 | 510 | |
| 5:45 PM | 0 | 0 | 55 | 2 | 0 | 2 | 48 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 108 | 491 | |
| Count Total | 0 | 0 | 509 | 12 | 0 | 4 | 429 | 0 | 0 | 9 | 0 | 7 | 0 | 1 | 0 | 0 | 971 | 0 | |
| Peak Hour | All | 0 | 0 | 273 | 9 | 0 | 2 | 217 | 0 | 0 | 4 | 0 | 4 | 0 | 1 | 0 | 0 | 510 | 0 |
| | HV | 0 | 0 | 3 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 7 | 0 |
| | HV% | - | - | 1% | 0% | - | 0% | 1% | - | - | 0% | - | 50% | - | 0% | - | - | 1% | 0 |

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

| Interval Start | Heavy Vehicle Totals | | | | | Bicycles | | | | | Pedestrians (Crossing Leg) | | | | |
|----------------|----------------------|----|----|----|-------|----------|----|----|----|-------|----------------------------|------|-------|-------|-------|
| | EB | WB | NB | SB | Total | EB | WB | NB | SB | Total | East | West | North | South | Total |
| 4:00 PM | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:45 PM | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 PM | 2 | 0 | 2 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Count Total | 5 | 7 | 2 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Peak Hour | 3 | 2 | 2 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Two-Hour Count Summaries - Heavy Vehicles | | | | | | | | | | | | | | | | | | |
|---|-----------|----|----|-----------|-----------|----|-----------------|----|-----------------|------------|----|----|--------------|------------------|----|----|--------------|------------------|
| Interval Start | Shoup Rd | | | | Shoup Rd | | | | La Foret Access | | | | Driveway | | | | 15-min Total | Rolling One Hour |
| | Eastbound | | | | Westbound | | | | Northbound | | | | Southbound | | | | | |
| | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | UT | LT | TH | RT | | |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 4:15 PM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 4:45 PM | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 6 |
| 5:00 PM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 4 | 9 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 8 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 8 |
| Count Total | 0 | 0 | 5 | 0 | 0 | 2 | 5 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 14 | 0 |
| Peak Hour | 0 | 0 | 3 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 7 | 0 |
| Two-Hour Count Summaries - Bikes | | | | | | | | | | | | | | | | | | |
| Interval Start | Shoup Rd | | | Shoup Rd | | | La Foret Access | | | Driveway | | | 15-min Total | Rolling One Hour | | | | |
| | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | | | | | | |
| | LT | TH | RT | LT | TH | RT | LT | TH | RT | LT | TH | RT | | | | | | |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Count Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Peak Hour | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Note: U-Turn volumes for bikes are included in Left-Turn, if any. | | | | | | | | | | | | | | | | | | |

Location: La Foret Access S/O Shoup Rd
 Date Range: 8/11/2023 - 8/17/2023
 Site Code: 01

| Time | Friday 8/11/2023 | | | Saturday 8/12/2023 | | | Sunday 8/13/2023 | | | Monday 8/14/2023 | | | Tuesday 8/15/2023 | | | Wednesday 8/16/2023 | | | Thursday 8/17/2023 | | | Mid-Week Average | | |
|----------------|---------------------|------------|------------|-----------------------|------------|------------|---------------------|------------|------------|---------------------|----|-------|----------------------|----|-------|------------------------|----|-------|-----------------------|----|-------|------------------|-------|-------|
| | NB | SB | Total | NB | SB | Total | NB | SB | Total | NB | SB | Total | NB | SB | Total | NB | SB | Total | NB | SB | Total | NB | SB | Total |
| 12:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | ##### | ##### | ##### |
| 1:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 3:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 5:00 AM | 1 | 1 | 2 | 0 | 2 | 2 | 0 | 0 | 0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 6:00 AM | 2 | 7 | 9 | 0 | 2 | 2 | 0 | 2 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 7:00 AM | 2 | 5 | 7 | 1 | 1 | 2 | 1 | 5 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 8:00 AM | 1 | 2 | 3 | 0 | 0 | 0 | 1 | 2 | 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 9:00 AM | 3 | 3 | 6 | 3 | 2 | 5 | 0 | 2 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 10:00 AM | 2 | 5 | 7 | 1 | 9 | 10 | 4 | 7 | 11 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 11:00 AM | 0 | 4 | 4 | 6 | 2 | 8 | 18 | 12 | 30 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 12:00 PM | 3 | 6 | 9 | 3 | 7 | 10 | 6 | 15 | 21 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1:00 PM | 4 | 5 | 9 | 6 | 5 | 11 | 4 | 28 | 32 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2:00 PM | 8 | 7 | 15 | 2 | 5 | 7 | 8 | 9 | 17 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 3:00 PM | 1 | 3 | 4 | 6 | 5 | 11 | 12 | 2 | 14 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4:00 PM | 8 | 2 | 10 | 3 | 2 | 5 | 10 | 1 | 11 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 5:00 PM | 7 | 14 | 21 | 2 | 1 | 3 | 8 | 0 | 8 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 6:00 PM | 5 | 6 | 11 | 2 | 1 | 3 | 7 | 0 | 7 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 7:00 PM | 9 | 3 | 12 | 9 | 2 | 11 | 0 | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 8:00 PM | 9 | 1 | 10 | 2 | 1 | 3 | 4 | 0 | 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 9:00 PM | 1 | 0 | 1 | 9 | 0 | 9 | 1 | 0 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 10:00 PM | 0 | 0 | 0 | 5 | 4 | 9 | 0 | 0 | 0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 11:00 PM | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total | 67 | 74 | 141 | 60 | 51 | 111 | 85 | 86 | 171 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Percent | 48% | 52% | | 54% | 46% | | 50% | 50% | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| AM Peak | 09:00 | 06:00 | 06:00 | 11:00 | 10:00 | 10:00 | 11:00 | 11:00 | 11:00 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Vol. | 3 | 7 | 9 | 6 | 9 | 10 | 18 | 12 | 30 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PM Peak | 19:00 | 17:00 | 17:00 | 19:00 | 12:00 | 13:00 | 15:00 | 13:00 | 13:00 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Vol. | 9 | 14 | 21 | 9 | 7 | 11 | 12 | 28 | 32 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

1. Mid-week average includes data between Tuesday and Thursday.

Traffic Projections

EPC MTCP Traffic Projections: La Foret

| Location | 2013 | 2040 | Growth Factor | Annual Growth |
|------------------------------|-------|--------|---------------|---------------|
| Shoup Rd E/O SH-83 | 4,200 | 10,800 | 2.57 | 3.56% |
| Black Forest Rd S/O Shoup Rd | 4,800 | 13,400 | 2.79 | 3.88% |
| Total | 9,000 | 24,200 | 2.69 | 3.73% |

Trip Generation Calculations & User Data

La Foret Trip Generation Summary

| Use and Size | Weekday Vehicle Trips | | | | | | |
|--|-----------------------|--------------|----------|-----------|--------------|-----------|-----------|
| | Daily | AM Peak Hour | | | PM Peak Hour | | |
| | | In | Out | Total | In | Out | Total |
| Existing Access Count (User Specific) - 204 Beds | 141 | 5 | 2 | 7 | 14 | 8 | 22 |
| Expansion (37% Increase) - 75 Beds | 52 | 2 | 1 | 3 | 5 | 3 | 8 |
| Total Site Generated Trips (1.37 GF) - 279 Beds | 193 | 7 | 3 | 10 | 19 | 11 | 30 |

Existing

Expansion

Total

| AM Peak Volumes | | | |
|-----------------|-----|-----|-----|
| EBR | WBL | NBL | NBR |
| 3 | 2 | 1 | 1 |
| 1 | 1 | 1 | 0 |
| 4 | 3 | 2 | 1 |

Total

7

3

10

| PM Peak Volumes | | | |
|-----------------|-----|-----|-----|
| EBR | WBL | NBL | NBR |
| 11 | 3 | 5 | 3 |
| 4 | 1 | 2 | 1 |
| 15 | 4 | 7 | 4 |

Total

22

8

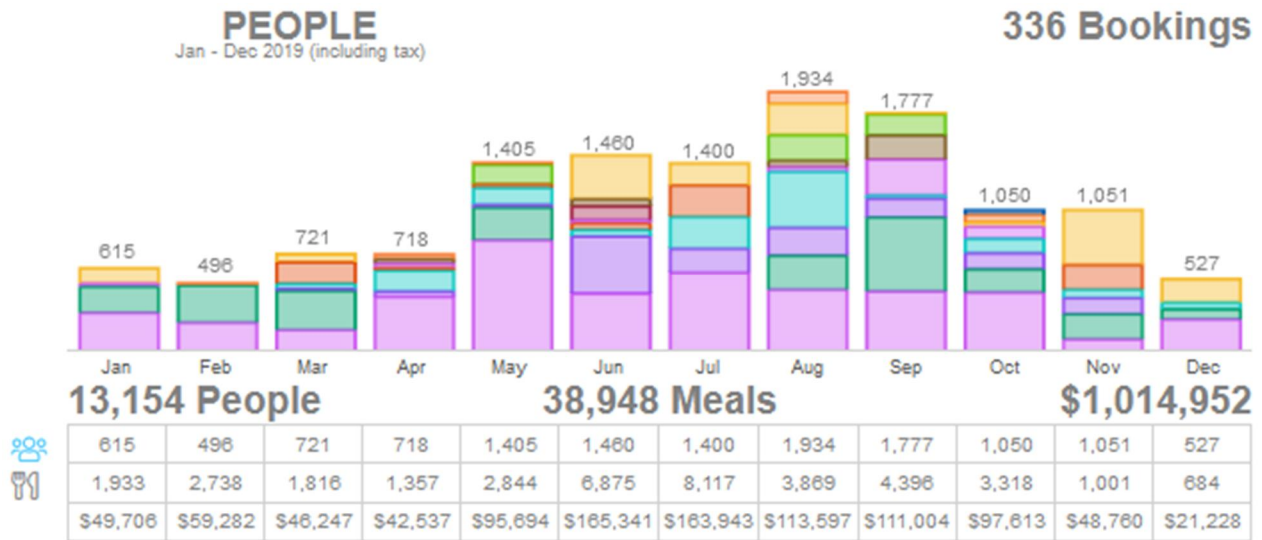
30

La Foret Guest and Trip Data:

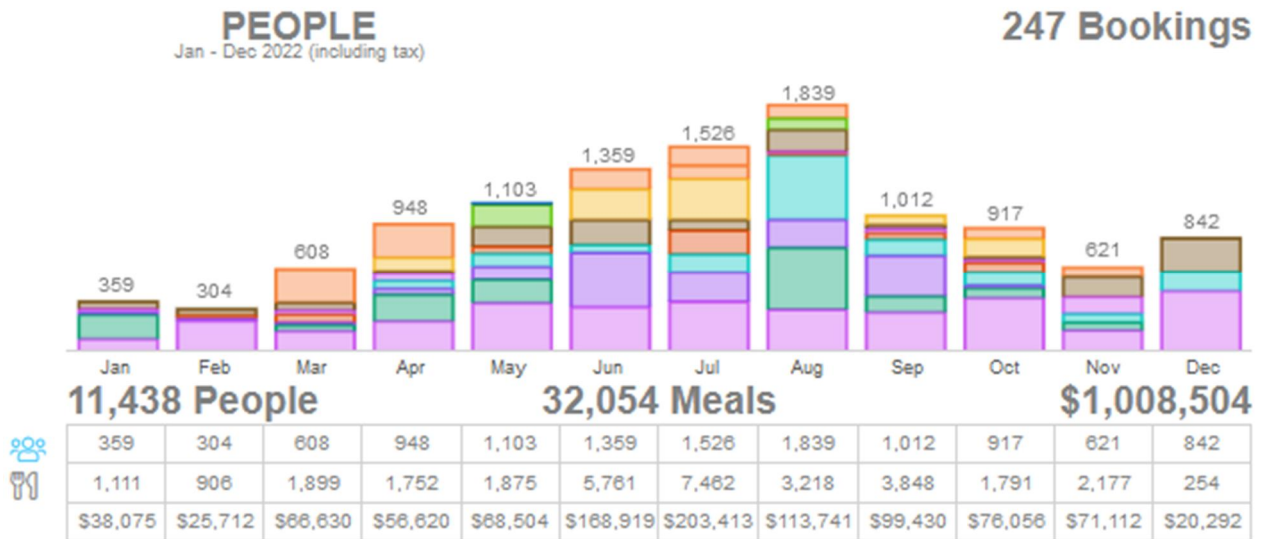
I have excluded information from 2020 and 2021 because it is totally trashed by COVID. 2019 was the last full year prior and 2022 was almost back to normal. This info comes from our reservation system, and I have included the raw data at the end. You can see the large seasonality with December through April being very low. Lapp Lodge will even this up slightly since it is a well-heated modern building with integral meeting space more amenable to winter events. I think you could ratio these numbers up by the number of beds (204 existing+75 new)/204 = 1.37 => 37% increase in capacity. Then discount it by a little (7 to 10%) because of other limitations on the campus (dining hall capacity, chapel availability, meeting hall capacity) to get new estimates of actual numbers of guests for planning purposes.

| Monthly guests by arrival date. | | | | | | | | | | | | | Annual |
|--|-----|-----|-----|-----|-----------------------------|------|------|------|------|--------|------|-----|--------|
| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sept | Oct | Nov | Dec | Total |
| 2019 | 615 | 496 | 721 | 718 | 1405 | 1460 | 1400 | 1934 | 1777 | 1050 | 1051 | 527 | 13154 |
| 2022 | 359 | 304 | 608 | 948 | 1103 | 1359 | 1526 | 1839 | 1012 | 917 | 621 | 842 | 11438 |
| Number of buses per month | | | | | | | | | | | | | |
| | 2 | 0 | 2 | 5 | 6 | 6 | 4 | 9 | 12 | 8 | 2 | 0 | 56 |
| Winter | | | | | Summer (152 days, 21.7 wks) | | | | | Winter | | | |
| It is not possible to distinguish weekend from weekday guests. Some come for a day, some for a week, and they come on any day of the week. | | | | | | | | | | | | | |
| Average of 2019 and 2022: | | | | | | | | | | | | | |
| Average weekly guests in summer 341 in 200 beds | | | | | | | | | | | | | |
| Average weekly guests in winter 161 in 200 beds | | | | | | | | | | | | | |
| Planning assumptions for after build: | | | | | | | | | | | | | |
| Overall increase in beds = 36.8% | | | | | | | | | | | | | |
| Overall increase in guests = 30.6% due to dining hall capacity and booking limitations | | | | | | | | | | | | | |
| Growth divided unevenly summer and winter b/c summer is full now | | | | | | | | | | | | | |
| Summer increase = 10% | | | | | | | | | | | | | |
| Winter increase = 62% | | | | | | | | | | | | | |
| Average weekly guests AFTER build | | | | | | | | | | | | | |
| Average weekly guests in summer 375 in 279 beds | | | | | | | | | | | | | |
| Average weekly guests in winter 261 in 279 beds | | | | | | | | | | | | | |

2019



2022



Intersection Capacity Worksheets

| 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 | 113 | 3 | 2 | 228 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| Future Vol, veh/h | 0 | 113 | 3 | 2 | 228 | 0 | 1 | 0 | 1 | 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 | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 |
| Heavy Vehicles, % | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Mvmt Flow | 0 | 128 | 3 | 2 | 259 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 259 | 0 | 0 | 131 | 0 | 0 | 393 | 393 | 130 | 393 | 394 | 259 |
| Stage 1 | - | - | - | - | - | - | 130 | 130 | - | 263 | 263 | - |
| Stage 2 | - | - | - | - | - | - | 263 | 263 | - | 130 | 131 | - |
| Critical Hdwy | 4.14 | - | - | 4.14 | - | - | 7.14 | 6.54 | 6.24 | 7.14 | 6.54 | 6.24 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.14 | 5.54 | - | 6.14 | 5.54 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.14 | 5.54 | - | 6.14 | 5.54 | - |
| Follow-up Hdwy | 2.236 | - | - | 2.236 | - | - | 3.536 | 4.036 | 3.336 | 3.536 | 4.036 | 3.336 |
| Pot Cap-1 Maneuver | 1294 | - | - | 1442 | - | - | 563 | 540 | 914 | 563 | 539 | 775 |
| Stage 1 | - | - | - | - | - | - | 869 | 785 | - | 738 | 687 | - |
| Stage 2 | - | - | - | - | - | - | 738 | 687 | - | 869 | 784 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1294 | - | - | 1442 | - | - | 562 | 539 | 914 | 561 | 538 | 775 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 562 | 539 | - | 561 | 538 | - |
| Stage 1 | - | - | - | - | - | - | 869 | 785 | - | 738 | 686 | - |
| Stage 2 | - | - | - | - | - | - | 737 | 686 | - | 868 | 784 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|----|--|--|-----|--|--|------|--|--|----|--|--|
| HCM Control Delay, s | 0 | | | 0.1 | | | 10.2 | | | 0 | | |
| HCM LOS | | | | | | | B | | | A | | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 696 | 1294 | - | - | 1442 | - | - | - |
| HCM Lane V/C Ratio | 0.003 | - | - | - | 0.002 | - | - | - |
| HCM Control Delay (s) | 10.2 | 0 | - | - | 7.5 | 0 | - | 0 |
| HCM Lane LOS | | B | A | - | A | A | - | A |
| HCM 95th %tile Q(veh) | 0 | 0 | - | - | 0 | - | - | - |

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.3 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 0 | 273 | 11 | 3 | 217 | 0 | 5 | 0 | 7 | 1 | 0 | 0 |
| Future Vol, veh/h | 0 | 273 | 11 | 3 | 217 | 0 | 5 | 0 | 7 | 1 | 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 | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 314 | 13 | 3 | 249 | 0 | 6 | 0 | 8 | 1 | 0 | 0 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 249 | 0 | 0 | 327 | 0 | 0 | 576 | 576 | 321 | 580 | 582 | 249 |
| Stage 1 | - | - | - | - | - | - | 321 | 321 | - | 255 | 255 | - |
| Stage 2 | - | - | - | - | - | - | 255 | 255 | - | 325 | 327 | - |
| 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 | 1317 | - | - | 1233 | - | - | 428 | 428 | 720 | 426 | 425 | 790 |
| Stage 1 | - | - | - | - | - | - | 691 | 652 | - | 749 | 696 | - |
| Stage 2 | - | - | - | - | - | - | 749 | 696 | - | 687 | 648 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1317 | - | - | 1233 | - | - | 427 | 427 | 720 | 420 | 424 | 790 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 427 | 427 | - | 420 | 424 | - |
| Stage 1 | - | - | - | - | - | - | 691 | 652 | - | 749 | 694 | - |
| Stage 2 | - | - | - | - | - | - | 747 | 694 | - | 679 | 648 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 0 | | | 0.1 | | | 11.6 | | | 13.6 | | |
| HCM LOS | | | | | | | B | | | B | | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 560 | 1317 | - | - | 1233 | - | - | 420 |
| HCM Lane V/C Ratio | 0.025 | - | - | - | 0.003 | - | - | 0.003 |
| HCM Control Delay (s) | 11.6 | 0 | - | - | 7.9 | 0 | - | 13.6 |
| HCM Lane LOS | B | A | - | - | A | A | - | B |
| HCM 95th %tile Q(veh) | 0.1 | 0 | - | - | 0 | - | - | 0 |

| 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 | 122 | 3 | 2 | 245 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| Future Vol, veh/h | 0 | 122 | 3 | 2 | 245 | 0 | 1 | 0 | 1 | 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 | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 |
| Heavy Vehicles, % | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Mvmt Flow | 0 | 139 | 3 | 2 | 278 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 278 | 0 | 0 | 142 | 0 | 0 | 423 | 423 | 141 | 423 | 424 | 278 |
| Stage 1 | - | - | - | - | - | - | 141 | 141 | - | 282 | 282 | - |
| Stage 2 | - | - | - | - | - | - | 282 | 282 | - | 141 | 142 | - |
| Critical Hdwy | 4.14 | - | - | 4.14 | - | - | 7.14 | 6.54 | 6.24 | 7.14 | 6.54 | 6.24 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.14 | 5.54 | - | 6.14 | 5.54 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.14 | 5.54 | - | 6.14 | 5.54 | - |
| Follow-up Hdwy | 2.236 | - | - | 2.236 | - | - | 3.536 | 4.036 | 3.336 | 3.536 | 4.036 | 3.336 |
| Pot Cap-1 Maneuver | 1273 | - | - | 1429 | - | - | 538 | 519 | 902 | 538 | 519 | 756 |
| Stage 1 | - | - | - | - | - | - | 857 | 776 | - | 721 | 674 | - |
| Stage 2 | - | - | - | - | - | - | 721 | 674 | - | 857 | 775 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1273 | - | - | 1429 | - | - | 537 | 518 | 902 | 536 | 518 | 756 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 537 | 518 | - | 536 | 518 | - |
| Stage 1 | - | - | - | - | - | - | 857 | 776 | - | 721 | 673 | - |
| Stage 2 | - | - | - | - | - | - | 720 | 673 | - | 856 | 775 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|----|--|--|-----|--|--|------|--|--|----|--|--|
| HCM Control Delay, s | 0 | | | 0.1 | | | 10.4 | | | 0 | | |
| HCM LOS | | | | | | | B | | | A | | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 673 | 1273 | - | - | 1429 | - | - | - |
| HCM Lane V/C Ratio | 0.003 | - | - | - | 0.002 | - | - | - |
| HCM Control Delay (s) | 10.4 | 0 | - | - | 7.5 | 0 | - | 0 |
| HCM Lane LOS | | B | A | - | A | A | - | A |
| HCM 95th %tile Q(veh) | | 0 | 0 | - | 0 | - | - | - |

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.3 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 0 | 294 | 11 | 3 | 233 | 0 | 5 | 0 | 7 | 1 | 0 | 0 |
| Future Vol, veh/h | 0 | 294 | 11 | 3 | 233 | 0 | 5 | 0 | 7 | 1 | 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 | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 338 | 13 | 3 | 268 | 0 | 6 | 0 | 8 | 1 | 0 | 0 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 268 | 0 | 0 | 351 | 0 | 0 | 619 | 619 | 345 | 623 | 625 | 268 |
| Stage 1 | - | - | - | - | - | - | 345 | 345 | - | 274 | 274 | - |
| Stage 2 | - | - | - | - | - | - | 274 | 274 | - | 349 | 351 | - |
| 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 | 1296 | - | - | 1208 | - | - | 401 | 404 | 698 | 398 | 401 | 771 |
| Stage 1 | - | - | - | - | - | - | 671 | 636 | - | 732 | 683 | - |
| Stage 2 | - | - | - | - | - | - | 732 | 683 | - | 667 | 632 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1296 | - | - | 1208 | - | - | 400 | 403 | 698 | 392 | 400 | 771 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 400 | 403 | - | 392 | 400 | - |
| Stage 1 | - | - | - | - | - | - | 671 | 636 | - | 732 | 681 | - |
| Stage 2 | - | - | - | - | - | - | 730 | 681 | - | 659 | 632 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 0 | | | 0.1 | | | 11.9 | | | 14.2 | | |
| HCM LOS | | | | | | | B | | | B | | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 533 | 1296 | - | - | 1208 | - | - | 392 |
| HCM Lane V/C Ratio | 0.026 | - | - | - | 0.003 | - | - | 0.003 |
| HCM Control Delay (s) | 11.9 | 0 | - | - | 8 | 0 | - | 14.2 |
| HCM Lane LOS | B | A | - | - | A | A | - | B |
| HCM 95th %tile Q(veh) | 0.1 | 0 | - | - | 0 | - | - | 0 |

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.2 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 0 | 122 | 4 | 3 | 245 | 0 | 2 | 0 | 1 | 0 | 0 | 0 |
| Future Vol, veh/h | 0 | 122 | 4 | 3 | 245 | 0 | 2 | 0 | 1 | 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 | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 |
| Heavy Vehicles, % | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Mvmt Flow | 0 | 139 | 5 | 3 | 278 | 0 | 2 | 0 | 1 | 0 | 0 | 0 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 278 | 0 | 0 | 144 | 0 | 0 | 426 | 426 | 142 | 426 | 428 | 278 |
| Stage 1 | - | - | - | - | - | - | 142 | 142 | - | 284 | 284 | - |
| Stage 2 | - | - | - | - | - | - | 284 | 284 | - | 142 | 144 | - |
| Critical Hdwy | 4.14 | - | - | 4.14 | - | - | 7.14 | 6.54 | 6.24 | 7.14 | 6.54 | 6.24 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.14 | 5.54 | - | 6.14 | 5.54 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.14 | 5.54 | - | 6.14 | 5.54 | - |
| Follow-up Hdwy | 2.236 | - | - | 2.236 | - | - | 3.536 | 4.036 | 3.336 | 3.536 | 4.036 | 3.336 |
| Pot Cap-1 Maneuver | 1273 | - | - | 1426 | - | - | 535 | 517 | 900 | 535 | 516 | 756 |
| Stage 1 | - | - | - | - | - | - | 856 | 775 | - | 719 | 673 | - |
| Stage 2 | - | - | - | - | - | - | 719 | 673 | - | 856 | 774 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1273 | - | - | 1426 | - | - | 534 | 516 | 900 | 533 | 515 | 756 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 534 | 516 | - | 533 | 515 | - |
| Stage 1 | - | - | - | - | - | - | 856 | 775 | - | 719 | 672 | - |
| Stage 2 | - | - | - | - | - | - | 718 | 672 | - | 855 | 774 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|----|--|--|-----|--|--|------|--|--|----|--|--|
| HCM Control Delay, s | 0 | | | 0.1 | | | 10.9 | | | 0 | | |
| HCM LOS | | | | | | | B | | | A | | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 618 | 1273 | - | - | 1426 | - | - | - |
| HCM Lane V/C Ratio | 0.006 | - | - | - | 0.002 | - | - | - |
| HCM Control Delay (s) | 10.9 | 0 | - | - | 7.5 | 0 | - | 0 |
| HCM Lane LOS | | B | A | - | A | A | - | A |
| HCM 95th %tile Q(veh) | | 0 | 0 | - | 0 | - | - | - |

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.4 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 0 | 294 | 15 | 4 | 233 | 0 | 7 | 0 | 8 | 1 | 0 | 0 |
| Future Vol, veh/h | 0 | 294 | 15 | 4 | 233 | 0 | 7 | 0 | 8 | 1 | 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 | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 338 | 17 | 5 | 268 | 0 | 8 | 0 | 9 | 1 | 0 | 0 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 268 | 0 | 0 | 355 | 0 | 0 | 625 | 625 | 347 | 629 | 633 | 268 |
| Stage 1 | - | - | - | - | - | - | 347 | 347 | - | 278 | 278 | - |
| Stage 2 | - | - | - | - | - | - | 278 | 278 | - | 351 | 355 | - |
| 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 | 1296 | - | - | 1204 | - | - | 397 | 401 | 696 | 395 | 397 | 771 |
| Stage 1 | - | - | - | - | - | - | 669 | 635 | - | 728 | 680 | - |
| Stage 2 | - | - | - | - | - | - | 728 | 680 | - | 666 | 630 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1296 | - | - | 1204 | - | - | 395 | 399 | 696 | 388 | 395 | 771 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 395 | 399 | - | 388 | 395 | - |
| Stage 1 | - | - | - | - | - | - | 669 | 635 | - | 728 | 677 | - |
| Stage 2 | - | - | - | - | - | - | 724 | 677 | - | 657 | 630 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 0 | | | 0.1 | | | 12.3 | | | 14.3 | | |
| HCM LOS | | | | | | | B | | | B | | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 513 | 1296 | - | - | 1204 | - | - | 388 |
| HCM Lane V/C Ratio | 0.034 | - | - | - | 0.004 | - | - | 0.003 |
| HCM Control Delay (s) | 12.3 | 0 | - | - | 8 | 0 | - | 14.3 |
| HCM Lane LOS | B | A | - | - | A | A | - | B |
| HCM 95th %tile Q(veh) | 0.1 | 0 | - | - | 0 | - | - | 0 |

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 0 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 0 | 253 | 3 | 2 | 510 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| Future Vol, veh/h | 0 | 253 | 3 | 2 | 510 | 0 | 1 | 0 | 1 | 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 | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 |
| Heavy Vehicles, % | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Mvmt Flow | 0 | 288 | 3 | 2 | 580 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 580 | 0 | 0 | 291 | 0 | 0 | 874 | 874 | 290 | 874 | 875 | 580 |
| Stage 1 | - | - | - | - | - | - | 290 | 290 | - | 584 | 584 | - |
| Stage 2 | - | - | - | - | - | - | 584 | 584 | - | 290 | 291 | - |
| Critical Hdwy | 4.14 | - | - | 4.14 | - | - | 7.14 | 6.54 | 6.24 | 7.14 | 6.54 | 6.24 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.14 | 5.54 | - | 6.14 | 5.54 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.14 | 5.54 | - | 6.14 | 5.54 | - |
| Follow-up Hdwy | 2.236 | - | - | 2.236 | - | - | 3.536 | 4.036 | 3.336 | 3.536 | 4.036 | 3.336 |
| Pot Cap-1 Maneuver | 984 | - | - | 1259 | - | - | 268 | 286 | 744 | 268 | 286 | 510 |
| Stage 1 | - | - | - | - | - | - | 713 | 669 | - | 494 | 495 | - |
| Stage 2 | - | - | - | - | - | - | 494 | 495 | - | 713 | 668 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 984 | - | - | 1259 | - | - | 267 | 285 | 744 | 267 | 285 | 510 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 267 | 285 | - | 267 | 285 | - |
| Stage 1 | - | - | - | - | - | - | 713 | 669 | - | 494 | 494 | - |
| Stage 2 | - | - | - | - | - | - | 493 | 494 | - | 712 | 668 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|----|--|--|----|--|--|------|--|--|----|--|--|
| HCM Control Delay, s | 0 | | | 0 | | | 14.2 | | | 0 | | |
| HCM LOS | | | | | | | B | | | A | | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 393 | 984 | - | - | 1259 | - | - | - |
| HCM Lane V/C Ratio | 0.006 | - | - | - | 0.002 | - | - | - |
| HCM Control Delay (s) | 14.2 | 0 | - | - | 7.9 | 0 | - | 0 |
| HCM Lane LOS | | B | A | - | A | A | - | A |
| HCM 95th %tile Q(veh) | | 0 | 0 | - | 0 | - | - | - |

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.3 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 0 | 611 | 11 | 3 | 486 | 0 | 5 | 0 | 7 | 1 | 0 | 0 |
| Future Vol, veh/h | 0 | 611 | 11 | 3 | 486 | 0 | 5 | 0 | 7 | 1 | 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 | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 702 | 13 | 3 | 559 | 0 | 6 | 0 | 8 | 1 | 0 | 0 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 559 | 0 | 0 | 715 | 0 | 0 | 1274 | 1274 | 709 | 1278 | 1280 | 559 |
| Stage 1 | - | - | - | - | - | - | 709 | 709 | - | 565 | 565 | - |
| Stage 2 | - | - | - | - | - | - | 565 | 565 | - | 713 | 715 | - |
| 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 | 1012 | - | - | 885 | - | - | 144 | 167 | 434 | 143 | 166 | 529 |
| Stage 1 | - | - | - | - | - | - | 425 | 437 | - | 510 | 508 | - |
| Stage 2 | - | - | - | - | - | - | 510 | 508 | - | 423 | 434 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1012 | - | - | 885 | - | - | 143 | 166 | 434 | 140 | 165 | 529 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 143 | 166 | - | 140 | 165 | - |
| Stage 1 | - | - | - | - | - | - | 425 | 437 | - | 510 | 505 | - |
| Stage 2 | - | - | - | - | - | - | 507 | 505 | - | 415 | 434 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 0 | | | 0.1 | | | 21.3 | | | 30.9 | | |
| HCM LOS | | | | | | | C | | | D | | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 235 | 1012 | - | - | 885 | - | - | 140 |
| HCM Lane V/C Ratio | 0.059 | - | - | - | 0.004 | - | - | 0.008 |
| HCM Control Delay (s) | 21.3 | 0 | - | - | 9.1 | 0 | - | 30.9 |
| HCM Lane LOS | C | A | - | - | A | A | - | D |
| HCM 95th %tile Q(veh) | 0.2 | 0 | - | - | 0 | - | - | 0 |

| 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 | 253 | 4 | 3 | 510 | 0 | 2 | 0 | 1 | 0 | 0 | 0 |
| Future Vol, veh/h | 0 | 253 | 4 | 3 | 510 | 0 | 2 | 0 | 1 | 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 | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 |
| Heavy Vehicles, % | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Mvmt Flow | 0 | 288 | 5 | 3 | 580 | 0 | 2 | 0 | 1 | 0 | 0 | 0 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 580 | 0 | 0 | 293 | 0 | 0 | 877 | 877 | 291 | 877 | 879 | 580 |
| Stage 1 | - | - | - | - | - | - | 291 | 291 | - | 586 | 586 | - |
| Stage 2 | - | - | - | - | - | - | 586 | 586 | - | 291 | 293 | - |
| Critical Hdwy | 4.14 | - | - | 4.14 | - | - | 7.14 | 6.54 | 6.24 | 7.14 | 6.54 | 6.24 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.14 | 5.54 | - | 6.14 | 5.54 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.14 | 5.54 | - | 6.14 | 5.54 | - |
| Follow-up Hdwy | 2.236 | - | - | 2.236 | - | - | 3.536 | 4.036 | 3.336 | 3.536 | 4.036 | 3.336 |
| Pot Cap-1 Maneuver | 984 | - | - | 1257 | - | - | 267 | 285 | 743 | 267 | 284 | 510 |
| Stage 1 | - | - | - | - | - | - | 713 | 668 | - | 493 | 494 | - |
| Stage 2 | - | - | - | - | - | - | 493 | 494 | - | 713 | 667 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 984 | - | - | 1257 | - | - | 266 | 284 | 743 | 266 | 283 | 510 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 266 | 284 | - | 266 | 283 | - |
| Stage 1 | - | - | - | - | - | - | 713 | 668 | - | 493 | 492 | - |
| Stage 2 | - | - | - | - | - | - | 491 | 492 | - | 712 | 667 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|----|--|--|----|--|--|------|--|--|----|--|--|
| HCM Control Delay, s | 0 | | | 0 | | | 15.8 | | | 0 | | |
| HCM LOS | | | | | | | C | | | A | | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 338 | 984 | - | - | 1257 | - | - | - |
| HCM Lane V/C Ratio | 0.01 | - | - | - | 0.003 | - | - | - |
| HCM Control Delay (s) | 15.8 | 0 | - | - | 7.9 | 0 | - | 0 |
| HCM Lane LOS | | C | A | - | - | A | A | - |
| HCM 95th %tile Q(veh) | | 0 | 0 | - | - | 0 | - | - |

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.4 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 0 | 611 | 15 | 4 | 486 | 0 | 7 | 0 | 8 | 1 | 0 | 0 |
| Future Vol, veh/h | 0 | 611 | 15 | 4 | 486 | 0 | 7 | 0 | 8 | 1 | 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 | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 702 | 17 | 5 | 559 | 0 | 8 | 0 | 9 | 1 | 0 | 0 |

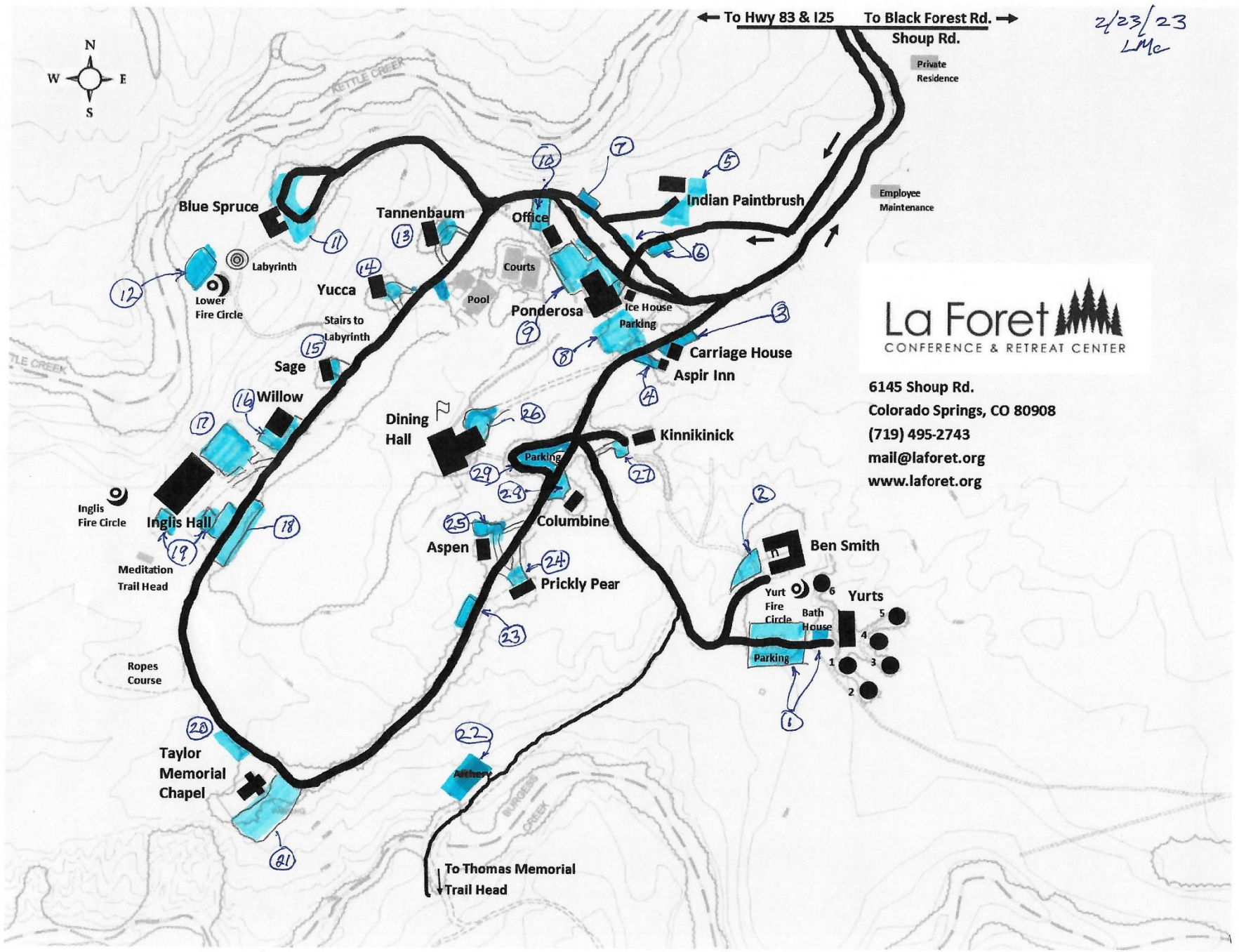
| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 559 | 0 | 0 | 719 | 0 | 0 | 1280 | 1280 | 711 | 1284 | 1288 | 559 |
| Stage 1 | - | - | - | - | - | - | 711 | 711 | - | 569 | 569 | - |
| Stage 2 | - | - | - | - | - | - | 569 | 569 | - | 715 | 719 | - |
| 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 | 1012 | - | - | 882 | - | - | 143 | 166 | 433 | 142 | 164 | 529 |
| Stage 1 | - | - | - | - | - | - | 424 | 436 | - | 507 | 506 | - |
| Stage 2 | - | - | - | - | - | - | 507 | 506 | - | 422 | 433 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1012 | - | - | 882 | - | - | 142 | 165 | 433 | 138 | 163 | 529 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 142 | 165 | - | 138 | 163 | - |
| Stage 1 | - | - | - | - | - | - | 424 | 436 | - | 507 | 502 | - |
| Stage 2 | - | - | - | - | - | - | 503 | 502 | - | 413 | 433 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 0 | | | 0.1 | | | 22.7 | | | 31.3 | | |
| HCM LOS | | | | | | | C | | | D | | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 221 | 1012 | - | - | 882 | - | - | 138 |
| HCM Lane V/C Ratio | 0.078 | - | - | - | 0.005 | - | - | 0.008 |
| HCM Control Delay (s) | 22.7 | 0 | - | - | 9.1 | 0 | - | 31.3 |
| HCM Lane LOS | | C | A | - | - | A | A | D |
| HCM 95th %tile Q(veh) | 0.3 | 0 | - | - | 0 | - | - | 0 |

Conceptual Site Plan

2/23/23
LMC



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