# LIBERTY TREE ACADEMY
# TRAFFIC IMPACT STUDY

***Prepared for:***

**Liberty Tree Academy**

***Prepared by:***


Matrix DESIGN GROUP

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Denver, Colorado 80202

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(303)-572-0200



Provide a statement sheet after the cover sheet or the Table of Contents with the following information:

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.

***Owner:***
***Liberty Tree Academy***
***8579 Eastonville Road***
***Peyton, CO 80831***

_____ _____
[Name, P.E. #_____ ]Date

**Project Number: PPR-18-023**

**May 4, 2018**
**Revised June 29, 2018**

Developer's Statement

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

_____ _____
[Name, Title]Date
[Business Name]
[Address]

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# Introduction

The Liberty Tree Academy is a proposed private school with an initial kindergarten through 8th grade enrollment of 486 student in one building on approximately 4 acres of undeveloped land. For the purposes of this Traffic Impact Study (TIS) the project is assumed to be fully built-out in 2019. In the long-range condition, the school may be expanded to include high school enrollment, but this condition is uncertain and is not included in this TIS. The purpose of this TIS is to assess the effects the site traffic has on the intersection serving the site in 1) the short range condition with 486 students, and 2) the long-range condition, 2040, with the same student enrollment. The remaining site may be developed to include an alternate use, but due to development uncertainty is not included in this TIS.

The proposed site is bounded on the north by Eastonville Road and the eastern property line, on the east by undeveloped property, on the south by a residential property, and on the west by Eastonville Road. Figure 1 depicts the location of the site.

# Project Description

Liberty Tree Academy is proposed as a single two-story building and includes administrative offices, class rooms, gymnasium, warming kitchen, and ancillary rooms. The building area is 39,676 square feet. Adjacent to and south of the building is a fenced play area for younger aged children. Exterior to the building the facility includes a circular one-way drive aisle, with a near side drop off lane. Parking is located along the northwest and north portion of the site. Pedestrians are accommodated with sidewalks and curb ramps. Bicyclists share the drive aisle. (In the future, an attached building with an additional 11, 640 square feet of class rooms is proposed. With this addition the total building area would be 51,316 square feet. This total building area is not included in this TIS).

Access to the Site is proposed through one primary location at the existing Eastonville Road/Motley Road intersection. Eastonville Road is planned as an urban minor arterial roadway. Motley Road is a local street. The existing intersection is configured as a “T” which will be modified to a four–leg intersection, with stop control on the side street.00Figure 2 shows the proposed access locations and internal drive aisle and circulation.


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**Figure 1**

**VICINITY MAP**

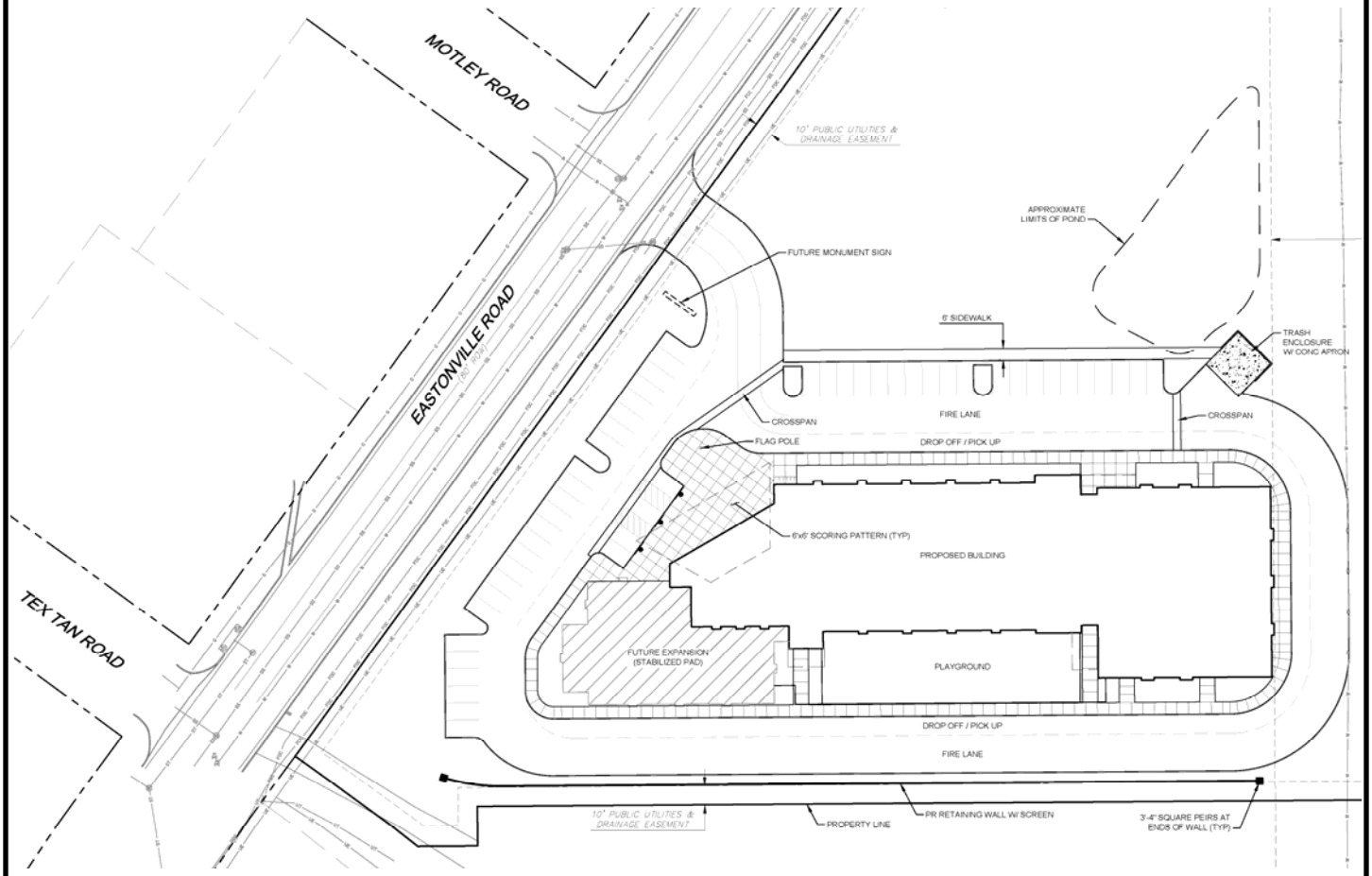


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**Figure 2**

**SITE PLAN**

# Existing Traffic Conditions

## Roadway Network

The existing Eastonville Road is classified as an urban minor arterial roadway with a right of way (ROW) width of 80 feet with an ultimate ROW of 100 feet. Motley Road is a local street with a ROW of 60 feet. The existing intersection configuration is described below:

**Eastonville Road/Motley Road**

Eastonville Road and Motley Road are paved roadways with curb and gutter. Motley Road is stop controlled. The existing intersection geometry at the Eastonville Road and Motley Road intersection includes:

- Northbound, striped center two way turn lane, and one through lane, and no right turn lane.
- Southbound, striped center two way turn lane, and one through lane, and one right turn lane.
- Eastbound, shared right/left turn lane.

**Eastonville Road/Judd Orr Road**

Eastonville Road and Meridan/Judd Orr Road are paved roadways with curb and gutter. East of the intersection Judd Orr Road the south curb and gutter discontinues. The intersection is all-way stop controlled. The existing intersection geometry at the Eastonville Road and Meridan/Judd Orr Road intersection includes:

- Northbound, one striped left turn lane, one shared through/right turn lane, and no right turn lane.
- Southbound, one striped left turn lane, one shared through/right turn lane, and no right turn lane.
- Westbound, one striped left turn lane, one through lane, and an exclusive right turn lane.
- Eastbound, one striped left turn lane, one shared through/right turn lane, and no right turn lane.

***Eastonville Road/Stapleton Drive***
Eastonville Road and Stapleton Drive are paved roadway without curb and gutter, however the existing eastbound approach has curb and gutter. The intersection is stop controlled on the eastbound and westbound approaches. The existing intersection geometry at the Eastonville Road and Stapleton Drive intersection includes.

- Northbound, shared left/through/right turn lane.
- Southbound, one striped left turn lane, one shared through/right turn lane, and on right turn lane.
- Westbound, one striped left turn lane, one through lane, and an exclusive right turn lane.
- Eastbound, one striped left turn lane, one shared through/right turn lane, and one right turn lane.

## Traffic Volumes

Traffic counts were conducted for the intersection of Eastonville Road/Motley Road, Eastonville Road/Judd Orr Road, and Eastonville Road/Stapleton Drive. Figure 3 shows both AM and PM peak hour intersection turning movement counts. Appendix A contains the raw traffic count data. The AM peak hour generally occurs between 7:00 and 8:00 AM. The PM peak hour generally occurs between 4:45 and 5:45 PM.

## Intersection and Roadway Capacity Analysis

For unsignalized (side-street stop controlled) intersections, Synchro 9 software was used. The software applies the Transportation Research Board's 2010 *Highway Capacity Manual* (HCM) methodology for unsignalized intersections to determine average control delay per vehicle (measured in seconds) for each stop-controlled movement. The method incorporates delay associated with deceleration, acceleration, stopping, and moving up in the queue. For side street stop-controlled intersections, delay is represented as the average delay per vehicle for the worst approach, not the overall intersection. Table 1 summarizes the relationship between delay and level of service.

**Table 1 – Unsignalized Intersection Level of Service Criteria**

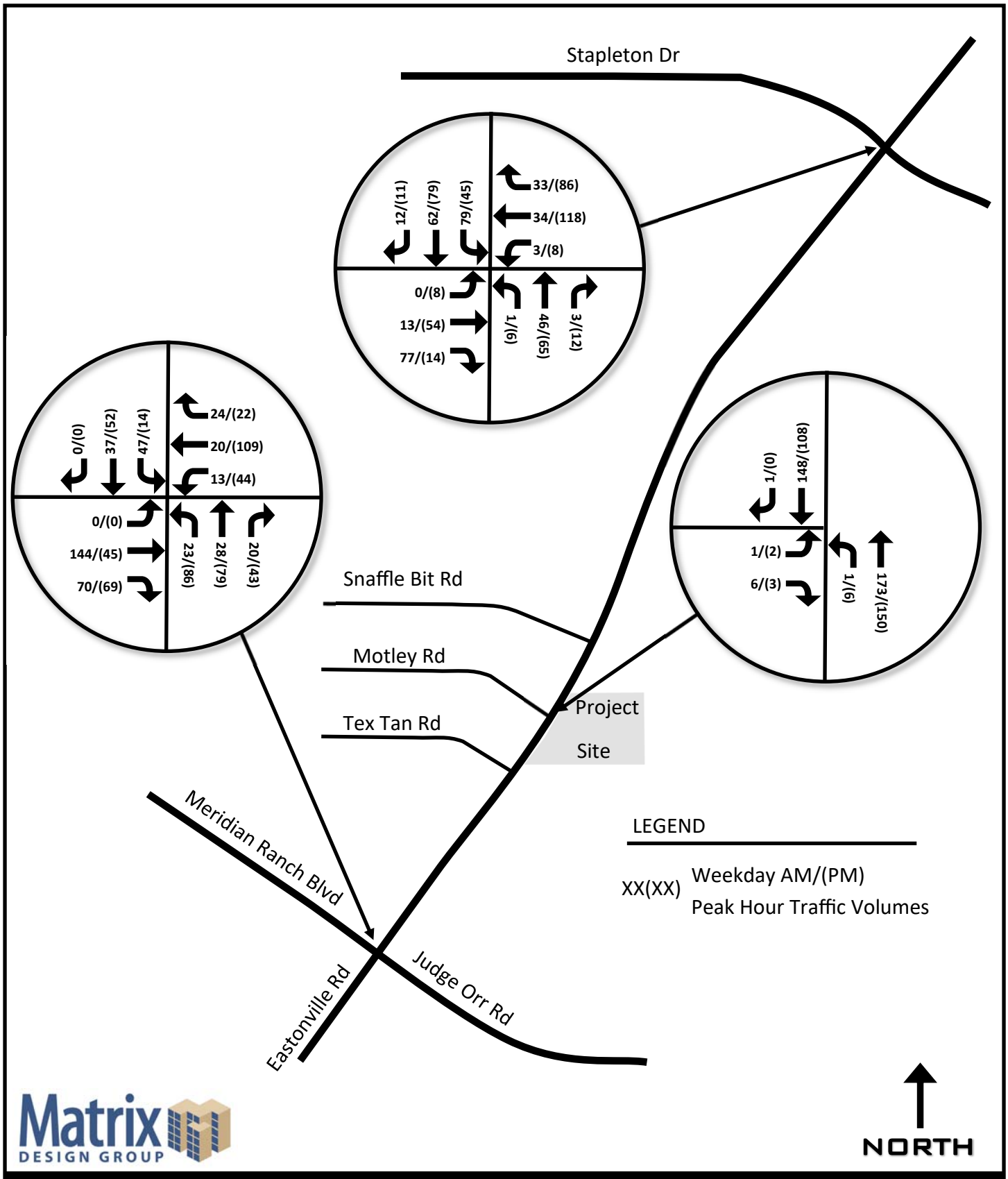
| Level of Service | Average Total Delay (seconds per vehicle) | Description |
|---|---|---|
| A | < 10 | Little or no conflicting traffic for minor street approach. |
| B | >10 to 15 | Minor street begins to notice absence of available gaps. |
| C | >15 to 25 | Minor street begins experiencing delay for available gaps. |
| D | >25 to 35 | Minor street starts to experience queuing. |
| E | >35 to 50 | Extensive minor street queuing due to insufficient gaps. |
| F | > 50 | Insufficient gaps to allow minor street traffic to cross safely through the major street traffic stream. |

Source: *HCM2010 Highway Capacity Manual* (Transportation Research Board, 2010)

Table 2 presents the existing 2018 intersection levels of service (LOS). As presented, the Eastonville Road/Motley Road, Eastonville Road/Judd Orr Road, and Eastonville Road/Stapleton Drive intersections currently operates well with an overall LOS of B or better in both the AM and PM peak hour.

**Table 2 – 2018 Existing Traffic Level of Service**

| Intersection | Control | AM LOS | PM LOS |
|---|---|---|---|
| **Eastonville Rd/Motley Rd** | Un-signalized | | |
| -Eastbound Left/Right | Stop | A | A |
| -Northbound Left | Free | A | A |
| -Northbound Thru | Free | A | A |
| -Southbound Thru/Right | Free | A | A |
| **Eastonville Rd/Judge Orr Rd** | Un-signalized | **A** | **A** |
| -Eastbound Left | Stop | A | A |
| -Eastbound Thru/Right | Stop | A | A |
| -Westbound Left | Stop | A | A |
| -Westbound Thru | Stop | A | A |
| -Westbound Right | Stop | A | A |
| -Northbound Left | Stop | A | B |
| -Northbound Thru/Right | Stop | A | A |
| -Southbound Left | Stop | A | A |
| -Southbound Thru/Right | Stop | A | A |
| **Eastonville Rd/Stapleton Dr** | Un-signalized | | |
| -Eastbound Left/Thru/Right | Stop | B | B |
| -Westbound Left | Stop | B | B |
| -Westbound Thru/Right | Stop | B | B |
| -Northbound Left/Thru/Right | Free | A | A |
| -Southbound Left/Thru/Right | Free | A | A |




**LIBERTY TREE ACADEMY**

**TRAFFIC IMPACT STUDY**

**Figure 3**

**EXISTING TRAFFIC VOLUMES**

# Future Traffic

## Future Background Traffic

Future background traffic is intended to show how existing volumes are expected to grow over time without the proposed development. The background traffic is established based on the adjacent US 24 highway growth rate since the two facilities are in the vicinity to each other and parallel. Colorado Department of Transportation performs regional forecast modeling and publishes them on their website. In the case of US24 the annual growth rate of 1.5% per year is anticipated and is therefore assumed as the traffic background rate for Eastonville Road.

## Trip Generation

The vehicle trips associated with a private school are calculated using the *ITE Trip Generation Manual, Tenth Edition.* This methodology consists of choosing an independent variable for the land use for a particular time of day. The independent variable correlates to the variation in trip ends and is related to the land use. The value of the independent variable is either multiplied by a weighted average or used in a regression equation to calculate the trips generated by the land use. The *ITE Trip Generation Manual* provides guidance on when to use the weighted average versus the regression equation. In most cases, the regression equations are recommended when there are adequate study data points.

ITE Trip Generation Code 534, Private School (K-8) is used since it most closely represents the Liberty Tree Academy. As a K-8 school sagged start times are not considered. Experience with similar school indicate that a high percentage of students have siblings therefore there is a likelihood of carpooling, so the trip generation established through ITE may be conservative. A school bus program may be implemented if sufficient families are interested in paying for the service. For the purpose of this study bus service is not considered.

**Table 3 – Trip Generation**

| | ITE | AM Peak | | | PM Peak* | | | Daily | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Land Use** | **Code** | **Total** | **In** | **Out** | **Total** | **In** | **Out** | **Total** | **In** | **Out** |
| **Private School (K-8)** | 534 | 442 | 243 | 199 | 126 | 58 | 68 | 1,997 | 999 | 998 |
| *PM peak hour of adjacent street traffic. | | | | | | | | | | |

## Trip Distribution

The site generated trips are assigned to the roadway network based on existing counts and the external trip distribution assumptions. Since the site access is through the Eastonville Rd/Motley Rd intersection site trips are assigned predominately to/from Eastonville Road with a smaller percentage to/from the west, which serves adjacent residential area. As a north/south minor arterial roadway Eastonville Road is anticipated to accommodate 95% of the total site trips, with 50% to/from the south, and 45% to/from the north. Motley Road is anticipated to accommodate 5% of the site generated trips. Figure 3 and Figure 5 shows the percentage of trips that will be traveling along the roadway network.

Provide the independent variable and units used to determine the Daily, AM & PM Peak trips.

# 2019 Short Range Traffic Analysis

Synchro 9 software is a traffic modeling software that analyzes intersections based on a variety of variable. The variables are used to calibrate/customize the model to better reflect site specific conditions. One variable "Peak Hour Factor (PHF)" assigns traffic to the intersection based on traffic intensity. Since schools typically have a very intense traffic pattern the PHF was modified to reflect arrival and departure time. (PHF was changed from the standard 0.92 to 0.5 which better reflect the school traffic pattern).

In addition to considering the school traffic intensity in the Synchro analysis, information presented in the Municipal School Transportation Assistance (MSTA) was considered. The state of North Carolina prepared this research study and found that the school traffic vehicular queue lengths should be considered since insufficient internal circulation pattern, loading area, and parking can create traffic flow problems. Traffic queue analysis is presented in the following sections.

## Transportation Improvements

The proposed roadway improvements at the Eastonville Road/Motley Road intersection include the addition of a westbound approach with one entering lane and two exiting lane (one shared left/thru lane and one right turn lane). The intersection lane configuration is presented below:

- Northbound – Left Turn Lane, Shared Thru/Right Turn Lane
- Southbound – Left Turn Lane, Shared Thru/Right Turn Lane
- Eastbound – Shared Right/Thu/Left Turn Lane
- Westbound – Shared Thu/Left Turn Lane, Right Turn Lane

No existing sidewalks along Easton Road and vicinity intersecting roadways exists. To serve pedestrian Eastonville Road is proposed to include detached sidewalks and intersection cross walks in its ultimate configuration. Right-Of-Way is being dedicated to accommodate the ultimate typical section, but since there are no receiving pedestrian facilities present no accommodation are proposed other than ROW.

Liberty Tree Academy will supply crossing guards at the Eastonville Rd/Motley Road to help students cross Eastonville Rd. In addition, the site includes accommodation for pedestrians.

## Total Traffic

The existing traffic plus the background growth is added to the proposed 2019 developed traffic volumes to establish 2019 total traffic. Figure 4 shows the 2019 total volumes for both the AM and PM peak periods.

## Level of Service Analysis

To determine how efficiently and effectively the roadway system and intersection accommodates the short-range future traffic volumes, the intersection serving the

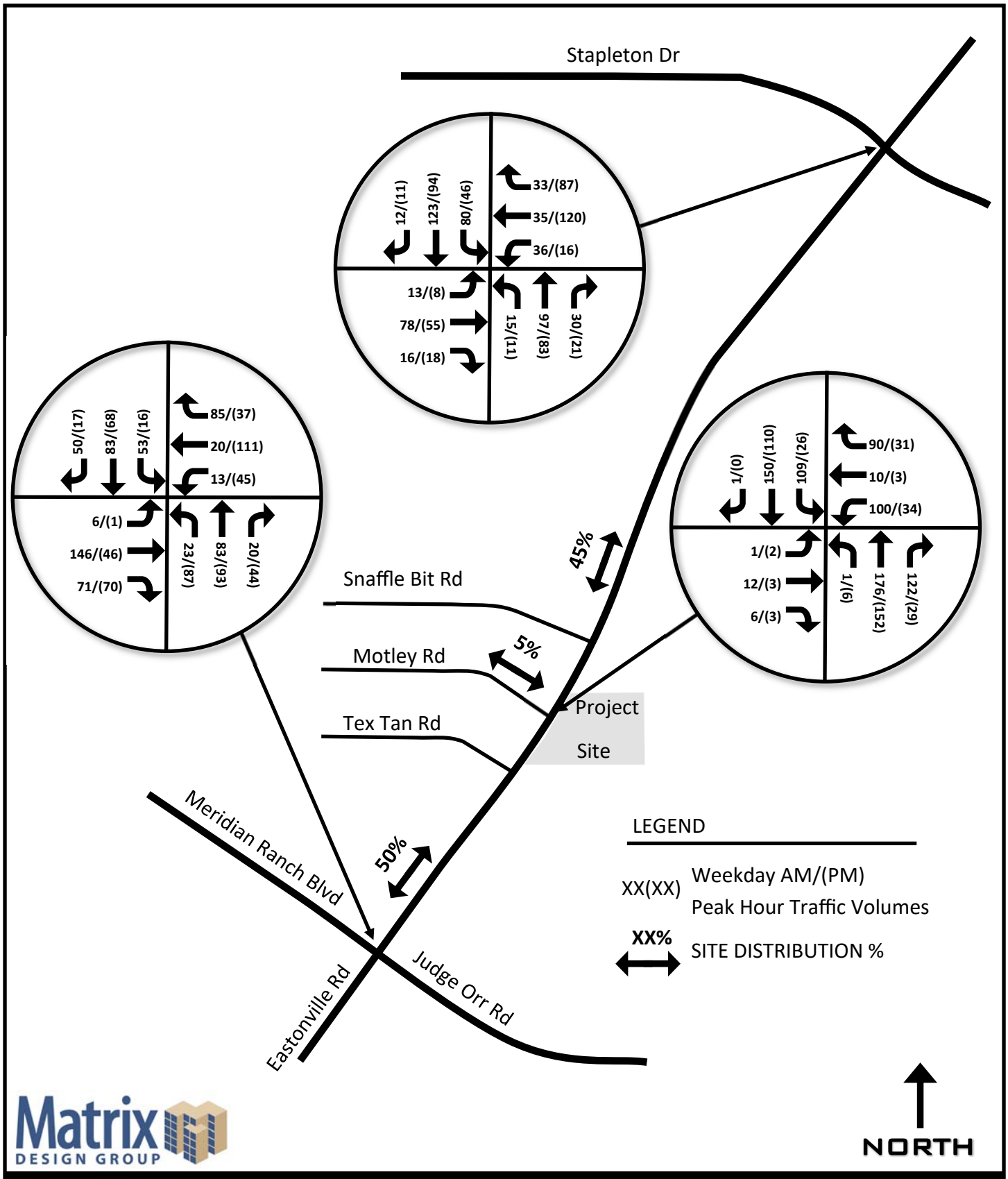
development was analyzed using Synchro 9 software. Table 4 presents the results by time period. Appendix C contains the 2019 total traffic analysis output for the appropriate intersection control condition.

**Table 4 – 2019 Total Traffic Level of Service**

| Intersection | Control | AM LOS | AM Queue | PM LOS | PM Queue |
|---|---|---|---|---|---|
| **Eastonville Rd/Motley Rd** | Un-signalized | | | | |
| -Eastbound Left/Thru/Right | Stop | C | 6 | B | 0 |
| -Westbound Left/Thru | Stop | F | 206 | B | 10 |
| -Westbound Right | Stop | B | 20 | A | 4 |
| -Northbound Left | Free | A | 0 | A | 0 |
| -Northbound Thru/Right | Free | A | 0 | A | 0 |
| -Southbound Left | Free | A | 14 | A | 2 |
| -Southbound Thru/Right | Free | A | 0 | A | 0 |
| **Eastonville Rd/Judge Orr Rd** | Un-signalized | **B** | | **A** | |
| -Eastbound Left | Stop | A | 0 | A | 0 |
| -Eastbound Thru/Right | Stop | B | 34 | A | 14 |
| -Westbound Left | Stop | A | 2 | A | 6 |
| -Westbound Thru | Stop | A | 2 | B | 14 |
| -Westbound Right | Stop | A | 5 | A | 4 |
| -Northbound Left | Stop | A | 2 | B | 12 |
| -Northbound Thru/Right | Stop | B | 14 | B | 18 |
| -Southbound Left | Stop | A | 6 | A | 2 |
| -Southbound Thru/Right | Stop | B | 18 | A | 10 |
| **Eastonville Rd/Stapleton Dr** | Un-signalized | | | | |
| -Eastbound Left/Thru/Right | Stop | C | 20 | B | 14 |
| -Westbound Left | Stop | C | 8 | C | 8 |
| -Westbound Thru/Right | Stop | B | 8 | B | 26 |
| -Northbound Left/Thru/Right | Free | A | 0 | A | 4 |
| -Southbound Left/Thru/Right | Free | A | 4 | A | 0 |

As presented in Table 4, with short range improvements, the overall intersections are expected to perform well and meet established performance standards at 2019 short range condition, except for the westbound left/through lane, which operates at LOS F. When turning movements are anticipated to operate at LOS F, queue length, and delay are also studied. The 2010 *Highway Capacity Manual* (HCM) analysis results show a 95% queue length of 206 feet and a delay of 138.5 seconds. This internal delay and queue length is typical of school traffic and vehicles either divert or experience the delay.

The MSTA offers guidance on internal queue and the Average Queue Length of 1,212 feet is recommended. The Liberty Tree Academy internal 20 feet wide circulatory roadway has an available queue length of 1,380 feet, in addition to 750 feet of loading parking. There are 35 restricted parking stalls that serve administrative/teacher parking, and 10 short term parking stalls that serve parents needing class room or office visits. As recommended in MSTA the visitor parking is located at the end of the circulatory roadway to minimize congestion. Based on these results the proposed site is in general conformance with the guidelines presented in the MSTA.

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**TRAFFIC IMPACT STUDY**

**Figure 4**

**2019 AM AND PM TOTAL TRAFFIC VOLUMES**

# 2040 Long Range Traffic Analysis

Similar to the 2019 Short Range Traffic Analysis, since schools typically have a very intense traffic pattern the PHF was modified to reflect arrival and departure time. (PHF was changed from the standard 0.92 to 0.50 which better reflect the school traffic pattern).

In addition, the Municipal School Transportation Assistance (MSTA) was considered regarding traffic vehicular queue lengths, internal circulation pattern, loading area, and parking. Traffic queue analysis is presented in the following sections.

## Transportation Improvements

The proposed roadway improvements include the addition of a westbound approach with one entering lane and two exiting lane (one shared left/thru lane, and one right turn lane). The intersection lane configuration is presented below:

- Northbound – Left Turn Lane, Shared Thru/Right Turn Lane
- Southbound – Left Turn Lane, Shared Thru/Right Turn Lane
- Eastbound – Shared Right/Thu/Left Turn Lane.
- Westbound – Shared Thu/Left Turn Lane, Right Turn Lane

## Total Traffic

The background traffic is established based on the adjacent US 24 highway growth rate since the two facilities are in the vicinity to each other and parallel. The US24 annual growth rate of 1.5% per year is anticipated and is therefore assumed as background for Eastonville Road, Meridian/Judge Orr Road and Stapleton Drive. The site traffic is added on top of the background volumes to get 2040 total traffic. Figure 5 show the 2040 total traffic volumes for both the AM and PM peak hours.

## Level of Service Analysis

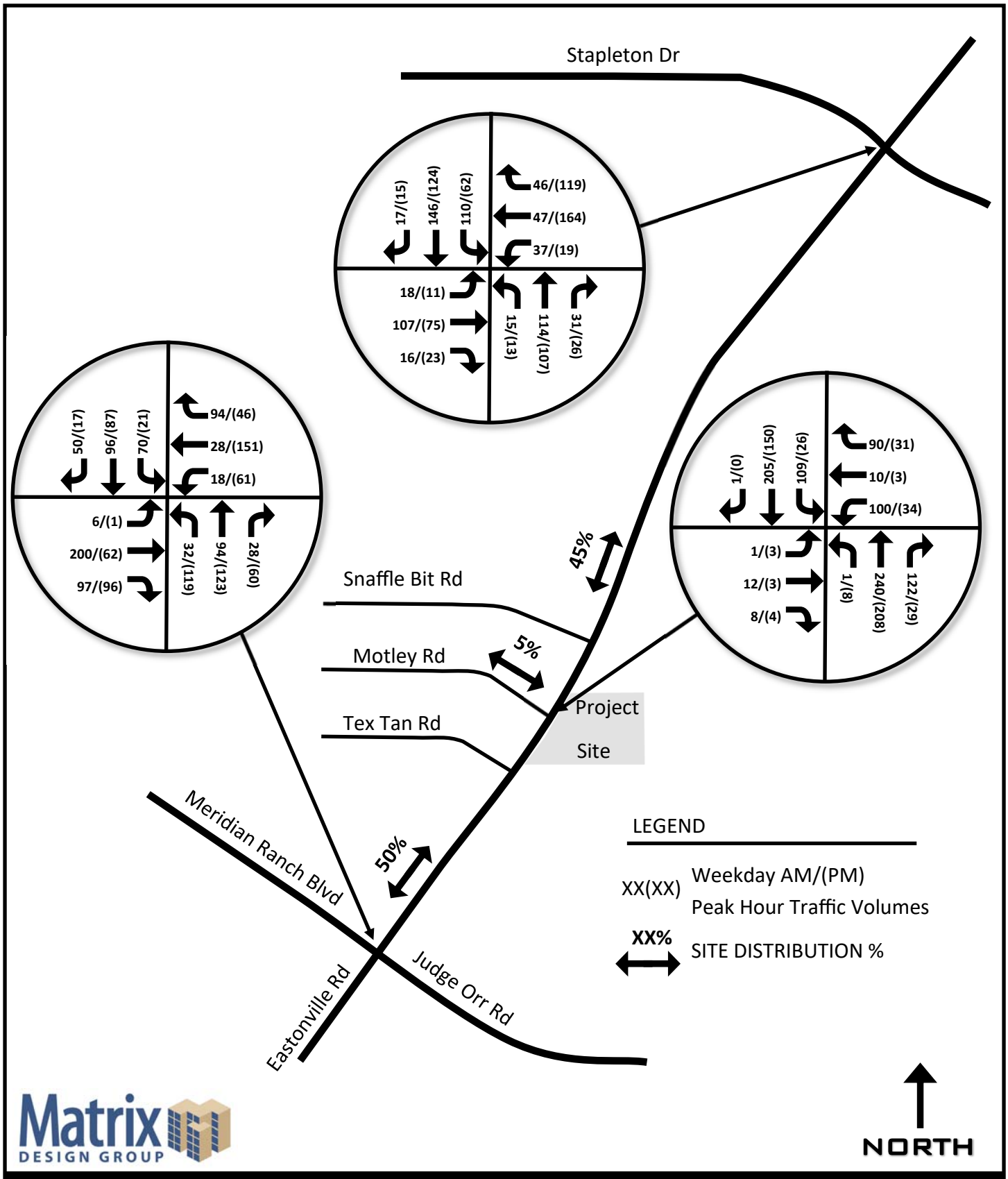
To determine how efficiently and effectively the roadway system and intersection accommodates the future traffic volumes, the intersection serving the development is analyzed using Synchro 9 software. The results are presented as Levels of Service. Table 5 present the results by time period. Appendix D contains the 2040 total traffic analysis output for the appropriate intersection traffic control.

**Table 5 – 2040 Total Traffic TWSC Level of Service**

| Intersection | Control | AM LOS | AM Queue | PM LOS | PM Queue |
|---|---|---|---|---|---|
| **Eastonville Rd/Motley Rd** | Un-signalized | | | | |
| -Eastbound Left/Thru/Right | Stop | C | 6 | B | 2 |
| -Westbound Left/Thru | Stop | F | 270 | C | 12 |
| -Westbound Right | Stop | B | 22 | B | 6 |
| -Northbound Left | Free | A | 0 | A | 0 |
| -Northbound Thru/Right | Free | A | 0 | A | 0 |
| -Southbound Left | Free | A | 16 | A | 2 |
| -Southbound Thru/Right | Free | A | 0 | 0 | 0 |
| **Eastonville Rd/Judge Orr Rd** | Un-signalized | **B** | | **B** | |
| -Eastbound Left | Stop | A | 0 | B | 0 |
| -Eastbound Thru/Right | Stop | C | 66 | B | 26 |
| -Westbound Left | Stop | B | 2 | B | 8 |
| -Westbound Thru | Stop | A | 4 | B | 24 |
| -Westbound Right | Stop | B | 12 | A | 6 |
| -Northbound Left | Stop | B | 4 | B | 20 |
| -Northbound Thru/Right | Stop | B | 18 | B | 30 |
| -Southbound Left | Stop | B | 10 | B | 2 |
| -Southbound Thru/Right | Stop | B | 22 | B | 16 |
| **Eastonville Rd/Stapleton Dr** | Un-signalized | | | | |
| -Eastbound Left/Thru/Right | Stop | C | 38 | C | 20 |
| -Westbound Left | Stop | C | 10 | B | 4 |
| -Westbound Thru/Right | Stop | B | 14 | C | 58 |
| -Northbound Left/Thru/Right | Free | A | 0 | A | 0 |
| -Southbound Left/Thru/Right | Free | A | 6 | A | 2 |

As presented in Table 5, the overall intersections are expected to perform well and meet established performance standards at 2040 long range condition, except for the westbound left/through lane, which operates at LOS F. The 2010 *Highway Capacity Manual* (HCM) analysis results show a 95% queue length of 270 feet and a delay of 253.2 seconds. This internal delay and queue length is typical of school traffic and vehicles either divert or experience the delay.

Liberty Tree Academy internal circulatory roadway has an available internal queue length of 1,380 feet, in addition to 750 feet of loading parking and parking. As recommended in MSTA the visitor parking is located at the end of the circulatory roadway to minimize congestion. Based on these results the proposed site is in general conformance with the guidelines presented in the MSTA.

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**TRAFFIC IMPACT STUDY**

**Figure 5**

**2040 AM AND PM TOTAL TRAFFIC VOLUMES**

# Mitigation Improvements

A couple improvements that can be considered to mitigate the delay include, 1) changing the intersection control from two-way stop to all-way stop or 2) changing the intersection to roundabout control, and 3) additional access north of the school access.

## All Way Stop Control

One way to improve operation at the of Eastonville Rd/Motely Rd intersection is to change of traffic control from a two way stop control (TWSC) to an all way stop control (AWSC). This can be accomplished without further ROW or major improvements to the roadway. A disadvantage to this option is the increase in delay to Eastonville Road corridor. Since future school expansion and north lot development is uncertain this mitigation is not recommended.

## Roundabout

Another mitigation option is changing the intersection to a roundabout. This alternative improves overall intersection delay, however has some challenges in implementation. These challenges include 1) less pedestrian friendly due to the free flow traffic condition, 2) Increase ROW need, and 3) increase construction costs associated with removal and replacement of a portion of the existing intersection.

## Alternative Access

An alternative access north of the school access is a consideration as a defined development plan is prepared for the school addition and remain parcel. It is uncertain whether the school will be expanded to include K-8 or high school. The development plan on the north property is also uncertain. Once the development plans are prepared another access may be beneficial.

# Findings and Recommendations

Based on the traffic operational analysis, the following finding and recommendations are presented.

- For the purpose of the TIS the Liberty Tree Academy development is will accommodate 486 K-8 students with build-out in 2019. A future expansion is proposed, but specific use is uncertain so analysis is not included in this TIS.

- At 2040 build-out, the project is expected to generate 442 trips in the AM peak hour, 126 trips in the PM peak hour, and 1,997 trips ADT.

Provide recommendations regarding school zone speed limit along Eastonville. Is it warranted to provide a reduced speed limit in the school zone? If it is, then update the striping and signage plan accordingly.

- It is anticipated that the proposed development will make the following improvements to the Eastonville Rd/Motley Rd intersection at 2019 build-out:

    - Northbound – Left Turn Lane, Shared Thru/Right Turn Lane
    - Southbound – Left Turn Lane, Shared Thru/Right Turn Lane
    - Eastbound – Shared Right/Thru/Left Turn Lane, stop controlled
    - Westbound – Shared Thru/Left Turn Lane, Right Turn Lane
    - Two Way Stop Control

- With the Eastonville Rd/Motley Rd intersection improvements in the 2019 Short Range total traffic condition and the 2040 Long Range total traffic condition, the intersection impeding movements are expected to operate at LOS C or better with one exception. The westbound shared left/through lane experiences internal traffic queue and delay typical of school traffic patterns. In accordance with MSTA the site traffic queue can be accommodated internal to the site drive aisle.

- Queue and delay experienced by the site exiting traffic can be mitigated, by implementing an all-way stop intersection control improved operation, but overall corridor delay is increased. Roundabout mitigation also improves overall intersection operation but introduces pedestrian safety concerns, ROW acquisition, and additional cost. Due to the school expansion and north property uncertainty, improvements without these details may not address the comprehensive traffic condition.

- Analysis indicates that the Eastonville Rd/Judge Orr Rd and the Eastonville Rd/Stapleton Dr intersections are expected to operate at LOS C or better in the near range and long-range total traffic conditions without intersection improvements.

## Conclusion

The Traffic Impact Study results indicate in the 2019 Short Range condition and the 2040 Long Range condition with the Liberty Tree Academy, K-8, traffic and the Eastonville Rd/Moltley Rd intersection improvements operates well with one except. The westbound shared left/through lane experiences internal queue and delay typical of school traffic patterns. The site queue can be accommodated internal within the site drive aisles. Due to introducing delay to the Eastonville Rd corridor associated with all-way stop control and the impacts of a roundabout these mitigation options should be studied in greater detail. In the near term the project, as proposed, does not adversely impact the existing and proposed intersection operation or roadway corridor.

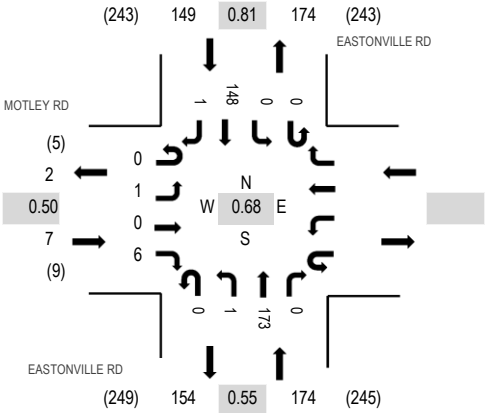
# Appendix A:
# Existing Traffic Counts

All Traffic Data Services Inc.

(303) 216-2439
www.alltrafficdata.net

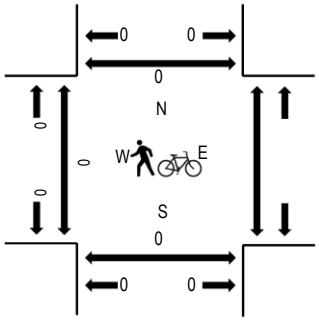
**Location:** 1 EASTONVILLE RD & MOTLEY RD AM
**Date and Start Time:** Wednesday, April 11, 2018
**Peak Hour:** 07:00 AM - 08:00 AM
**Peak 15-Minutes:** 07:00 AM - 07:15 AM

## Peak Hour - All Vehicles




Note: Total study counts contained in parentheses.

## Peak Hour - Pedestrians/Bicycles on Crosswalk




## Traffic Counts

| Interval Start Time | MOTLEY RD Eastbound | | | | Westbound | | | | EASTONVILLE RD Northbound | | | | EASTONVILLE RD Southbound | | | | Total | Rolling Hour | Pedestrain Crossings | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | | | West | East | South | North |
| 7:00 AM | 0 | 0 | 0 | 0 | | | | | 0 | 0 | 79 | 0 | 0 | 0 | 42 | 0 | 121 | 330 | 0 | | 0 | 0 |
| 7:15 AM | 0 | 0 | 0 | 2 | | | | | 0 | 0 | 68 | 0 | 0 | 0 | 45 | 1 | 116 | 249 | 0 | | 0 | 0 |
| 7:30 AM | 0 | 0 | 0 | 4 | | | | | 0 | 1 | 13 | 0 | 0 | 0 | 38 | 0 | 56 | 205 | 0 | | 0 | 0 |
| 7:45 AM | 0 | 1 | 0 | 0 | | | | | 0 | 0 | 13 | 0 | 0 | 0 | 23 | 0 | 37 | 177 | 0 | | 0 | 0 |
| 8:00 AM | 0 | 0 | 0 | 1 | | | | | 0 | 1 | 10 | 0 | 0 | 0 | 27 | 1 | 40 | 167 | 0 | | 0 | 0 |
| 8:15 AM | 0 | 0 | 0 | 0 | | | | | 0 | 1 | 33 | 0 | 0 | 0 | 38 | 0 | 72 | | 0 | | 0 | 0 |
| 8:30 AM | 0 | 0 | 0 | 1 | | | | | 0 | 0 | 13 | 0 | 0 | 0 | 14 | 0 | 28 | | 0 | | 0 | 0 |
| 8:45 AM | 0 | 0 | 0 | 0 | | | | | 0 | 0 | 13 | 0 | 0 | 0 | 14 | 0 | 27 | | 0 | | 0 | 0 |
| Count Total | 0 | 1 | 0 | 8 | | | | | 0 | 3 | 242 | 0 | 0 | 0 | 241 | 2 | 497 | | 0 | | 0 | 0 |
| Peak Hour | 0 | 1 | 0 | 6 | | | | | 0 | 1 | 173 | 0 | 0 | 0 | 148 | 1 | 330 | | 0 | | 0 | 0 |

All Traffic Data Services Inc.
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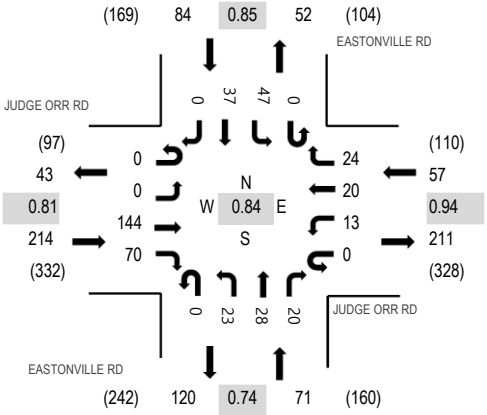
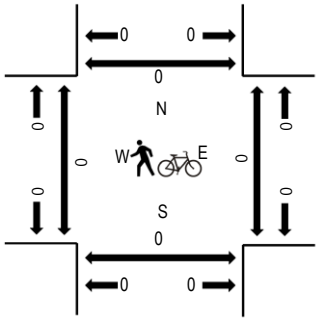
**Location:** 1 EASTONVILLE RD & JUDGE ORR RD AM
**Date and Start Time:** Tuesday, June 19, 2018
**Peak Hour:** 07:00 AM - 08:00 AM
**Peak 15-Minutes:** 07:15 AM - 07:30 AM

## Peak Hour - All Vehicles




Note: Total study counts contained in parentheses.

## Peak Hour - Pedestrians/Bicycles on Crosswalk




## Traffic Counts

| Interval Start Time | JUDGE ORR RD Eastbound | | | | JUDGE ORR RD Westbound | | | | EASTONVILLE RD Northbound | | | | EASTONVILLE RD Southbound | | | | Total | Rolling Hour | Pedestrain Crossings | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | | | West | East | South | North |
| 7:00 AM | 0 | 0 | 40 | 16 | 0 | 3 | 3 | 6 | 0 | 5 | 1 | 6 | 0 | 18 | 9 | 0 | 107 | 426 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 0 | 44 | 22 | 0 | 4 | 1 | 11 | 0 | 7 | 5 | 5 | 0 | 17 | 11 | 0 | 127 | 392 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 33 | 10 | 0 | 4 | 7 | 2 | 0 | 3 | 5 | 4 | 0 | 9 | 13 | 0 | 90 | 344 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 0 | 27 | 22 | 0 | 2 | 9 | 5 | 0 | 8 | 17 | 5 | 0 | 3 | 4 | 0 | 102 | 349 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 1 | 16 | 9 | 0 | 5 | 6 | 4 | 0 | 4 | 5 | 6 | 0 | 9 | 8 | 0 | 73 | 345 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 1 | 16 | 11 | 0 | 3 | 3 | 2 | 0 | 2 | 12 | 4 | 0 | 9 | 15 | 1 | 79 | | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 0 | 17 | 16 | 0 | 5 | 8 | 2 | 0 | 11 | 8 | 7 | 0 | 6 | 14 | 1 | 95 | | 0 | 0 | 0 | 1 |
| 8:45 AM | 0 | 0 | 18 | 13 | 0 | 4 | 8 | 3 | 0 | 10 | 14 | 6 | 0 | 3 | 19 | 0 | 98 | | 0 | 0 | 0 | 0 |
| Count Total | 0 | 2 | 211 | 119 | 0 | 30 | 45 | 35 | 0 | 50 | 67 | 43 | 0 | 74 | 93 | 2 | 771 | | 0 | 0 | 0 | 1 |
| Peak Hour | 0 | 0 | 144 | 70 | 0 | 13 | 20 | 24 | 0 | 23 | 28 | 20 | 0 | 47 | 37 | 0 | 426 | | 0 | 0 | 0 | 0 |

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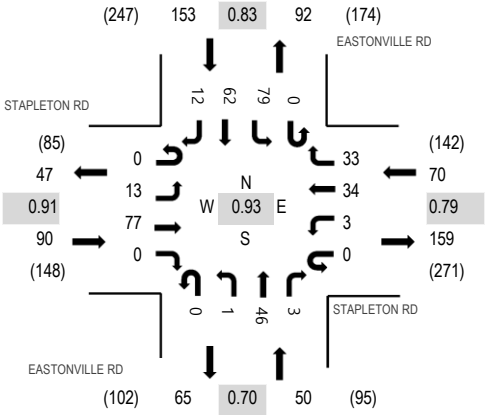
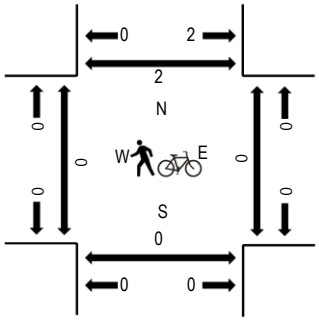
**Location:** 2 EASTONVILLE RD & STAPLETON RD AM
**Date and Start Time:** Tuesday, June 19, 2018
**Peak Hour:** 07:15 AM - 08:15 AM
**Peak 15-Minutes:** 08:00 AM - 08:15 AM

## Peak Hour - All Vehicles




Note: Total study counts contained in parentheses.

## Peak Hour - Pedestrians/Bicycles on Crosswalk




## Traffic Counts

| Interval Start Time | STAPLETON RD Eastbound | | | | STAPLETON RD Westbound | | | | EASTONVILLE RD Northbound | | | | EASTONVILLE RD Southbound | | | | | Rolling Hour | Pedestrain Crossings | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | | West | East | South | North |
| 7:00 AM | 0 | 1 | 24 | 0 | 0 | 1 | 5 | 16 | 0 | 3 | 9 | 0 | 0 | 25 | 10 | 1 | 95 | 360 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 2 | 19 | 0 | 0 | 1 | 8 | 5 | 0 | 0 | 12 | 1 | 0 | 28 | 15 | 1 | 92 | 363 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 2 | 23 | 0 | 0 | 0 | 9 | 7 | 0 | 0 | 4 | 2 | 0 | 26 | 14 | 6 | 93 | 334 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 4 | 16 | 0 | 0 | 0 | 9 | 8 | 0 | 0 | 20 | 0 | 0 | 11 | 12 | 0 | 80 | 298 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 5 | 19 | 0 | 0 | 2 | 8 | 13 | 0 | 1 | 10 | 0 | 0 | 14 | 21 | 5 | 98 | 272 | 0 | 0 | 0 | 2 |
| 8:15 AM | 0 | 3 | 5 | 0 | 0 | 0 | 7 | 9 | 0 | 2 | 12 | 1 | 0 | 13 | 8 | 3 | 63 | | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 0 | 13 | 0 | 0 | 1 | 6 | 10 | 0 | 1 | 8 | 1 | 0 | 9 | 7 | 1 | 57 | | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 0 | 12 | 0 | 0 | 2 | 9 | 6 | 0 | 0 | 8 | 0 | 0 | 9 | 8 | 0 | 54 | | 0 | 0 | 0 | 0 |
| Count Total | 0 | 17 | 131 | 0 | 0 | 7 | 61 | 74 | 0 | 7 | 83 | 5 | 0 | 135 | 95 | 17 | 632 | | 0 | 0 | 0 | 2 |
| Peak Hour | 0 | 13 | 77 | 0 | 0 | 3 | 34 | 33 | 0 | 1 | 46 | 3 | 0 | 79 | 62 | 12 | 363 | | 0 | 0 | 0 | 2 |

All Traffic Data Services Inc.
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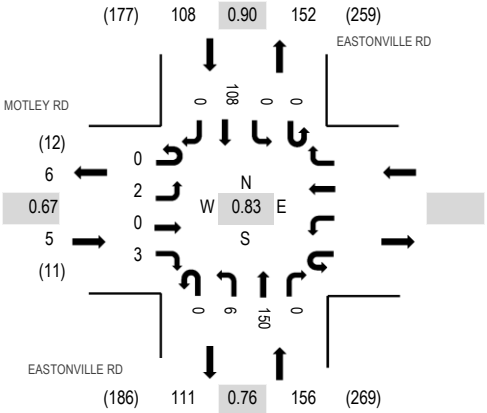
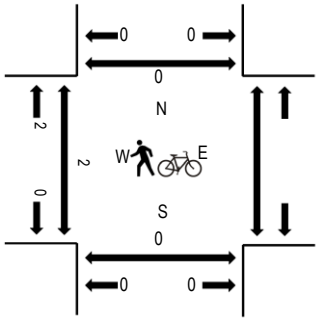
**Location:** 1 EASTONVILLE RD & MOTLEY RD PM
**Date and Start Time:** Wednesday, April 11, 2018
**Peak Hour:** 04:45 PM - 05:45 PM
**Peak 15-Minutes:** 05:30 PM - 05:45 PM

## Peak Hour - All Vehicles




Note: Total study counts contained in parentheses.

## Peak Hour - Pedestrians/Bicycles on Crosswalk




## Traffic Counts

| Interval Start Time | MOTLEY RD Eastbound | | | | Westbound | | | | EASTONVILLE RD Northbound | | | | EASTONVILLE RD Southbound | | | | | Rolling Hour | Pedestrain Crossings | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | | West | East | South | North |
| 4:00 PM | 0 | 0 | 0 | 1 | | | | | 0 | 1 | 18 | 0 | 0 | 0 | 17 | 0 | 37 | 204 | 0 | | 0 | 0 |
| 4:15 PM | 0 | 0 | 0 | 3 | | | | | 0 | 0 | 31 | 0 | 0 | 0 | 11 | 0 | 45 | 232 | 0 | | 0 | 0 |
| 4:30 PM | 0 | 0 | 0 | 1 | | | | | 0 | 5 | 27 | 0 | 0 | 0 | 21 | 0 | 54 | 242 | 0 | | 0 | 0 |
| 4:45 PM | 0 | 0 | 0 | 2 | | | | | 0 | 1 | 37 | 0 | 0 | 0 | 28 | 0 | 68 | 269 | 0 | | 0 | 0 |
| 5:00 PM | 0 | 1 | 0 | 1 | | | | | 0 | 2 | 31 | 0 | 0 | 0 | 30 | 0 | 65 | 253 | 2 | | 0 | 0 |
| 5:15 PM | 0 | 1 | 0 | 0 | | | | | 0 | 3 | 31 | 0 | 0 | 0 | 20 | 0 | 55 | | 0 | | 0 | 0 |
| 5:30 PM | 0 | 0 | 0 | 0 | | | | | 0 | 0 | 51 | 0 | 0 | 0 | 30 | 0 | 81 | | 0 | | 0 | 0 |
| 5:45 PM | 0 | 0 | 0 | 1 | | | | | 0 | 0 | 31 | 0 | 0 | 0 | 20 | 0 | 52 | | 0 | | 0 | 0 |
| Count Total | 0 | 2 | 0 | 9 | | | | | 0 | 12 | 257 | 0 | 0 | 0 | 177 | 0 | 457 | | 2 | | 0 | 0 |
| Peak Hour | 0 | 2 | 0 | 3 | | | | | 0 | 6 | 150 | 0 | 0 | 0 | 108 | 0 | 269 | | 2 | | 0 | 0 |

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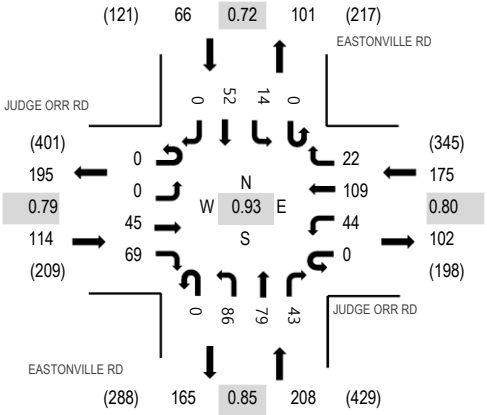
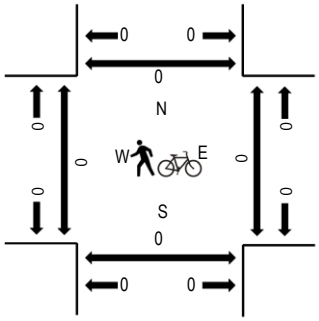
**Location:** 1 EASTONVILLE RD & JUDGE ORR RD PM
**Date and Start Time:** Tuesday, June 19, 2018
**Peak Hour:** 04:00 PM - 05:00 PM
**Peak 15-Minutes:** 04:00 PM - 04:15 PM

## Peak Hour - All Vehicles




Note: Total study counts contained in parentheses.

## Peak Hour - Pedestrians/Bicycles on Crosswalk




## Traffic Counts

| Interval Start Time | JUDGE ORR RD Eastbound | | | | JUDGE ORR RD Westbound | | | | EASTONVILLE RD Northbound | | | | EASTONVILLE RD Southbound | | | | | Rolling Hour | Pedestrain Crossings | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | | West | East | South | North |
| 4:00 PM | 0 | 0 | 11 | 25 | 0 | 10 | 25 | 5 | 0 | 18 | 18 | 16 | 0 | 9 | 14 | 0 | 151 | 563 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 0 | 14 | 12 | 0 | 11 | 26 | 1 | 0 | 18 | 22 | 10 | 0 | 2 | 15 | 0 | 131 | 563 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 5 | 17 | 0 | 13 | 33 | 7 | 0 | 24 | 21 | 9 | 0 | 3 | 12 | 0 | 144 | 561 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 0 | 15 | 15 | 0 | 10 | 25 | 9 | 0 | 26 | 18 | 8 | 0 | 0 | 11 | 0 | 137 | 544 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 1 | 7 | 15 | 0 | 8 | 39 | 14 | 0 | 18 | 22 | 17 | 0 | 4 | 6 | 0 | 151 | 541 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 0 | 6 | 17 | 0 | 4 | 28 | 6 | 0 | 24 | 14 | 13 | 0 | 5 | 11 | 1 | 129 | | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 0 | 6 | 20 | 0 | 6 | 22 | 7 | 0 | 23 | 16 | 9 | 0 | 5 | 13 | 0 | 127 | | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 9 | 14 | 0 | 2 | 21 | 13 | 0 | 29 | 23 | 13 | 0 | 2 | 7 | 1 | 134 | | 0 | 0 | 0 | 0 |
| Count Total | 0 | 1 | 73 | 135 | 0 | 64 | 219 | 62 | 0 | 180 | 154 | 95 | 0 | 30 | 89 | 2 | 1,104 | | 0 | 0 | 0 | 0 |
| Peak Hour | 0 | 0 | 45 | 69 | 0 | 44 | 109 | 22 | 0 | 86 | 79 | 43 | 0 | 14 | 52 | 0 | 563 | | 0 | 0 | 0 | 0 |

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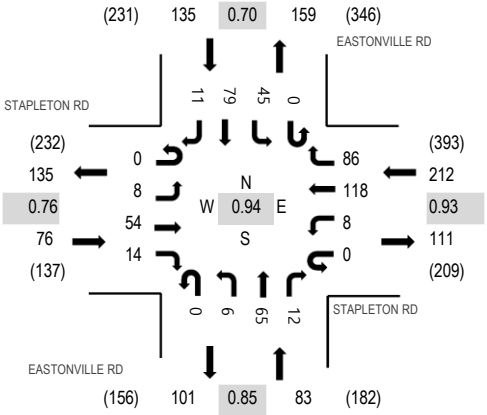
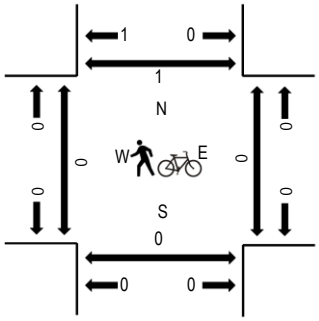
**Location:** 2 EASTONVILLE RD & STAPLETON RD PM
**Date and Start Time:** Tuesday, June 19, 2018
**Peak Hour:** 05:00 PM - 06:00 PM
**Peak 15-Minutes:** 05:00 PM - 05:15 PM

## Peak Hour - All Vehicles




Note: Total study counts contained in parentheses.

## Peak Hour - Pedestrians/Bicycles on Crosswalk




## Traffic Counts

| Interval Start Time | STAPLETON RD Eastbound | | | | STAPLETON RD Westbound | | | | EASTONVILLE RD Northbound | | | | EASTONVILLE RD Southbound | | | | Total | Rolling Hour | Pedestrain Crossings | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | | | West | East | South | North |
| 4:00 PM | 0 | 3 | 11 | 0 | 0 | 1 | 14 | 20 | 0 | 0 | 28 | 1 | 0 | 12 | 14 | 4 | 108 | 437 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 3 | 12 | 2 | 0 | 2 | 20 | 21 | 0 | 1 | 19 | 1 | 0 | 6 | 6 | 3 | 96 | 463 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 2 | 12 | 2 | 0 | 3 | 26 | 20 | 0 | 7 | 19 | 2 | 0 | 15 | 10 | 1 | 119 | 497 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 4 | 8 | 2 | 0 | 4 | 18 | 32 | 0 | 3 | 16 | 2 | 0 | 16 | 9 | 0 | 114 | 505 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 2 | 11 | 1 | 0 | 3 | 31 | 17 | 0 | 2 | 15 | 4 | 0 | 15 | 25 | 8 | 134 | 506 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 2 | 11 | 3 | 0 | 1 | 32 | 26 | 0 | 2 | 21 | 2 | 0 | 11 | 18 | 1 | 130 | | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 1 | 19 | 1 | 0 | 1 | 28 | 27 | 0 | 0 | 17 | 5 | 0 | 11 | 15 | 2 | 127 | | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 3 | 13 | 9 | 0 | 3 | 27 | 16 | 0 | 2 | 12 | 1 | 0 | 8 | 21 | 0 | 115 | | 0 | 0 | 0 | 0 |
| Count Total | 0 | 20 | 97 | 20 | 0 | 18 | 196 | 179 | 0 | 17 | 147 | 18 | 0 | 94 | 118 | 19 | 943 | | 0 | 0 | 0 | 0 |
| Peak Hour | 0 | 8 | 54 | 14 | 0 | 8 | 118 | 86 | 0 | 6 | 65 | 12 | 0 | 45 | 79 | 11 | 506 | | 0 | 0 | 0 | 0 |

# Appendix B:
# 2018 Level of Service Output
# Existing Traffic

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.2 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 1 | 6 | 1 | 173 | 148 | 1 |
| Future Vol, veh/h | 1 | 6 | 1 | 173 | 148 | 1 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | 0 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1 | 7 | 1 | 188 | 161 | 1 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 351 | 161 | 162 | 0 | - | 0 |
| Stage 1 | 161 | - | - | - | - | - |
| Stage 2 | 190 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 646 | 884 | 1417 | - | - | - |
| Stage 1 | 868 | - | - | - | - | - |
| Stage 2 | 842 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 646 | 884 | 1417 | - | - | - |
| Mov Cap-2 Maneuver | 646 | - | - | - | - | - |
| Stage 1 | 868 | - | - | - | - | - |
| Stage 2 | 841 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 9.3 | 0 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1417 | - | 840 | - | - |
| HCM Lane V/C Ratio | 0.001 | - | 0.009 | - | - |
| HCM Control Delay (s) | 7.5 | - | 9.3 | - | - |
| HCM Lane LOS | A | - | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0 | - | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 9 |
| Intersection LOS | A |

| Movement | SEL | SET | SER | NWL | NWT | NWR | NEL | NET | NER | SWL | SWT | SWR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 114 | 70 | 13 | 20 | 24 | 23 | 28 | 20 | 47 | 37 | 0 |
| Future Vol, veh/h | 0 | 114 | 70 | 13 | 20 | 24 | 23 | 28 | 20 | 47 | 37 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 124 | 76 | 14 | 22 | 26 | 25 | 30 | 22 | 51 | 40 | 0 |
| Number of Lanes | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | SE | NW | NE | SW |
|---|---|---|---|---|
| Opposing Approach | NW | SE | SW | NE |
| Opposing Lanes | 3 | 2 | 2 | 2 |
| Conflicting Approach Left | SW | NE | SE | NW |
| Conflicting Lanes Left | 2 | 2 | 2 | 3 |
| Conflicting Approach Right | NE | SW | NW | SE |
| Conflicting Lanes Right | 2 | 2 | 3 | 2 |
| HCM Control Delay | 9.5 | 8.2 | 8.5 | 8.9 |
| HCM LOS | A | A | A | A |

| Lane | NELn1 | NELn2 | NWLn1 | NWLn2 | NWLn3 | SELn1 | SELn2 | SWLn1 | SWLn2 |
|---|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 100% | 0% | 0% | 0% | 0% | 100% | 0% |
| Vol Thru, % | 0% | 58% | 0% | 100% | 0% | 100% | 62% | 0% | 100% |
| Vol Right, % | 0% | 42% | 0% | 0% | 100% | 0% | 38% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 23 | 48 | 13 | 20 | 24 | 0 | 184 | 47 | 37 |
| LT Vol | 23 | 0 | 13 | 0 | 0 | 0 | 0 | 47 | 0 |
| Through Vol | 0 | 28 | 0 | 20 | 0 | 0 | 114 | 0 | 37 |
| RT Vol | 0 | 20 | 0 | 0 | 24 | 0 | 70 | 0 | 0 |
| Lane Flow Rate | 25 | 52 | 14 | 22 | 26 | 0 | 200 | 51 | 40 |
| Geometry Grp | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Degree of Util (X) | 0.041 | 0.075 | 0.023 | 0.033 | 0.034 | 0 | 0.273 | 0.084 | 0.06 |
| Departure Headway (Hd) | 5.954 | 5.159 | 5.943 | 5.44 | 4.737 | 5.174 | 4.906 | 5.912 | 5.41 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 600 | 692 | 601 | 656 | 753 | 0 | 732 | 605 | 660 |
| Service Time | 3.704 | 2.908 | 3.693 | 3.19 | 2.486 | 2.909 | 2.642 | 3.661 | 3.159 |
| HCM Lane V/C Ratio | 0.042 | 0.075 | 0.023 | 0.034 | 0.035 | 0 | 0.273 | 0.084 | 0.061 |
| HCM Control Delay | 9 | 8.3 | 8.8 | 8.4 | 7.7 | 7.9 | 9.5 | 9.2 | 8.5 |
| HCM Lane LOS | A | A | A | A | A | N | A | A | A |
| HCM 95th-tile Q | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0 | 1.1 | 0.3 | 0.2 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 6.8 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | ↰ | ↱ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 13 | 77 | 0 | 3 | 34 | 33 | 1 | 46 | 3 | 79 | 62 | 12 |
| Future Vol, veh/h | 13 | 77 | 0 | 3 | 34 | 33 | 1 | 46 | 3 | 79 | 62 | 12 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | 0 | - | - | - | - | - | - | - | - |
| 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 | 14 | 84 | 0 | 3 | 37 | 36 | 1 | 50 | 3 | 86 | 67 | 13 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 336 | 301 | 74 | 342 | 306 | 52 | 80 | 0 | 0 | 53 | 0 | 0 |
| Stage 1 | 246 | 246 | - | 54 | 54 | - | - | - | - | - | - | - |
| Stage 2 | 90 | 55 | - | 288 | 252 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| 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 | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 618 | 612 | 988 | 612 | 608 | 1016 | 1518 | - | - | 1553 | - | - |
| Stage 1 | 758 | 703 | - | 958 | 850 | - | - | - | - | - | - | - |
| Stage 2 | 917 | 849 | - | 720 | 698 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 541 | 576 | 988 | 520 | 572 | 1016 | 1518 | - | - | 1553 | - | - |
| Mov Cap-2 Maneuver | 541 | 576 | - | 520 | 572 | - | - | - | - | - | - | - |
| Stage 1 | 757 | 662 | - | 957 | 849 | - | - | - | - | - | - | - |
| Stage 2 | 845 | 848 | - | 592 | 658 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 12.6 | 10.6 | 0.1 | 3.8 |
| HCM LOS | B | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1518 | - | - | 571 | 520 | 729 | 1553 | - | - |
| HCM Lane V/C Ratio | 0.001 | - | - | 0.171 | 0.006 | 0.1 | 0.055 | - | - |
| HCM Control Delay (s) | 7.4 | 0 | - | 12.6 | 12 | 10.5 | 7.5 | 0 | - |
| HCM Lane LOS | A | A | - | B | B | B | A | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0.6 | 0 | 0.3 | 0.2 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.3 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 2 | 3 | 6 | 150 | 108 | 0 |
| Future Vol, veh/h | 2 | 3 | 6 | 150 | 108 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | 0 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 2 | 3 | 7 | 163 | 117 | 0 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 293 | 117 | 117 | 0 | - | 0 |
| Stage 1 | 117 | - | - | - | - | - |
| Stage 2 | 176 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 698 | 935 | 1471 | - | - | - |
| Stage 1 | 908 | - | - | - | - | - |
| Stage 2 | 855 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 695 | 935 | 1471 | - | - | - |
| Mov Cap-2 Maneuver | 695 | - | - | - | - | - |
| Stage 1 | 908 | - | - | - | - | - |
| Stage 2 | 851 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 9.4 | 0.3 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1471 | - | 822 | - | - |
| HCM Lane V/C Ratio | 0.004 | - | 0.007 | - | - |
| HCM Control Delay (s) | 7.5 | - | 9.4 | - | - |
| HCM Lane LOS | A | - | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0 | - | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 9.6 |
| Intersection LOS | A |

| Movement | SEL | SET | SER | NWL | NWT | NWR | NEL | NET | NER | SWL | SWT | SWR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 45 | 69 | 44 | 109 | 22 | 86 | 79 | 43 | 14 | 52 | 0 |
| Future Vol, veh/h | 0 | 45 | 69 | 44 | 109 | 22 | 86 | 79 | 43 | 14 | 52 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 49 | 75 | 48 | 118 | 24 | 93 | 86 | 47 | 15 | 57 | 0 |
| Number of Lanes | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | SE | NW | NE | SW |
|---|---|---|---|---|
| Opposing Approach | NW | SE | SW | NE |
| Opposing Lanes | 3 | 2 | 2 | 2 |
| Conflicting Approach Left | SW | NE | SE | NW |
| Conflicting Lanes Left | 2 | 2 | 2 | 3 |
| Conflicting Approach Right | NE | SW | NW | SE |
| Conflicting Lanes Right | 2 | 2 | 3 | 2 |
| HCM Control Delay | 9.5 | 9.5 | 9.7 | 9.4 |
| HCM LOS | A | A | A | A |

| Lane | NELn1 | NELn2 | NWLn1 | NWLn2 | NWLn3 | SELn1 | SELn2 | SWLn1 | SWLn2 |
|---|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 100% | 0% | 0% | 0% | 0% | 100% | 0% |
| Vol Thru, % | 0% | 65% | 0% | 100% | 0% | 100% | 39% | 0% | 100% |
| Vol Right, % | 0% | 35% | 0% | 0% | 100% | 0% | 61% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 86 | 122 | 44 | 109 | 22 | 0 | 114 | 14 | 52 |
| LT Vol | 86 | 0 | 44 | 0 | 0 | 0 | 0 | 14 | 0 |
| Through Vol | 0 | 79 | 0 | 109 | 0 | 0 | 45 | 0 | 52 |
| RT Vol | 0 | 43 | 0 | 0 | 22 | 0 | 69 | 0 | 0 |
| Lane Flow Rate | 93 | 133 | 48 | 118 | 24 | 0 | 124 | 15 | 57 |
| Geometry Grp | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Degree of Util (X) | 0.158 | 0.197 | 0.082 | 0.187 | 0.033 | 0 | 0.19 | 0.028 | 0.095 |
| Departure Headway (Hd) | 6.203 | 5.452 | 6.28 | 5.777 | 5.072 | 5.938 | 5.51 | 6.54 | 6.036 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 581 | 662 | 574 | 624 | 710 | 0 | 656 | 550 | 596 |
| Service Time | 3.903 | 3.152 | 3.98 | 3.477 | 2.772 | 3.638 | 3.21 | 4.248 | 3.744 |
| HCM Lane V/C Ratio | 0.16 | 0.201 | 0.084 | 0.189 | 0.034 | 0 | 0.189 | 0.027 | 0.096 |
| HCM Control Delay | 10.1 | 9.5 | 9.5 | 9.8 | 7.9 | 8.6 | 9.5 | 9.4 | 9.4 |
| HCM Lane LOS | B | A | A | A | A | N | A | A | A |
| HCM 95th-tile Q | 0.6 | 0.7 | 0.3 | 0.7 | 0.1 | 0 | 0.7 | 0.1 | 0.3 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 7.7 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | ↰ | ↱ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 8 | 54 | 14 | 8 | 118 | 86 | 6 | 65 | 12 | 45 | 79 | 11 |
| Future Vol, veh/h | 8 | 54 | 14 | 8 | 118 | 86 | 6 | 65 | 12 | 45 | 79 | 11 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | 0 | - | - | - | - | - | - | - | - |
| 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 | 9 | 59 | 15 | 9 | 128 | 93 | 7 | 71 | 13 | 49 | 86 | 12 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 391 | 287 | 92 | 317 | 286 | 77 | 98 | 0 | 0 | 84 | 0 | 0 |
| Stage 1 | 190 | 190 | - | 90 | 90 | - | - | - | - | - | - | - |
| Stage 2 | 201 | 97 | - | 227 | 196 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| 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 | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 568 | 623 | 965 | 636 | 623 | 984 | 1495 | - | - | 1513 | - | - |
| Stage 1 | 812 | 743 | - | 917 | 820 | - | - | - | - | - | - | - |
| Stage 2 | 801 | 815 | - | 776 | 739 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 417 | 599 | 965 | 562 | 599 | 984 | 1495 | - | - | 1513 | - | - |
| Mov Cap-2 Maneuver | 417 | 599 | - | 562 | 599 | - | - | - | - | - | - | - |
| Stage 1 | 808 | 718 | - | 912 | 816 | - | - | - | - | - | - | - |
| Stage 2 | 608 | 811 | - | 677 | 714 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 11.8 | 12.3 | 0.5 | 2.5 |
| HCM LOS | B | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1495 | - | - | 614 | 562 | 717 | 1513 | - | - |
| HCM Lane V/C Ratio | 0.004 | - | - | 0.135 | 0.015 | 0.309 | 0.032 | - | - |
| HCM Control Delay (s) | 7.4 | 0 | - | 11.8 | 11.5 | 12.3 | 7.5 | 0 | - |
| HCM Lane LOS | A | A | - | B | B | B | A | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0.5 | 0 | 1.3 | 0.1 | - | - |

# Appendix C:
# 2019 Level of Service Output
# Total Traffic

| Intersection | |
|---|---|
| Int Delay, s/veh | 28.2 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 1 | 12 | 6 | 100 | 10 | 90 | 1 | 176 | 122 | 109 | 150 | 1 |
| Future Vol, veh/h | 1 | 12 | 6 | 100 | 10 | 90 | 1 | 176 | 122 | 109 | 150 | 1 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | 0 | 0 | - | - | 0 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 50 | 50 | 50 | 92 | 92 | 50 | 50 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1 | 13 | 7 | 200 | 20 | 180 | 1 | 191 | 244 | 218 | 163 | 1 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 925 | 1037 | 164 | 924 | 915 | 313 | 164 | 0 | 0 | 435 | 0 | 0 |
| Stage 1 | 600 | 600 | - | 315 | 315 | - | - | - | - | - | - | - |
| Stage 2 | 325 | 437 | - | 609 | 600 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| 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 | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 250 | 231 | 881 | 250 | 273 | 727 | 1414 | - | - | 1125 | - | - |
| Stage 1 | 488 | 490 | - | 696 | 656 | - | - | - | - | - | - | - |
| Stage 2 | 687 | 579 | - | 482 | 490 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 149 | 186 | 881 | 200 | 220 | 727 | 1414 | - | - | 1125 | - | - |
| Mov Cap-2 Maneuver | 149 | 186 | - | 200 | 220 | - | - | - | - | - | - | - |
| Stage 1 | 488 | 395 | - | 696 | 656 | - | - | - | - | - | - | - |
| Stage 2 | 501 | 579 | - | 373 | 395 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 21.2 | 81.4 | 0 | 5.1 |
| HCM LOS | C | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1414 | - | - | 243 | 202 | 727 | 1125 | - | - |
| HCM Lane V/C Ratio | 0.001 | - | - | 0.085 | 1.089 | 0.248 | 0.194 | - | - |
| HCM Control Delay (s) | 7.5 | - | - | 21.2 | 138.5 | 11.6 | 9 | - | - |
| HCM Lane LOS | A | - | - | C | F | B | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0.3 | 10.3 | 1 | 0.7 | - | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 10.5 |
| Intersection LOS | B |

| Movement | SEL | SET | SER | NWL | NWT | NWR | NEL | NET | NER | SWL | SWT | SWR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 6 | 146 | 71 | 13 | 20 | 85 | 23 | 83 | 20 | 53 | 83 | 50 |
| Future Vol, veh/h | 6 | 146 | 71 | 13 | 20 | 85 | 23 | 83 | 20 | 53 | 83 | 50 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 7 | 159 | 77 | 14 | 22 | 92 | 25 | 90 | 22 | 58 | 90 | 54 |
| Number of Lanes | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | SE | NW | NE | SW |
|---|---|---|---|---|
| Opposing Approach | NW | SE | SW | NE |
| Opposing Lanes | 3 | 2 | 2 | 2 |
| Conflicting Approach Left | SW | NE | SE | NW |
| Conflicting Lanes Left | 2 | 2 | 2 | 3 |
| Conflicting Approach Right | NE | SW | NW | SE |
| Conflicting Lanes Right | 2 | 2 | 3 | 2 |
| HCM Control Delay | 11.8 | 9.3 | 10.1 | 10.1 |
| HCM LOS | B | A | B | B |

| Lane | NELn1 | NELn2 | NWLn1 | NWLn2 | NWLn3 | SELn1 | SELn2 | SWLn1 | SWLn2 |
|---|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 100% | 0% | 0% | 100% | 0% | 100% | 0% |
| Vol Thru, % | 0% | 81% | 0% | 100% | 0% | 0% | 67% | 0% | 62% |
| Vol Right, % | 0% | 19% | 0% | 0% | 100% | 0% | 33% | 0% | 38% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 23 | 103 | 13 | 20 | 85 | 6 | 217 | 53 | 133 |
| LT Vol | 23 | 0 | 13 | 0 | 0 | 6 | 0 | 53 | 0 |
| Through Vol | 0 | 83 | 0 | 20 | 0 | 0 | 146 | 0 | 83 |
| RT Vol | 0 | 20 | 0 | 0 | 85 | 0 | 71 | 0 | 50 |
| Lane Flow Rate | 25 | 112 | 14 | 22 | 92 | 7 | 236 | 58 | 145 |
| Geometry Grp | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Degree of Util (X) | 0.046 | 0.188 | 0.026 | 0.038 | 0.142 | 0.012 | 0.375 | 0.105 | 0.232 |
| Departure Headway (Hd) | 6.682 | 6.041 | 6.738 | 6.232 | 5.524 | 6.459 | 5.722 | 6.535 | 5.767 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 536 | 593 | 531 | 574 | 649 | 554 | 630 | 549 | 623 |
| Service Time | 4.422 | 3.781 | 4.48 | 3.974 | 3.266 | 4.195 | 3.458 | 4.271 | 3.503 |
| HCM Lane V/C Ratio | 0.047 | 0.189 | 0.026 | 0.038 | 0.142 | 0.013 | 0.375 | 0.106 | 0.233 |
| HCM Control Delay | 9.7 | 10.2 | 9.7 | 9.2 | 9.2 | 9.3 | 11.9 | 10 | 10.2 |
| HCM Lane LOS | A | B | A | A | A | A | B | A | B |
| HCM 95th-tile Q | 0.1 | 0.7 | 0.1 | 0.1 | 0.5 | 0 | 1.7 | 0.3 | 0.9 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 6.5 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | ↰ | ↱ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 13 | 78 | 16 | 36 | 35 | 33 | 15 | 97 | 30 | 80 | 123 | 12 |
| Future Vol, veh/h | 13 | 78 | 16 | 36 | 35 | 33 | 15 | 97 | 30 | 80 | 123 | 12 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | 0 | - | - | - | - | - | - | - | - |
| 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 | 14 | 85 | 17 | 39 | 38 | 36 | 16 | 105 | 33 | 87 | 134 | 13 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 505 | 485 | 140 | 519 | 475 | 122 | 147 | 0 | 0 | 138 | 0 | 0 |
| Stage 1 | 314 | 314 | - | 154 | 154 | - | - | - | - | - | - | - |
| Stage 2 | 191 | 171 | - | 365 | 321 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| 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 | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 478 | 482 | 908 | 467 | 488 | 929 | 1435 | - | - | 1446 | - | - |
| Stage 1 | 697 | 656 | - | 848 | 770 | - | - | - | - | - | - | - |
| Stage 2 | 811 | 757 | - | 654 | 652 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 405 | 445 | 908 | 369 | 450 | 929 | 1435 | - | - | 1446 | - | - |
| Mov Cap-2 Maneuver | 405 | 445 | - | 369 | 450 | - | - | - | - | - | - | - |
| Stage 1 | 689 | 613 | - | 838 | 761 | - | - | - | - | - | - | - |
| Stage 2 | 732 | 748 | - | 516 | 609 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 15 | 13.2 | 0.8 | 2.8 |
| HCM LOS | C | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1435 | - | - | 476 | 369 | 600 | 1446 | - | - |
| HCM Lane V/C Ratio | 0.011 | - | - | 0.244 | 0.106 | 0.123 | 0.06 | - | - |
| HCM Control Delay (s) | 7.5 | 0 | - | 15 | 15.9 | 11.8 | 7.6 | 0 | - |
| HCM Lane LOS | A | A | - | C | C | B | A | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 1 | 0.4 | 0.4 | 0.2 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 3.9 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 2 | 3 | 3 | 34 | 3 | 31 | 6 | 152 | 29 | 26 | 110 | 0 |
| Future Vol, veh/h | 2 | 3 | 3 | 34 | 3 | 31 | 6 | 152 | 29 | 26 | 110 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | 0 | 0 | - | - | 0 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 50 | 50 | 50 | 92 | 92 | 50 | 50 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 2 | 3 | 3 | 68 | 6 | 62 | 7 | 165 | 58 | 52 | 120 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 434 | 460 | 120 | 434 | 431 | 194 | 120 | 0 | 0 | 223 | 0 | 0 |
| Stage 1 | 224 | 224 | - | 207 | 207 | - | - | - | - | - | - | - |
| Stage 2 | 210 | 236 | - | 227 | 224 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| 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 | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 532 | 498 | 931 | 532 | 517 | 847 | 1468 | - | - | 1346 | - | - |
| Stage 1 | 779 | 718 | - | 795 | 731 | - | - | - | - | - | - | - |
| Stage 2 | 792 | 710 | - | 776 | 718 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 472 | 476 | 931 | 510 | 495 | 847 | 1468 | - | - | 1346 | - | - |
| Mov Cap-2 Maneuver | 472 | 476 | - | 510 | 495 | - | - | - | - | - | - | - |
| Stage 1 | 775 | 690 | - | 791 | 728 | - | - | - | - | - | - | - |
| Stage 2 | 725 | 707 | - | 740 | 690 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 11.3 | 11.6 | 0.2 | 2.4 |
| HCM LOS | B | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1468 | - | - | 581 | 509 | 847 | 1346 | - | - |
| HCM Lane V/C Ratio | 0.004 | - | - | 0.015 | 0.145 | 0.073 | 0.039 | - | - |
| HCM Control Delay (s) | 7.5 | - | - | 11.3 | 13.3 | 9.6 | 7.8 | - | - |
| HCM Lane LOS | A | - | - | B | B | A | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | 0.5 | 0.2 | 0.1 | - | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 9.9 |
| Intersection LOS | A |

| Movement | SEL | SET | SER | NWL | NWT | NWR | NEL | NET | NER | SWL | SWT | SWR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 1 | 46 | 70 | 45 | 111 | 37 | 87 | 93 | 44 | 16 | 68 | 17 |
| Future Vol, veh/h | 1 | 46 | 70 | 45 | 111 | 37 | 87 | 93 | 44 | 16 | 68 | 17 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1 | 50 | 76 | 49 | 121 | 40 | 95 | 101 | 48 | 17 | 74 | 18 |
| Number of Lanes | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | SE | NW | NE | SW |
|---|---|---|---|---|
| Opposing Approach | NW | SE | SW | NE |
| Opposing Lanes | 3 | 2 | 2 | 2 |
| Conflicting Approach Left | SW | NE | SE | NW |
| Conflicting Lanes Left | 2 | 2 | 2 | 3 |
| Conflicting Approach Right | NE | SW | NW | SE |
| Conflicting Lanes Right | 2 | 2 | 3 | 2 |
| HCM Control Delay | 9.9 | 9.7 | 10.2 | 9.8 |
| HCM LOS | A | A | B | A |

| Lane | NELn1 | NELn2 | NWLn1 | NWLn2 | NWLn3 | SELn1 | SELn2 | SWLn1 | SWLn2 |
|---|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 100% | 0% | 0% | 100% | 0% | 100% | 0% |
| Vol Thru, % | 0% | 68% | 0% | 100% | 0% | 0% | 40% | 0% | 80% |
| Vol Right, % | 0% | 32% | 0% | 0% | 100% | 0% | 60% | 0% | 20% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 87 | 137 | 45 | 111 | 37 | 1 | 116 | 16 | 85 |
| LT Vol | 87 | 0 | 45 | 0 | 0 | 1 | 0 | 16 | 0 |
| Through Vol | 0 | 93 | 0 | 111 | 0 | 0 | 46 | 0 | 68 |
| RT Vol | 0 | 44 | 0 | 0 | 37 | 0 | 70 | 0 | 17 |
| Lane Flow Rate | 95 | 149 | 49 | 121 | 40 | 1 | 126 | 17 | 92 |
| Geometry Grp | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Degree of Util (X) | 0.167 | 0.233 | 0.088 | 0.2 | 0.059 | 0.002 | 0.201 | 0.032 | 0.154 |
| Departure Headway (Hd) | 6.361 | 5.632 | 6.483 | 5.978 | 5.272 | 6.683 | 5.75 | 6.664 | 6.02 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 566 | 639 | 554 | 601 | 680 | 536 | 624 | 538 | 596 |
| Service Time | 4.085 | 3.357 | 4.209 | 3.705 | 2.998 | 4.413 | 3.48 | 4.396 | 3.751 |
| HCM Lane V/C Ratio | 0.168 | 0.233 | 0.088 | 0.201 | 0.059 | 0.002 | 0.202 | 0.032 | 0.154 |
| HCM Control Delay | 10.4 | 10.1 | 9.8 | 10.2 | 8.3 | 9.4 | 9.9 | 9.6 | 9.8 |
| HCM Lane LOS | B | B | A | B | A | A | A | A | A |
| HCM 95th-tile Q | 0.6 | 0.9 | 0.3 | 0.7 | 0.2 | 0 | 0.7 | 0.1 | 0.5 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 7.9 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | ↰ | ↱ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 1 | 46 | 70 | 45 | 111 | 37 | 87 | 93 | 44 | 16 | 68 | 17 |
| Future Vol, veh/h | 1 | 46 | 70 | 45 | 111 | 37 | 87 | 93 | 44 | 16 | 68 | 17 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | 0 | - | - | - | - | - | - | - | - |
| 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 | 50 | 76 | 49 | 121 | 40 | 95 | 101 | 48 | 17 | 74 | 18 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 513 | 456 | 83 | 495 | 441 | 125 | 92 | 0 | 0 | 149 | 0 | 0 |
| Stage 1 | 118 | 118 | - | 314 | 314 | - | - | - | - | - | - | - |
| Stage 2 | 395 | 338 | - | 181 | 127 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| 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 | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 472 | 501 | 976 | 485 | 510 | 926 | 1503 | - | - | 1432 | - | - |
| Stage 1 | 887 | 798 | - | 697 | 656 | - | - | - | - | - | - | - |
| Stage 2 | 630 | 641 | - | 821 | 791 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 340 | 460 | 976 | 385 | 469 | 926 | 1503 | - | - | 1432 | - | - |
| Mov Cap-2 Maneuver | 340 | 460 | - | 385 | 469 | - | - | - | - | - | - | - |
| Stage 1 | 826 | 788 | - | 649 | 611 | - | - | - | - | - | - | - |
| Stage 2 | 450 | 597 | - | 700 | 781 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 11.6 | 14.9 | 2.9 | 1.2 |
| HCM LOS | B | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1503 | - | - | 670 | 385 | 535 | 1432 | - | - |
| HCM Lane V/C Ratio | 0.063 | - | - | 0.19 | 0.127 | 0.301 | 0.012 | - | - |
| HCM Control Delay (s) | 7.6 | 0 | - | 11.6 | 15.7 | 14.6 | 7.5 | 0 | - |
| HCM Lane LOS | A | A | - | B | C | B | A | A | - |
| HCM 95th %tile Q(veh) | 0.2 | - | - | 0.7 | 0.4 | 1.3 | 0 | - | - |

# Appendix D:
# 2040 Level of Service Output
# Total Traffic TWSC

| Intersection | |
|---|---|
| Int Delay, s/veh | 44.1 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 1 | 12 | 8 | 100 | 10 | 90 | 1 | 240 | 122 | 109 | 205 | 1 |
| Future Vol, veh/h | 1 | 12 | 8 | 100 | 10 | 90 | 1 | 240 | 122 | 109 | 205 | 1 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | 0 | 0 | - | - | 0 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 50 | 50 | 50 | 92 | 92 | 50 | 50 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1 | 13 | 9 | 200 | 20 | 180 | 1 | 261 | 244 | 218 | 223 | 1 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1054 | 1166 | 223 | 1055 | 1045 | 383 | 224 | 0 | 0 | 505 | 0 | 0 |
| Stage 1 | 659 | 659 | - | 385 | 385 | - | - | - | - | - | - | - |
| Stage 2 | 395 | 507 | - | 670 | 660 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| 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 | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 204 | 194 | 817 | 204 | 229 | 664 | 1345 | - | - | 1060 | - | - |
| Stage 1 | 453 | 461 | - | 638 | 611 | - | - | - | - | - | - | - |
| Stage 2 | 630 | 539 | - | 446 | 460 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 115 | 154 | 817 | ~ 159 | 182 | 664 | 1345 | - | - | 1060 | - | - |
| Mov Cap-2 Maneuver | 115 | 154 | - | ~ 159 | 182 | - | - | - | - | - | - | - |
| Stage 1 | 453 | 366 | - | 638 | 611 | - | - | - | - | - | - | - |
| Stage 2 | 444 | 539 | - | 338 | 365 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 23.4 | 144.8 | 0 | 4.6 |
| HCM LOS | C | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1345 | - | - | 218 | 161 | 664 | 1060 | - | - |
| HCM Lane V/C Ratio | 0.001 | - | - | 0.105 | 1.366 | 0.271 | 0.206 | - | - |
| HCM Control Delay (s) | 7.7 | - | - | 23.4 | 253.2 | 12.4 | 9.3 | - | - |
| HCM Lane LOS | A | - | - | C | F | B | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0.3 | 13.5 | 1.1 | 0.8 | - | - |

| Notes | | | |
|---|---|---|---|
| ~: Volume exceeds capacity | $: Delay exceeds 300s | +: Computation Not Defined | *: All major volume in platoon |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 12.8 |
| Intersection LOS | B |

| Movement | SEL | SET | SER | NWL | NWT | NWR | NEL | NET | NER | SWL | SWT | SWR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 6 | 200 | 97 | 18 | 28 | 94 | 32 | 94 | 28 | 70 | 96 | 50 |
| Future Vol, veh/h | 6 | 200 | 97 | 18 | 28 | 94 | 32 | 94 | 28 | 70 | 96 | 50 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 7 | 217 | 105 | 20 | 30 | 102 | 35 | 102 | 30 | 76 | 104 | 54 |
| Number of Lanes | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | SE | NW | NE | SW |
|---|---|---|---|---|
| Opposing Approach | NW | SE | SW | NE |
| Opposing Lanes | 3 | 2 | 2 | 2 |
| Conflicting Approach Left | SW | NE | SE | NW |
| Conflicting Lanes Left | 2 | 2 | 2 | 3 |
| Conflicting Approach Right | NE | SW | NW | SE |
| Conflicting Lanes Right | 2 | 2 | 3 | 2 |
| HCM Control Delay | 15.9 | 10.1 | 11.2 | 11.4 |
| HCM LOS | C | B | B | B |

| Lane | NELn1 | NELn2 | NWLn1 | NWLn2 | NWLn3 | SELn1 | SELn2 | SWLn1 | SWLn2 |
|---|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 100% | 0% | 0% | 100% | 0% | 100% | 0% |
| Vol Thru, % | 0% | 77% | 0% | 100% | 0% | 0% | 67% | 0% | 66% |
| Vol Right, % | 0% | 23% | 0% | 0% | 100% | 0% | 33% | 0% | 34% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 32 | 122 | 18 | 28 | 94 | 6 | 297 | 70 | 146 |
| LT Vol | 32 | 0 | 18 | 0 | 0 | 6 | 0 | 70 | 0 |
| Through Vol | 0 | 94 | 0 | 28 | 0 | 0 | 200 | 0 | 96 |
| RT Vol | 0 | 28 | 0 | 0 | 94 | 0 | 97 | 0 | 50 |
| Lane Flow Rate | 35 | 133 | 20 | 30 | 102 | 7 | 323 | 76 | 159 |
| Geometry Grp | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Degree of Util (X) | 0.07 | 0.242 | 0.04 | 0.057 | 0.172 | 0.012 | 0.546 | 0.149 | 0.279 |
| Departure Headway (Hd) | 7.229 | 6.561 | 7.287 | 6.779 | 6.067 | 6.829 | 6.09 | 7.067 | 6.32 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 493 | 544 | 489 | 525 | 588 | 522 | 591 | 505 | 565 |
| Service Time | 5.008 | 4.34 | 5.068 | 4.56 | 3.848 | 4.596 | 3.857 | 4.84 | 4.093 |
| HCM Lane V/C Ratio | 0.071 | 0.244 | 0.041 | 0.057 | 0.173 | 0.013 | 0.547 | 0.15 | 0.281 |
| HCM Control Delay | 10.6 | 11.4 | 10.4 | 10 | 10.1 | 9.7 | 16 | 11.1 | 11.5 |
| HCM Lane LOS | B | B | B | A | B | A | C | B | B |
| HCM 95th-tile Q | 0.2 | 0.9 | 0.1 | 0.2 | 0.6 | 0 | 3.3 | 0.5 | 1.1 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 8.3 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | ↰ | ↱ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 18 | 107 | 16 | 37 | 47 | 46 | 15 | 114 | 31 | 110 | 146 | 17 |
| Future Vol, veh/h | 18 | 107 | 16 | 37 | 47 | 46 | 15 | 114 | 31 | 110 | 146 | 17 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | 0 | - | - | - | - | - | - | - | - |
| 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 | 20 | 116 | 17 | 40 | 51 | 50 | 16 | 124 | 34 | 120 | 159 | 18 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 631 | 597 | 168 | 647 | 589 | 141 | 177 | 0 | 0 | 158 | 0 | 0 |
| Stage 1 | 407 | 407 | - | 173 | 173 | - | - | - | - | - | - | - |
| Stage 2 | 224 | 190 | - | 474 | 416 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| 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 | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 394 | 416 | 876 | 384 | 421 | 907 | 1399 | - | - | 1422 | - | - |
| Stage 1 | 621 | 597 | - | 829 | 756 | - | - | - | - | - | - | - |
| Stage 2 | 779 | 743 | - | 571 | 592 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 307 | 372 | 876 | 263 | 376 | 907 | 1399 | - | - | 1422 | - | - |
| Mov Cap-2 Maneuver | 307 | 372 | - | 263 | 376 | - | - | - | - | - | - | - |
| Stage 1 | 613 | 541 | - | 818 | 746 | - | - | - | - | - | - | - |
| Stage 2 | 677 | 733 | - | 398 | 536 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 20.3 | 15.6 | 0.7 | 3.1 |
| HCM LOS | C | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1399 | - | - | 387 | 263 | 529 | 1422 | - | - |
| HCM Lane V/C Ratio | 0.012 | - | - | 0.396 | 0.153 | 0.191 | 0.084 | - | - |
| HCM Control Delay (s) | 7.6 | 0 | - | 20.3 | 21.1 | 13.4 | 7.8 | 0 | - |
| HCM Lane LOS | A | A | - | C | C | B | A | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 1.9 | 0.5 | 0.7 | 0.3 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 3.6 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 3 | 3 | 4 | 34 | 3 | 31 | 8 | 208 | 29 | 26 | 150 | 0 |
| Future Vol, veh/h | 3 | 3 | 4 | 34 | 3 | 31 | 8 | 208 | 29 | 26 | 150 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | 0 | 0 | - | - | 0 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 50 | 50 | 50 | 92 | 92 | 50 | 50 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 3 | 3 | 4 | 68 | 6 | 62 | 9 | 226 | 58 | 52 | 163 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 542 | 568 | 163 | 543 | 539 | 255 | 163 | 0 | 0 | 284 | 0 | 0 |
| Stage 1 | 267 | 267 | - | 272 | 272 | - | - | - | - | - | - | - |
| Stage 2 | 275 | 301 | - | 271 | 267 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| 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 | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 451 | 432 | 882 | 451 | 449 | 784 | 1416 | - | - | 1278 | - | - |
| Stage 1 | 738 | 688 | - | 734 | 685 | - | - | - | - | - | - | - |
| Stage 2 | 731 | 665 | - | 735 | 688 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 396 | 412 | 882 | 430 | 428 | 784 | 1416 | - | - | 1278 | - | - |
| Mov Cap-2 Maneuver | 396 | 412 | - | 430 | 428 | - | - | - | - | - | - | - |
| Stage 1 | 733 | 660 | - | 729 | 681 | - | - | - | - | - | - | - |
| Stage 2 | 663 | 661 | - | 698 | 660 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 12.1 | 12.8 | 0.2 | 1.9 |
| HCM LOS | B | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1416 | - | - | 516 | 430 | 784 | 1278 | - | - |
| HCM Lane V/C Ratio | 0.006 | - | - | 0.021 | 0.172 | 0.079 | 0.041 | - | - |
| HCM Control Delay (s) | 7.6 | - | - | 12.1 | 15.1 | 10 | 7.9 | - | - |
| HCM Lane LOS | A | - | - | B | C | B | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0.1 | 0.6 | 0.3 | 0.1 | - | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 11.7 |
| Intersection LOS | B |

| Movement | SEL | SET | SER | NWL | NWT | NWR | NEL | NET | NER | SWL | SWT | SWR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 1 | 62 | 96 | 61 | 151 | 46 | 119 | 123 | 60 | 21 | 87 | 17 |
| Future Vol, veh/h | 1 | 62 | 96 | 61 | 151 | 46 | 119 | 123 | 60 | 21 | 87 | 17 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1 | 67 | 104 | 66 | 164 | 50 | 129 | 134 | 65 | 23 | 95 | 18 |
| Number of Lanes | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | SE | NW | NE | SW |
|---|---|---|---|---|
| Opposing Approach | NW | SE | SW | NE |
| Opposing Lanes | 3 | 2 | 2 | 2 |
| Conflicting Approach Left | SW | NE | SE | NW |
| Conflicting Lanes Left | 2 | 2 | 2 | 3 |
| Conflicting Approach Right | NE | SW | NW | SE |
| Conflicting Lanes Right | 2 | 2 | 3 | 2 |
| HCM Control Delay | 12 | 11.3 | 12.1 | 11.2 |
| HCM LOS | B | B | B | B |

| Lane | NELn1 | NELn2 | NWLn1 | NWLn2 | NWLn3 | SELn1 | SELn2 | SWLn1 | SWLn2 |
|---|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 100% | 0% | 0% | 100% | 0% | 100% | 0% |
| Vol Thru, % | 0% | 67% | 0% | 100% | 0% | 0% | 39% | 0% | 84% |
| Vol Right, % | 0% | 33% | 0% | 0% | 100% | 0% | 61% | 0% | 16% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 119 | 183 | 61 | 151 | 46 | 1 | 158 | 21 | 104 |
| LT Vol | 119 | 0 | 61 | 0 | 0 | 1 | 0 | 21 | 0 |
| Through Vol | 0 | 123 | 0 | 151 | 0 | 0 | 62 | 0 | 87 |
| RT Vol | 0 | 60 | 0 | 0 | 46 | 0 | 96 | 0 | 17 |
| Lane Flow Rate | 129 | 199 | 66 | 164 | 50 | 1 | 172 | 23 | 113 |
| Geometry Grp | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Degree of Util (X) | 0.248 | 0.341 | 0.13 | 0.299 | 0.081 | 0.002 | 0.305 | 0.047 | 0.212 |
| Departure Headway (Hd) | 6.909 | 6.174 | 7.07 | 6.563 | 5.853 | 7.336 | 6.395 | 7.369 | 6.747 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 517 | 581 | 505 | 545 | 609 | 486 | 558 | 484 | 529 |
| Service Time | 4.676 | 3.94 | 4.841 | 4.334 | 3.624 | 5.113 | 4.171 | 5.149 | 4.527 |
| HCM Lane V/C Ratio | 0.25 | 0.343 | 0.131 | 0.301 | 0.082 | 0.002 | 0.308 | 0.048 | 0.214 |
| HCM Control Delay | 12 | 12.1 | 10.9 | 12.1 | 9.1 | 10.1 | 12 | 10.5 | 11.4 |
| HCM Lane LOS | B | B | B | B | A | B | B | B | B |
| HCM 95th-tile Q | 1 | 1.5 | 0.4 | 1.2 | 0.3 | 0 | 1.3 | 0.1 | 0.8 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 9.7 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | ↰ | ↱ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 11 | 75 | 23 | 19 | 164 | 119 | 13 | 107 | 26 | 62 | 124 | 15 |
| Future Vol, veh/h | 11 | 75 | 23 | 19 | 164 | 119 | 13 | 107 | 26 | 62 | 124 | 15 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | 0 | - | - | - | - | - | - | - | - |
| 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 | 12 | 82 | 25 | 21 | 178 | 129 | 14 | 116 | 28 | 67 | 135 | 16 |

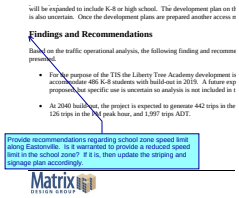
| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 591 | 451 | 143 | 490 | 445 | 130 | 151 | 0 | 0 | 145 | 0 | 0 |
| Stage 1 | 278 | 278 | - | 159 | 159 | - | - | - | - | - | - | - |
| Stage 2 | 313 | 173 | - | 331 | 286 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| 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 | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 419 | 504 | 905 | 489 | 508 | 920 | 1430 | - | - | 1437 | - | - |
| Stage 1 | 728 | 680 | - | 843 | 766 | - | - | - | - | - | - | - |
| Stage 2 | 698 | 756 | - | 682 | 675 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 244 | 473 | 905 | 394 | 477 | 920 | 1430 | - | - | 1437 | - | - |
| Mov Cap-2 Maneuver | 244 | 473 | - | 394 | 477 | - | - | - | - | - | - | - |
| Stage 1 | 720 | 645 | - | 834 | 758 | - | - | - | - | - | - | - |
| Stage 2 | 454 | 748 | - | 550 | 641 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 15.1 | 17 | 0.7 | 2.4 |
| HCM LOS | C | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1430 | - | - | 476 | 394 | 598 | 1437 | - | - |
| HCM Lane V/C Ratio | 0.01 | - | - | 0.249 | 0.052 | 0.514 | 0.047 | - | - |
| HCM Control Delay (s) | 7.5 | 0 | - | 15.1 | 14.6 | 17.2 | 7.6 | 0 | - |
| HCM Lane LOS | A | A | - | C | B | C | A | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 1 | 0.2 | 2.9 | 0.1 | - | - |

# Markup Summary

## dsdlaforce (3)




**Subject:** Callout
**Page Label:** 18
**Author:** dsdlaforce
**Date:** 7/24/2018 2:07:40 PM
**Color:**

Provide recommendations regarding school zone speed limit along Eastonville. Is it warranted to provide a reduced speed limit in the school zone? If it is, then update the striping and signage plan accordingly.

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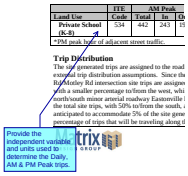


**Subject:** Callout
**Page Label:** 11
**Author:** dsdlaforce
**Date:** 7/24/2018 2:09:43 PM
**Color:**

Provide the independent variable and units used to determine the Daily, AM & PM Peak trips.

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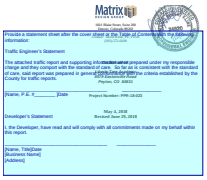


**Subject:** Text Box
**Page Label:** 1
**Author:** dsdlaforce
**Date:** 7/24/2018 2:12:17 PM
**Color:**

Provide a statement sheet after the cover sheet or the Table of Contents with the following information:

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.

_____
_____ _____
[Name, P.E. #_____ ]Date

Developer's Statement

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

_____
_____ _____
[Name, Title]Date
[Business Name]
[Address]