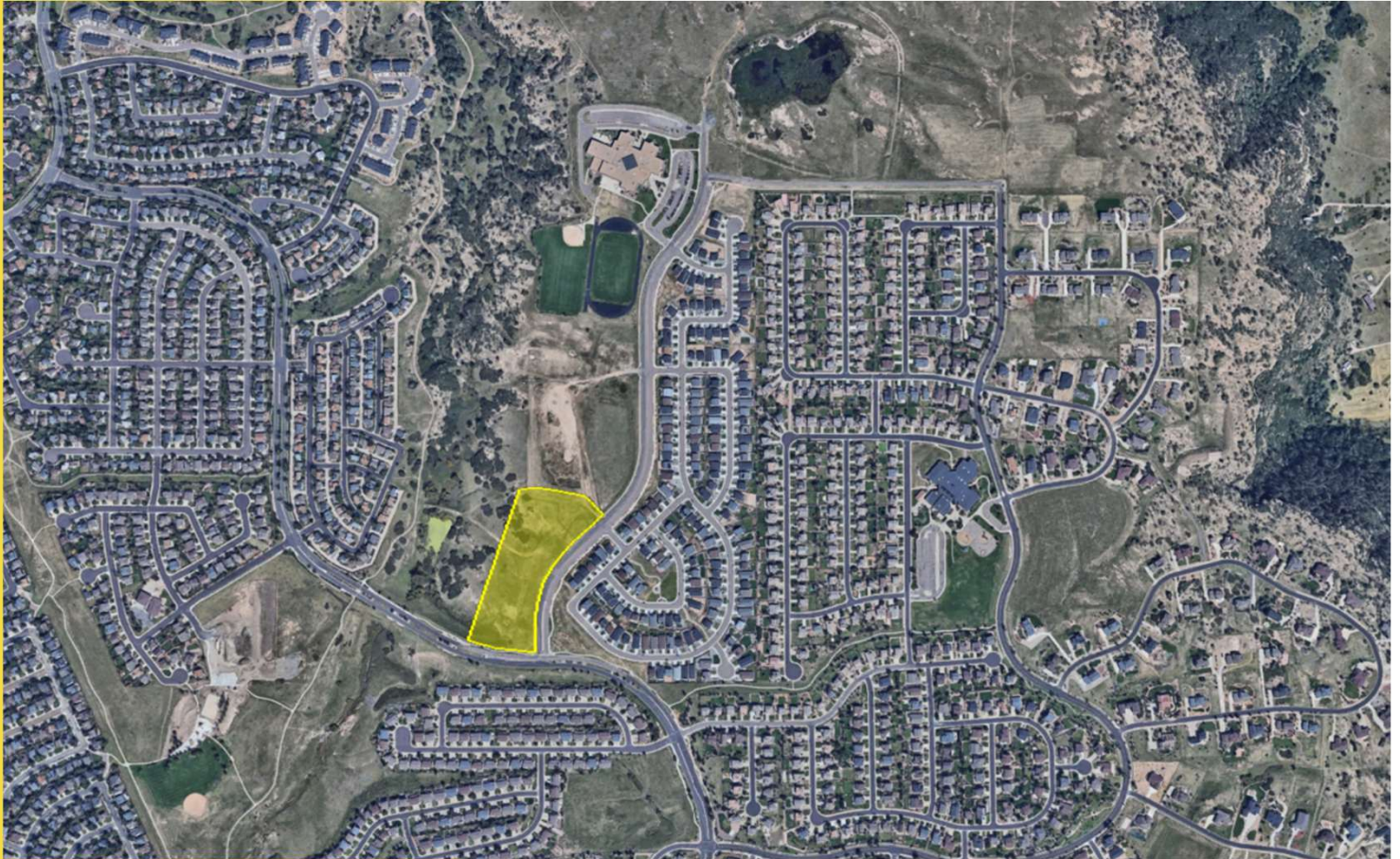


Bella Mesa South

Traffic Impact Study

Town of Castle Rock



Date: May 7, 2025

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BELLA MESA SOUTH TRAFFIC IMPACT STUDY

1.0 Introduction

The Fox Tuttle Transportation Group has prepared this traffic impact study for the development of the Bella Mesa South project. The project proposes to develop a vacant site with single-family attached rowhomes within the Founders Village community located in Castle Rock, Colorado. The property is located on the northwest corner of Mikelson Boulevard and North Mitchell Street, south of Mesa Middle School. The project will have two (2) accesses on North Mitchell Street: one full-movement access aligned with Rock Canyon Trail, and one right-in right-out access just north of Mikelson Boulevard. The property will be developed over time with the assumed completion within the next five (5) years. **Figure 1** provides a vicinity map for the proposed project.

The purpose of this study is to assist in identifying potential traffic impacts within the study area as a result of constructing Bella Mesa South. The traffic study addresses existing, short-term (Year 2030), and long-term (Year 2045) peak hour intersection conditions in the study area with and without the project-generated traffic. The information contained in this study is anticipated to be used by the Town of Castle Rock staff in identifying any intersection or roadway deficiencies and potential improvements for the build-out condition and long-term future scenarios. This study focused on the weekday AM and PM peak hours which represents the periods of highest trip generation for the proposed use and adjacent street traffic. The study is consistent with the requirements of the Town of Castle Rock's Transportation Design Criteria Manual (April 2023). The following supporting documents were reviewed and incorporated into this analysis as appropriate:

- Town of Castle Rock Transportation Master Plan. Felsburg Holt & Ullevig. October 2017.
- Bella Mesa Transportation Impact Analysis. Aldridge Transportation Consultants, LLC. June 2014.
- Villages at Castle Rock Traffic Impact Analysis and Transportation Plan. Aldridge Transportation Consultants, LLC. March 1998.

- Castle Rock Transit Feasibility Study. Felsburg Holt & Ullevig and Fehr & Peers. October 2020.
- Bella Mesa North Traffic Impact Study. Fox Tuttle. March 2025.

2.0 Project Description

The Bella Mesa South project plans to develop vacant land located on the northwest corner of Mikelson Boulevard and North Mitchell Street, south of Mesa Middle School. The proposed land use plan includes 93 single-family attached rowhomes. The Bella Mesa South project will have two (2) accesses to North Mitchell Street: one full-movement access aligned with Rock Canyon Trail, and one right-in right-out access just north of Mikelson Boulevard.

For the purpose of this traffic study, it was assumed that Bella Mesa South will be completed by Year 2030. Internally, a main circulator drive will be constructed between the two accesses with drive aisles providing access to individual garages. The proposed site plan and accesses are shown on **Figure 2**.

3.0 Study Considerations

3.1 Data Collection

Intersection turning movement volumes were collected in December 2024 at six (6) existing intersections during the weekday AM and PM peak hours, including pedestrians and bicyclists. Daily traffic volumes were also collected on Mikelson Boulevard west of North Mitchell Street and on North Mitchell Street north of Mikelson Boulevard. Existing turning movements at North Mitchell Street were not available at the time of this study and were estimated based on the assumption that 100 single family homes use that access. The existing traffic volumes, intersection geometry, and traffic control are illustrated on **Figure 3**. Count data sheets are provided in the **Appendix**.

Historic traffic volumes and future projections on the study roadways were gathered from Colorado Department of Transportation's (CDOT) Transportation Data Management System (TDMS) and CDOT's Online Transportation Information System (OTIS).

3.2 Evaluation Methodology

The traffic operations analysis addressed the signalized and unsignalized intersection operations using the procedures and methodologies set forth by the *Highway Capacity Manual (HCM)*¹. Existing peak hour factors (PHF) by approach and peak hour were applied to the study intersections for the existing and future scenarios. Study intersections were evaluated using Synchro software (v12).

3.3 Level of Service Capacity Analysis

A Level of Service analysis was conducted to determine the existing and future performance of the study area intersections and accesses to determine the most appropriate intersection traffic controls and auxiliary lanes for future conditions.

To measure and describe the operational status of the study intersections, transportation engineers and planners commonly use a grading system referred to as “Level of Service” (LOS) that is defined by the *HCM*. LOS characterizes the operational conditions of an intersections traffic flow, ranging from LOS A (indicating very good, free flow operations) and LOS F (indicating congested and sometimes oversaturated conditions). These grades represent the perspective of drivers and are an indication of the comfort and convenience associated with traveling through the intersections. The intersection LOS is represented as a delay in seconds per vehicle for the intersection as a whole and for each turning movement.

Typically, LOS A through C is considered to be acceptable for the overall intersection operations and LOS D overall during peak hours is acceptable. Individual movements may be allowed to fall to LOS E depending on the circumstances, such as a low-volume, side-street approach to an arterial or a protected-only, and/or signalized left-turn movement. Criteria contained in the *HCM* was applied for these analyses in order to determine peak hour LOS for each scenario. A more detailed discussion of LOS methodology is contained in the **Appendix** for reference.

¹ *Highway Capacity Manual*, Highway Research Board Special Report 209, Transportation Research Board, National Research Council, 7th Edition (2022).

4.0 Existing Conditions

4.1 Roadways

The study area boundaries are based on the amount of traffic to be generated by the project and potential impact to the existing roadway network. The primary public roadways that serve the project site are discussed in the following text and illustrated on **Figure 1**.

Colorado Highway 86 is a two-lane state highway that provides regional access between I-25 to the west and I-70 to the east, with full-movement interchanges at both interstates. This roadway travels through the towns of Castle Rock, Franktown, Elizabeth, Kiowa, and into Limon. Within and near the study area, CO Highway 86 provides access to several residential suburban neighborhoods, rural neighborhoods, local and regional retail centers, and recreational areas. This highway has a posted speed limit of 55 miles per hour (mph) and serves approximately 18,700 to 20,000 vehicles per day (vpd) near the intersection with Founders Parkway.

Ridge Road is a four-lane, north-south, major arterial north of Plum Creek Parkway and a two-lane major arterial south of Plum Creek Parkway. Ridge Road parallels I-25 to the east and provides access through the Town of Castle Rock between the Outlet and Promenade shopping areas, through residential neighborhoods, and to the south end of the town limits. The posted speed limit is 45 mph within the study area. Ridge Road currently serves approximately 13,600 vpd south of CO Highway 86 (CDOT, Year 2024).

Enderud Boulevard is a four-lane collector street that extends from CO Highway 86 to Ridge Road. This roadway provides local access to the residents of the Founders Village community and to Founders Park. The posted speed limit is 35 mph. Enderud Boulevard serves approximately 9,245 vpd south of CO Highway 86 (CDOT, Year 2024).

Mikelson Boulevard is a four-lane collector street that circulates through the Founders Village community leading to several neighborhoods and two schools. This roadway connects from Enderud Boulevard to Ridge Road. The posted speed limit is 35 mph. Mikelson Boulevard serves approximately 4,700 vpd west of North Mitchell Street (count, Year 2024).

North Mitchell Street is a north-south four-lane collector street that extends north from Mikelson Boulevard to provide access to several residential neighborhoods and Mesa Middle School. The posted speed limit is 35 mph. North Mitchell Street serves approximately 3,500 vpd north of Mikelson Boulevard (count, Year 2024).

Plum Creek Parkway is a four-lane arterial roadway that connects from Ridge Road and extends west past Interstate 25. Major intersections are controlled by a mixture of traffic signals and roundabouts. At Ridge Road, a roundabout exists to control traffic with two circulating lanes for eastbound traffic on Plum Creek Parkway, and a southbound right-turn bypass lane. The posted speed limit is 40 mph. Recent traffic counts were not available on Plum Creek Parkway near Ridge Road.

4.2 Intersections

The study area includes seven (7) existing intersections that are listed below with the current traffic control and were analyzed for existing and future background year traffic operations:

1. CO Highway 86 at Enderud Boulevard [signalized]
2. Enderud Boulevard at Mikelson Boulevard [side-street stop-control]
3. Ridge Road at Enderud Boulevard [roundabout]
4. Mikelson Boulevard at North Mitchell Street [roundabout]
5. Ridge Road at Mikelson Boulevard [side-street stop-control]
6. Ridge Road at Plum Creek Parkway [roundabout]
7. North Mitchell Street at Rock Canyon Trail [side-street stop-control]

The existing lane configuration at each of the study locations is illustrated on **Figure 3**.

4.3 Pedestrian and Bicycle

Currently, there are sidewalks on the west side of Enderud Boulevard, north and east side of Mikelson Boulevard, north side of North Ridge Road, and both sides of North Mitchell Street. There are discontinuous sidewalks on the east side of Enderud Boulevard and the south and west side of Mikelson Boulevard. Along the north side of CO Highway 86 between Ridge Road/Founders Parkway and Enderud Boulevard, there is a circuitous multi-use path that leads to the McMurdo Gulch Trail.

Within Founders Village, there are several multi-use paths that wind throughout the open space. The Mitchell Creek Trail and the Powerline Trail lead to other recreational areas within and adjacent to the community.

There are on-street bike lanes along Enderud Boulevard and Mikelson Boulevard. Bikes are encouraged to travel on the multi-use paths and are permitted to travel within general purpose lanes or shoulders on roadways without designated bike lanes.

4.4 Transit

Currently, the Town of Castle Rock does not participate in the Regional Transportation District (RTD) for regional transit services and there is no local service available. The Town provides vouchers and funds for a taxi service and senior center transportation. In the recently published Castle Rock Transit Feasibility Study (October 2020), the Town evaluated the need for and implementation of transit to support their multimodal transportation goals. The study highlighted three (3) preferred operating models that would support the different transit demands of the community and would be beneficial to Bella Mesa South in the future.

4.5 Crash Analysis and Safety Recommendations

A review of the crash history at the intersection of CO Highway 86 and Enderud Boulevard was requested to understand if there are any existing crash patterns that could be intervened. Crash data from CDOT for Year 2023 was reviewed for crashes at the intersection. A total of six (6) crashes were reported at the intersection in the year of data reviewed. Of those, three (3) were rear-end crashes, two (2) broadside crashes, and one (1) approach turn crash. A review of the crash reports did not reveal a discernible pattern of crashes or common cause.

In addition to the CDOT crash data, the Town of Castle Rock Transportation Safety Action Plan² was reviewed for any pertinent safety recommendations at the study intersections. At the intersection of Enderud Boulevard and Ridge Road, the turn lane signage and markings are recommended for review. At the intersection of Mikelson Boulevard and Mitchell Street, recommendations are included for the previous side-street stop-control configuration that have since been addressed with the construction of a roundabout at the intersection. At the intersection of Mikelson Boulevard and Ridge Road, ensuring adequate visibility for vehicles and signage, and speed management are recommended to improve safety.

4.6 Year 2024 Existing Intersection Capacity Analysis

The existing volumes, lane configuration, and traffic control are illustrated on **Figure 3**. The details of LOS for each movement are provided in **Table 1** and the 95th percentile queues are listed in **Table 2** (refer to **Appendix**). The intersection Level of Service worksheets are attached in the **Appendix**. **All of the study intersections currently operate overall at LOS C or better in both peak hours.**

² Town of Castle Rock Transportation Safety Action Plan. January 2024.

The following study intersections have movements that operate at LOS E/F during the one peak hour:

- **#2 – Enderud Boulevard at Mikelson Boulevard:** This side-street stop-controlled intersection currently operates overall at LOS B in the AM peak hour and LOS A in the PM peak hour; however, the westbound left-turn was calculated to operate at LOS F in the AM peak hour. This is most likely related to exiting school traffic from Mesa Middle School and Flagstone Elementary School that are in conflict with entering traffic on Enderud Boulevard. The 95th percentile queues for the westbound left-turn in the AM peak hour was estimated to extend approximately 85 feet (about 4 vehicles) which is within the existing storage length.

Recommendations: No mitigation measures recommended. Delay is expected on side-street approaches on collector streets especially with a significant amount of school traffic. The long delay and queue were only discovered in the morning peak and volumes are not approaching signal warrants throughout the rest of the day.

5.0 Future Conditions

5.1 Annual Growth Factor and Future Volume Methodology

In order to forecast the future peak hour traffic volumes, several sources were reviewed and utilized, including the 20-year factors along study roadways provided by CDOT's traffic database, the Town of Castle Rock Transportation Master Plan, the Villages at Castle Rock Traffic Impact Analysis and Transportation Plan, and the Bella Mesa Revised Transportation Impact Analysis.

The CDOT 20-year factor on CO Highway 86 is 1.17, which equates to an annual growth rate of 0.79%. The forecasts in other planning documents indicated growth rates would range between 1.0% and 2.5% on CO Highway 86 and Ridge Road. According to the Town of Castle Rock Transportation Master Plan the future volumes along Enderud Boulevard were predicted to grow by 0.5% to 1.0%. These growth rates include the trips associated with the remaining dwelling units within Bella Mesa, including Sunset Point, and Sunstone Village. For the purpose of this traffic study, the background annual growth rates were as follows:

- North Mitchell Street, Mitchell Street, and Millbridge Street: 0%
- Enderud Boulevard and Mikelson Boulevard: 0.5%
- CO Highway 86: 1.0%

- Ridge Road: 1.5%

These annual growth rates were applied to the existing traffic volumes at the study intersections to estimate future short-term and long-term volumes.

The Year 2030 background volumes are summarized on **Figure 4** and the Year 2045 background volumes are summarized on **Figure 5**.

5.2 Year 2030 Background Intersection Capacity Analysis

The study area intersections were evaluated to determine baseline operations for the Year 2030 background scenario and to identify any capacity constraints associated with background traffic (refer to **Section 5.1** for growth assumptions). The background volumes, lane configuration, and traffic control are illustrated on **Figure 4**.

The intersection of Enderud Boulevard and Mikelson Boulevard is planned to be improved by Year 2030 with revised traffic control. The intersection was modeled with traffic signal control. It is understood that the Town is considering alternative intersection configurations such as a continuous green T-intersection. A continuous green T-intersection would have a continuous green signal phase for southbound through vehicles on Enderud Boulevard. The other movements at the intersection would be controlled with a traffic signal. Westbound left-turning vehicles on Mikelson Boulevard would turn into a barrier-separated acceleration lane to get up to speed before merging with southbound through vehicles on Enderud Boulevard. For this analysis, a full traffic signal was assumed at the intersection to be conservative; operations for a continuous green T-intersection and a full traffic signal are the same for all movements except for the continuous green through movement, which in this case would need to be stopped for safe pedestrian crossings. The full traffic signal modeled in this analysis is conservative for vehicles and ensures a safe crossing for pedestrians across Enderud Boulevard.

The Level of Service criteria discussed previously was applied to the study area intersections to determine the impacts with the short-term background volumes. This analysis assumes the existing signal timing was still in place.

The results of the LOS calculations for each intersection and movement are provided in **Table 1** and the 95th percentile queues are listed in **Table 2** (refer to **Appendix**). The intersection Level of Service worksheets are attached in the **Appendix**.

All of the study intersections are estimated to operate overall at LOS C or better in both peak hours.

The following intersections or movements were calculated to begin operating at LOS E/F in one or both peak hour in Year 2030 background as described below:

- **#6 – Ridge Road at Mikelson Boulevard:** This side-street stop-controlled intersection was estimated to continue to operate overall at LOS A in both peak hours. The westbound left-turn was calculated to begin to operate at LOS E in the PM peak hour due to high southbound left-turn volumes that limit the gaps for the westbound left-turn. The 95th percentile queues for the westbound left-turn in the PM peak hour was estimated to extend approximately 25 feet (about 1 vehicle).

Recommendations: Monitor safety and queues at this intersection as traffic grows to provide the appropriate solution. This intersection was identified in the Bella Mesa Transportation Impact Analysis as signalized with the buildout of Founders Village and signal warrants for the peak hour, 4-hour, and 8-hour were reviewed. The traffic volumes do not meet signal warrant thresholds.

5.3 Year 2045 Planned Transportation Network

This traffic study assumes that some of the study roadways will be widened by Year 2045 background, as listed in the Town's Transportation Master Plan. If the future scenarios were evaluated with the existing roadway network, then it would be difficult to compare intersection operations when many of the intersections will be altered due to future volumes, capacity, and routing that are not associated with the project. The following roadway and intersection improvements were assumed to be completed by Year 2045:

- **CO Highway 86** – Widen from two lanes to four lanes.
- **CO Highway 86 at Enderud Boulevard** – Accommodate the second through lane per direction on CO Highway 86 and adjust signal timing as necessary.

These assumed lane configurations in the long-term background condition are shown on **Figure 5**.

5.4 Year 2045 Background Intersection Capacity Analysis

The study area intersections were evaluated to determine baseline operations for the Year 2045 background scenario and to identify any capacity constraints associated with background traffic in the long-term scenario (refer to **Section 5.1** for growth assumptions). The long-term background volumes, lane configuration, and traffic control are illustrated on **Figure 5**.

The Level of Service criteria discussed previously was applied to the study area intersections to determine the impacts with the long-term background volumes. The analysis assumed the signal timing at all signalized intersections would be adjusted to accommodate the additional lanes and change in traffic volumes.

The results of the LOS calculations for each intersection and movement are provided in **Table 1** and the 95th percentile queues are listed in **Table 2** (refer to **Appendix**). The intersection Level of Service worksheets are attached in the **Appendix**.

All of the study intersections were estimated to operate overall at LOS C or better in both peak hours.

The following intersections or movements were calculated to begin operating at LOS E/F in one or both peak hour in Year 2045 background as described below:

- **#6 – Ridge Road at Mikelson Boulevard:** This side-street stop-controlled intersection was estimated to continue to operate overall at LOS A in both peak hours. The westbound left-turn was calculated to begin to operate at LOS F in the PM peak hour due to high southbound left-turn volumes that limit the gaps for the westbound left-turn. The 95th percentile queues for the westbound left-turn in the PM peak hour was estimated to extend approximately 25 feet (about 1 vehicle).

Recommendations: Monitor safety and queues at this intersection as traffic grows to provide the appropriate solution. This intersection was identified in the *Bella Mesa Transportation Impact Analysis* as signalized with the buildout of Founders Village and signal warrants for the peak hour, 4-hour, and 8-hour were reviewed. The traffic volumes do not meet signal warrant thresholds.

6.0 Future Conditions with the Bella Mesa South Development

Bella Mesa South is anticipated to include 93 single-family residential rowhomes south of Mesa Middle School. For the purpose of this traffic study, it was assumed that the entire project will be complete in five (5) years.

6.1 Trip Generation

A trip generation estimate was performed to determine the traffic characteristics of the proposed density and land uses of the development. The trip rates contained in the Institute of Transportation Engineers

(ITE) *Trip Generation Manual*³ were applied to estimate the traffic for the proposed land uses: ITE #215 “Single-family Attached Housing”.

Table 3 provides the detailed trip generation estimates for the Bella Mesa South project (refer to the **Appendix**). The proposed project is expected to experience mostly new trips as discussed below:

Primary Trips. These trips are made specifically to visit the site and are considered “new” trips. Primary trips would not have been made if the proposed project did not exist. Therefore, this is the only trip type that increases the total number of trips made on a regional basis.

Non-Auto Trips. These trips are those that are completed by walking, biking, teleworking, or transit. It is anticipated there may be some non-auto trips, but for conservative purposes a non-auto reduction was not applied.

The Bella Mesa South project was estimated to generate approximately 670 daily trips with 45 trips in the AM peak hour and 53 trips in the PM peak hour.

6.2 Trip Distribution and Assignment

The estimated trip volumes were distributed onto the study area street network based on existing traffic characteristics, land uses, and traffic patterns in the area, previous traffic analysis in the area, as well as regional growth and future roadway infrastructure. The trip distributions were estimated based on distributions utilized for adjacent development.

The following distributions by land use type as listed below and presented on **Figure 6**:

- To/from the West via CO Highway 86/Fifth Street – 10%
- To/from the West via Plum Creek – 35%
- To/from the East via CO Highway 86 – 10%
- To/from the North via Ridge Road/Founders Parkway – 40%
- To/from the South via Ridge Road – 5%

³ *Trip Generation Manual, 11th Edition*, Institute of Transportation Engineers, 2021.

Using these distribution assumptions, the projected site traffic was assigned to the study area roadway network for the weekday AM and PM peak hour periods during based on the most convenient route. The new site-generated trips for the study intersections are shown on **Figure 7**.

6.3 Proposed Roadway Network and Access

Access to the Bella Mesa South site is planned at two (2) locations along North Mitchell Street. Internally, a main circulator roadway will connect between the accesses. Some units will have direct garage access to the circulator roadway, with most units having access from a private drive aisle. The proposed access intersections to accommodate the project trip volume are illustrated on **Figure 2**.

6.4 Future Pedestrian and Bicycle Facilities

The Bella Mesa South project proposes to have a network of sidewalks to the front of each building with a central walkway connecting through the middle of site across the drive aisle and circulator roadway. The circulator roadway is planned to have attached sidewalks on both sides of the street.

6.5 Year 2030 Background + Project Intersection Capacity Analysis

This section discusses impacts associated with the addition of the Bella Mesa South development trips in the short-term scenario. The site-generated volumes were added to the Year 2030 background volumes and are illustrated on **Figure 8**. This figure also illustrates the necessary traffic control and lane configurations for all of the study intersections and proposed accesses. The recommended improvements in the Year 2030 background scenario were assumed to be implemented.

The results of the LOS calculations for each intersection and movement are provided in **Table 1** and the 95th percentile queues are listed in **Table 2** (refer to **Appendix**). The intersection Level of Service worksheets are attached in the **Appendix**.

All study intersections are anticipated to operate similarly to the background conditions with the addition of the Bella Mesa South project trips. No new movements begin to operate below LOS D with the project-added trips. Both access intersections operate at LOS A overall with all movements at LOS C or better for both peak hours.

6.6 Year 2045 Background + Project Intersection Capacity Analysis

The site-generated volumes for Bella Mesa South project were added to the Year 2045 background volumes and are illustrated on **Figure 9**. This figure also illustrates the necessary traffic control and lane

configurations for all of the study intersections. The recommended improvements in the previous scenarios were assumed to be implemented. The results of the LOS calculations for each intersection and movement are provided in **Table 1** and the 95th percentile queues are listed in **Table 2** (refer to **Appendix**). The intersection Level of Service worksheets are attached in the **Appendix**.

The majority of the study intersections are anticipated to operate similarly to the background conditions with the addition of the Bella Mesa South project trips. All intersections operate at the same LOS overall with the project-added trips. Both access intersections are estimated to operate at LOS A overall with all movements operating at LOS D or better.

7.0 Queuing Analysis

A queuing analysis was performed to determine if the 95th percentile queues would be accommodated by the existing storage length, to determine the storage lengths for future auxiliary lanes, and if any of the queues would impact an upstream intersection/access. **Table 2** provides the existing and proposed storage lengths, as well as the 95th percentile queues for each existing and future scenario as calculated by Synchro (assuming each vehicle utilizes 25 feet of space). It should be noted that the 95th percentile queue length is a theoretical queue that is 1.65 standard deviations above the average queue length. In theory, the 95th percentile queue would be exceeded 5% of the time based on the average queue length, but it is also possible that a queue this long may not occur.

As shown in **Table 2**, all of the queues are shorter than the provided storage length and do not impact an adjacent intersection in all scenarios. The project trips do not significantly increase queues at the existing study intersections.

8.0 Conclusions

The Bella Mesa South development project proposes to develop 93 single-family attached rowhomes within the Founders Village community. The currently vacant property is located on the northwest corner of Mikelson Boulevard and North Mitchell Street. The project will have one full-movement access and one right-in right-out access on North Mitchell Street. Bella Mesa South is assumed to be completed within the next five (5) years. Internally, a circulator drive, vehicle drive aisle, and walkway network will be

constructed to provide the most beneficial access into and around the site for people driving, walking, and biking.

The Bella Mesa South project was estimated to generate approximately 670 daily trips with 45 trips in the AM peak hour and 53 trips in the PM peak hour at full build-out. **It was determined that the proposed roadway system can adequately accommodate the projected traffic volumes for buildout conditions with the previously planned improvements.** The proposed background and project-related mitigation measures are shown on **Figure 8** (Year 2030) and **Figure 9** (Year 2045). The proposed lengths of auxiliary lanes are listed in **Table 2**.

The following recommendations should be considered:

Background Conditions (Non-Project Related):

- **CO Highway 86** – Widen from two lanes to four lanes per the Town’s *Transportation Master Plan*.
- **Ridge Road** – Widen from two lanes to four lanes per the Town’s *Transportation Master Plan*.
- **CO Highway 86 at Enderud Boulevard** – Accommodate the second through lane per direction on CO Highway 86 and adjust signal timing as necessary.
- **Enderud Boulevard at Mikelson Boulevard** – Signalize. Note the AM peak hour is the only time period that meets a signal warrant in the short-term and long-term scenarios. Typically, the 4-hour and 8-hour MUTCD warrants are typically required to be met to consider signalization, and these are not anticipated to be met with project build out in the long-term. It is understood that the Town is considering alternative intersection configurations such as a continuous green T-intersection. The full traffic signal modeled in this analysis is conservative for vehicles and ensures a safe crossing for pedestrians across Enderud Boulevard.

Project Conditions:

- **North Mitchell Street:** Construct one full-movement access intersection at Rock Canyon Trail and one right-in right-out access just north of Mikelson Boulevard.

Note that the traffic study provides technical information and evaluates the need for transportation mitigation as traffic grows, but it does not address infrastructure commitments or obligations of the Bella Mesa South project.

Tables and Figures:

Table 1 – Peak Hour Intersection LOS Summary for Existing Intersections

Table 2 – Peak Hour Estimated 95th Percentile Queue Lengths

Table 3 – Trip Generation Summary

Figure 1 – Vicinity Map

Figure 2 – Site Plan

Figure 3 – Existing Traffic Volumes

Figure 4 – Year 2030 Background Traffic Volumes

Figure 5 – Year 2045 Background Traffic Volumes

Figure 6 – Site Trip Distribution

Figure 7 – Site-Generated New Trips

Figure 8 – Year 2030 Background + Project Traffic Volumes

Figure 9 – Year 2045 Background + Project Traffic Volumes

Table 1 - Peak Hour Intersection Level of Service Summary

Intersection and Lanes Groups	2024 Existing				2030 Background				2030 Bkgrd + Project				2045 Background				2045 Bkgrd + Project			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
STOP SIGN CONTROL																				
Enderud Blvd. at Mikelson Blvd.	13	B	7	A																
Westbound Left	43	E	17	C	Refer to Signal		Refer to Signal		Refer to Signal		Refer to Signal		Refer to Signal		Refer to Signal		Refer to Signal		Refer to Signal	
Westbound Right	14	B	10	A																
Southbound Left	9	A	8	A																
Ridge Rd & Mikelson Blvd	9	A	8	A	10	A	9	A	10	A	9	A	10	B	9	A	10	B	9	A
Westbound Left	15	C	31	D	14	B	43	E	14	B	45	E	14	B	52	F	15	B	55	F
Westbound Right	12	B	10	B	12	B	10	B	12	B	10	B	13	B	11	B	13	B	11	B
Southbound Left+Through	8	A	8	A	8	A	9	A	8	A	9	A	8	A	9	A	8	A	9	A
N Mitchell St & North Access/Rock Canyon Trail	1	A	2	A	1	A	1	A	1	A	1	A	1	A	1	A	1	A	1	A
Eastbound Left+Through+Right									10	B	9	A					10	B	9	A
Westbound Left+Through+Right	15	C	9	A	22	C	14	B	23	C	15	C	24	C	14	B	26	D	16	C
Northbound Left									9	A	8	A					9	A	8	A
Northbound Through+Right	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
Southbound Left	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
Southbound Through+Right	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
N Mitchell St & South Access									0	A	0	A					0	A	0	A
Eastbound Right									11	B	9	A					11	B	9	A
Southbound Through+Right									0	A	0	A					0	A	0	A
ROUNDABOUT																				
Enderud Blvd. at N. Ridge Rd.	6	A	7	A	6	A	6	A	6	A	6	A	7	A	7	A	7	A	7	A
Westbound	7	A	6	A	8	A	6	A	8	A	6	A	10	A	6	A	10	B	7	A
Northbound	4	A	6	A	4	A	6	A	4	A	6	A	5	A	7	A	5	A	7	A
Southbound	4	A	7	A	4	A	7	A	4	A	7	A	4	A	8	A	4	A	8	A
Mikelson Blvd. at N. Mitchell St.	6	A	4	A	6	A	4	A	6	A	5	A	6	A	5	A	6	A	5	A
Eastbound	6	A	3	A	6	A	5	A	6	A	5	A	6	A	5	A	6	A	5	A
Westbound	6	A	4	A	5	A	5	A	5	A	5	A	5	A	5	A	5	A	5	A
Southbound	6	A	4	A	6	A	4	A	6	A	4	A	6	A	4	A	6	A	4	A
Plum Creek Blvd at N. Ridge Rd.	3	A	5	A	4	A	5	A	5	A	5	A	5	A	7	A	5	A	7	A
Eastbound	3	A	6	A	3	A	7	A	3	A	7	A	3	A	8	A	3	A	8	A
Northbound	5	A	6	A	6	A	7	A	6	A	7	A	7	A	9	A	7	A	10	A
Southbound	1	A	2	A	1	A	2	A	1	A	2	A	1	A	3	A	1	A	3	A

Table 1 - Peak Hour Intersection Level of Service Summary

Intersection and Lanes Groups	2024 Existing				2030 Background				2030 Bkgrd + Project				2045 Background				2045 Bkgrd + Project			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
SIGNAL CONTROL																				
CO 86 at Enderud Blvd.	25	C	19	B	24	C	20	B	24	C	20	C	24	C	21	C	25	C	21	C
Eastbound Left	19	B	12	B	16	B	12	B	16	B	12	B	16	B	11	B	17	B	11	B
Eastbound Through	22	C	19	B	18	B	19	B	19	B	19	B	19	B	20	B	20	B	20	B
Eastbound Right	22	C	17	B	20	B	21	C	20	B	21	C	20	C	20	B	21	C	20	C
Westbound Left	17	B	12	B	14	B	13	B	15	B	13	B	15	B	13	B	15	B	13	B
Westbound Through	21	C	15	B	18	B	15	B	18	B	15	B	20	B	14	B	20	C	14	B
Westbound Right	17	B	11	B	14	B	11	B	15	B	11	B	15	B	10	B	15	B	10	B
Northbound Left	28	C	22	C	28	C	25	C	29	C	26	C	29	C	33	C	29	C	34	C
Northbound Through	20	C	23	C	22	C	25	C	22	C	25	C	22	C	27	C	22	C	27	C
Northbound Right	22	C	25	C	24	C	27	C	23	C	27	C	24	C	29	C	24	C	29	C
Southbound Left	30	C	25	C	32	C	27	C	32	C	27	C	32	C	27	C	32	C	27	C
Southbound Through+Right	41	D	29	C	41	D	31	C	42	D	31	C	41	D	31	C	42	D	31	C
Enderud Blvd. at Mikelson Blvd.					17	B	12	B	17	B	12	B	18	B	12	B	18	B	12	B
Westbound Left	<i>Evaluated as Side-St Stop</i>				22	C	24	C	23	C	24	C	24	C	24	C	24	C	24	C
Westbound Right					22	C	18	B	23	C	18	B	23	C	18	B	23	C	18	B
Northbound Through+Right					13	B	11	B	14	B	11	B	14	B	11	B	14	B	12	B
Southbound Left					8	A	6	A	8	A	6	A	9	A	6	A	9	A	7	A
Southbound Right					6	A	3	A	6	A	3	A	6	A	4	A	6	A	4	A

Note: Delay represented in average seconds per vehicle.

Bella Mesa South Traffic Impact Study

Table 2 - Peak Hour 95th Percentile Queue Summary

Intersections and Lanes Groups	Existing Storage Length (Feet)	2024 Existing		2030 Background		2030 Bkgrd + Project		2045 Background		2045 Bkgrd + Project	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
CO 86 at Enderud Blvd.		<i>Signalized</i>		<i>Signalized</i>		<i>Signalized</i>		<i>Signalized</i>		<i>Signalized</i>	
Eastbound Left	575'	11'	21'	10'	20'	10'	20'	14'	19'	14'	19'
Eastbound Through	-	124'	262'	123'	247'	123'	247'	144'	293'	144'	293'
Eastbound Right	360'	16'	48'	40'	51'	41'	51'	46'	51'	47'	51'
Westbound Left	370'	66'	63'	63'	65'	63'	66'	67'	65'	68'	66'
Westbound Through	-	239'	188'	229'	186'	229'	186'	273'	211'	273'	211'
Westbound Right	375'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'
Northbound Left	500'	182'	100'	235'	137'	243'	147'	238'	194'	244'	203'
Northbound Through	-	67'	40'	77'	42'	77'	42'	81'	49'	81'	49'
Northbound Right	120'	16'	12'	42'	19'	42'	20'	43'	25'	43'	26'
Southbound Left	185'	15'	28'	18'	30'	18'	30'	21'	37'	21'	37'
Southbound Through+Right	-	120'	60'	133'	64'	133'	64'	144'	66'	144'	66'
Enderud Blvd. at Mikelson Blvd.		<i>Side-Street Stop</i>									
Westbound Left	-	85'	20'	<i>Not Applicable</i>		<i>Not Applicable</i>		<i>Not Applicable</i>		<i>Not Applicable</i>	
Westbound Right	-	93'	25'								
Southbound Left	170'	25'	13'								
Enderud Blvd. at Mikelson Blvd. [SIGNAL]				<i>Signalized [Improved]</i>		<i>Signalized [Improved]</i>		<i>Signalized [Improved]</i>		<i>Signalized [Improved]</i>	
Westbound Left	-	<i>Not Applicable</i>		145'	91'	153'	95'	166'	92'	174'	97'
Westbound Right	-			33'	28'	33'	28'	33'	28'	33'	27'
Northbound Through+Right	-			33'	32'	33'	33'	35'	34'	35'	36'
Southbound Left	170'			100'	93'	101'	100'	107'	98'	111'	106'
Southbound Through	-			7'	11'	7'	11'	7'	11'	8'	12'
Enderud Blvd. at N. Ridge Rd.		<i>Roundabout</i>		<i>Roundabout</i>		<i>Roundabout</i>		<i>Roundabout</i>		<i>Roundabout</i>	
Westbound	-	50'	25'	75'	25'	75'	25'	100'	25'	100'	50'
Northbound	-	25'	25'	25'	25'	25'	25'	25'	25'	25'	25'
Southbound	300'	0'	50'	0'	50'	0'	50'	25'	75'	25'	75'
Mikelson Blvd. at N. Mitchell St.		<i>Roundabout</i>		<i>Roundabout</i>		<i>Roundabout</i>		<i>Roundabout</i>		<i>Roundabout</i>	
Eastbound	-	50'	0'	25'	25'	25'	25'	25'	25'	50'	25'
Westbound	-	25'	0'	25'	0'	25'	0'	25'	0'	25'	0'
Southbound	-	50'	25'	50'	25'	50'	25'	50'	25'	50'	25'
Plum Creek Pkwy & Ridge Rd		<i>Roundabout</i>		<i>Roundabout</i>		<i>Roundabout</i>		<i>Roundabout</i>		<i>Roundabout</i>	
Eastbound	-	0'	25'	0'	50'	0'	50'	0'	75'	0'	75'
Northbound	-	25'	25'	50'	50'	50'	50'	50'	75'	50'	75'
Southbound	-	0'	25'	0'	25'	0'	25'	0'	25'	0'	25'
Ridge Rd & Mikelson Blvd		<i>Side-Street Stop</i>		<i>Side-Street Stop</i>		<i>Side-Street Stop</i>		<i>Side-Street Stop</i>		<i>Side-Street Stop</i>	
Westbound Left	-	3'	8'	0'	8'	0'	10'	0'	10'	0'	10'
Westbound Right	-	68'	38'	73'	38'	78'	40'	85'	43'	90'	45'
Southbound Left+Through	-	18'	35'	13'	45'	15'	48'	15'	50'	15'	53'

Bella Mesa South Traffic Impact Study
Table 2 - Peak Hour 95th Percentile Queue Summary

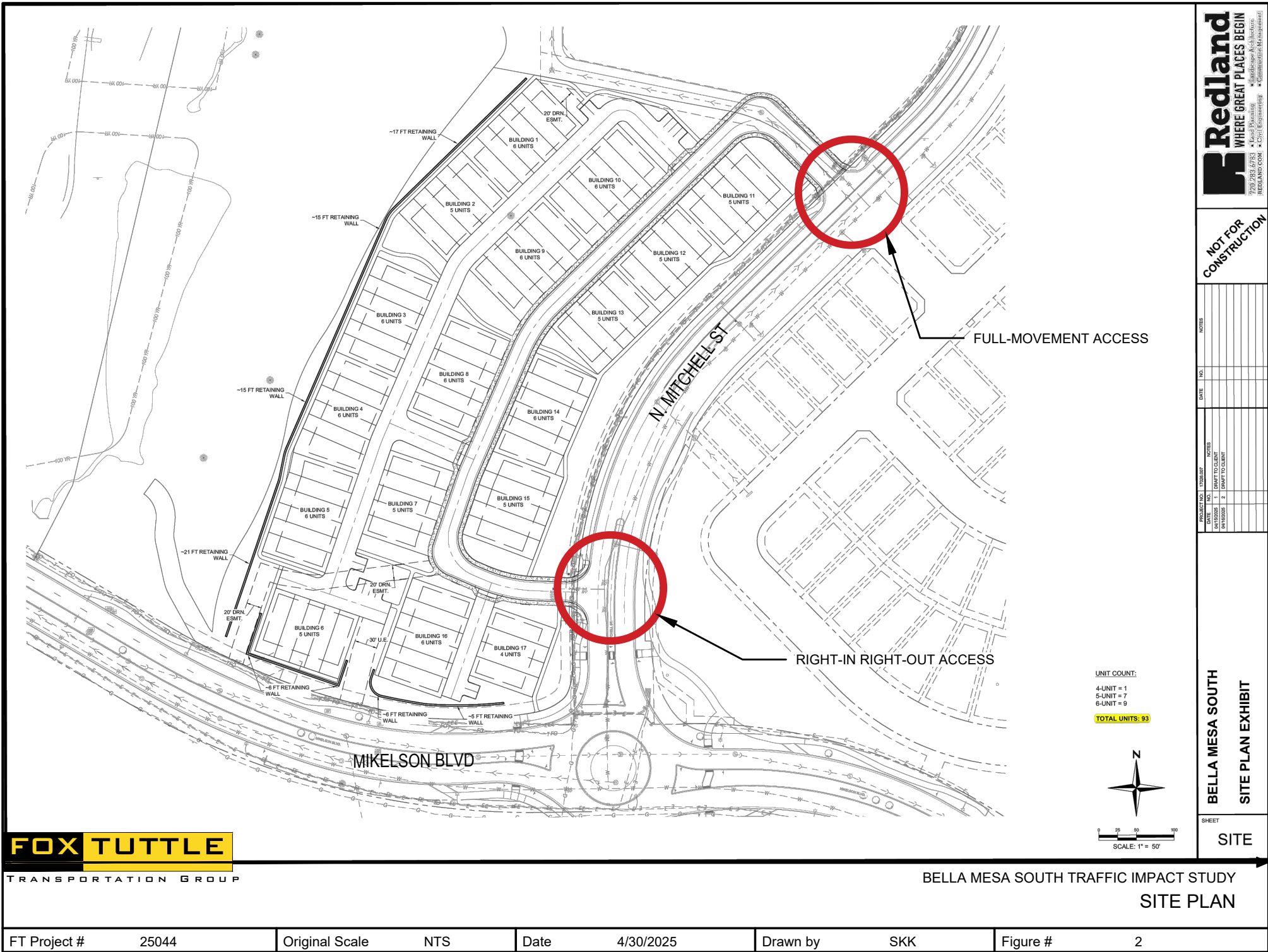
Intersections and Lanes Groups	Existing Storage Length (Feet)	2024 Existing		2030 Background		2030 Bkgrd + Project		2045 Background		2045 Bkgrd + Project	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
N. Mitchell St. & North Access/Rock Canyon Trail		<i>Side-Street Stop</i>		<i>Side-Street Stop</i>		<i>Side-Street Stop</i>		<i>Side-Street Stop</i>		<i>Side-Street Stop</i>	
Eastbound Left+Through+Right	-					0'	0'			0'	0'
Westbound Left+Through+Right	-	13'	3'	20'	8'	20'	8'	23'	8'	23'	8'
Northbound Left	150'					0'	3'			0'	3'
Northbound Through+Right	-	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'
Southbound Left	150'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'
Southbound Through+Right	-	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'
N. Mitchell St. & South Access		<i>Side-Street Stop</i>		<i>Side-Street Stop</i>		<i>Side-Street Stop</i>		<i>Side-Street Stop</i>		<i>Side-Street Stop</i>	
Eastbound Right	-					3'	3'			3'	3'
Northbound Through	-					0'	0'			0'	0'
Southbound Through+Right	-					0'	0'			0'	0'

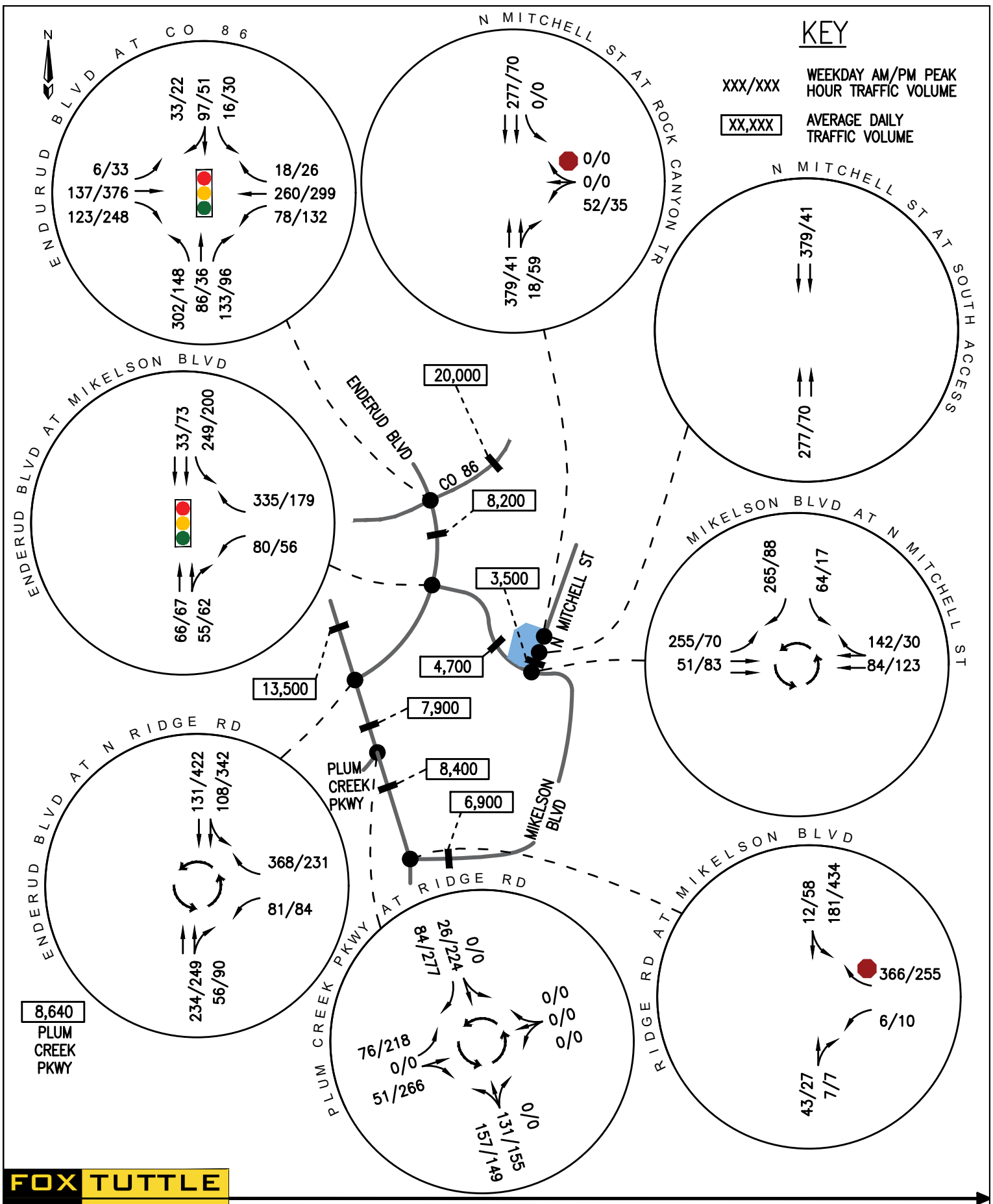
Table 3 - Trip Generation Summary

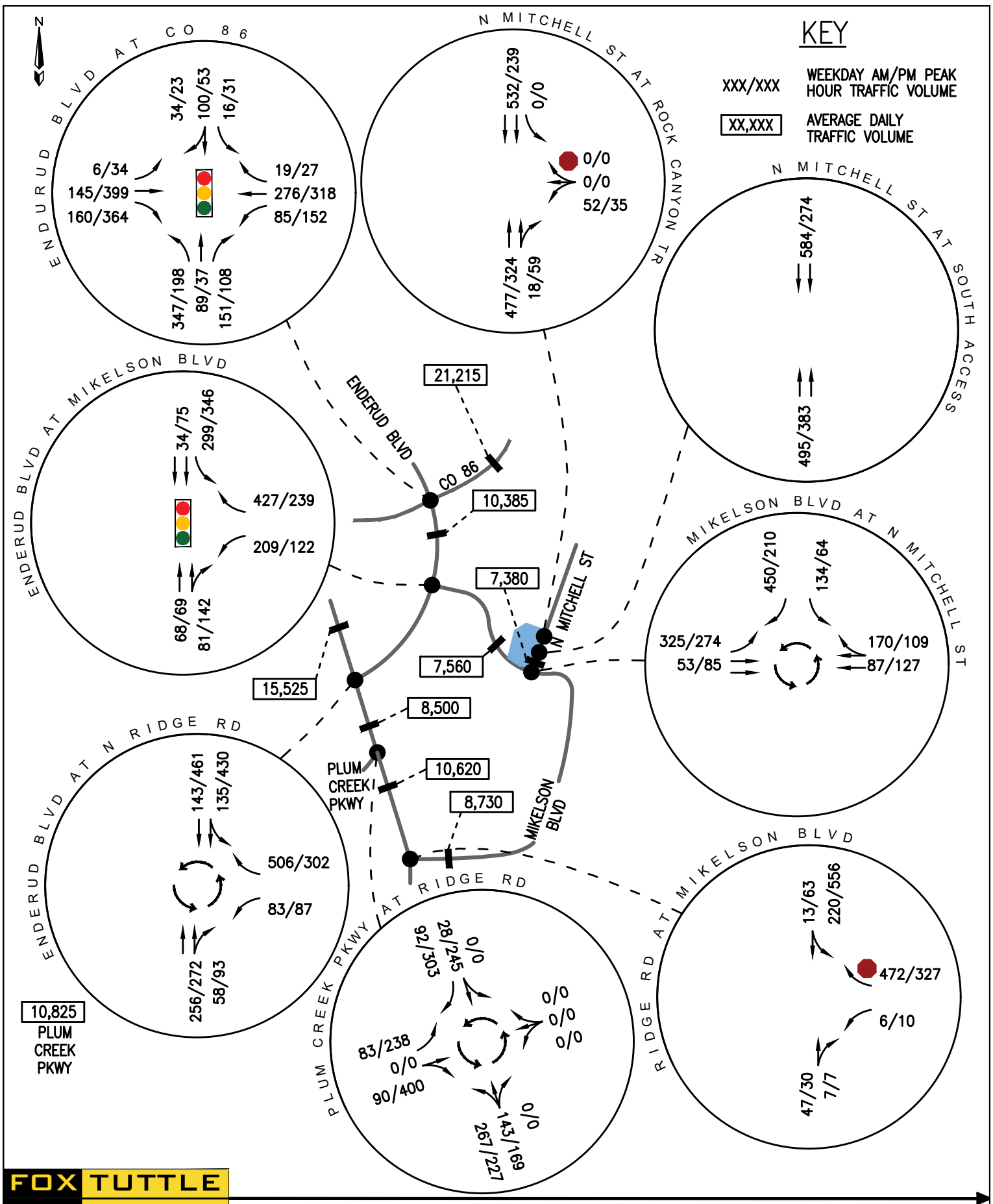
Land Use	Size	Unit	Non-Auto Factor	Average Daily Trips				AM Peak Hour Trips				PM Peak Hour Trips			
				Rate	Total	In	Out	Rate	Total	In	Out	Rate	Total	In	Out
ITE#215: Single-Family Attached Housing	93	Dwelling Units	1.00	7.20	670	335	335	0.48	45	11	34	0.57	53	31	22
Total Trips					670	335	335		45	11	34		53	31	22

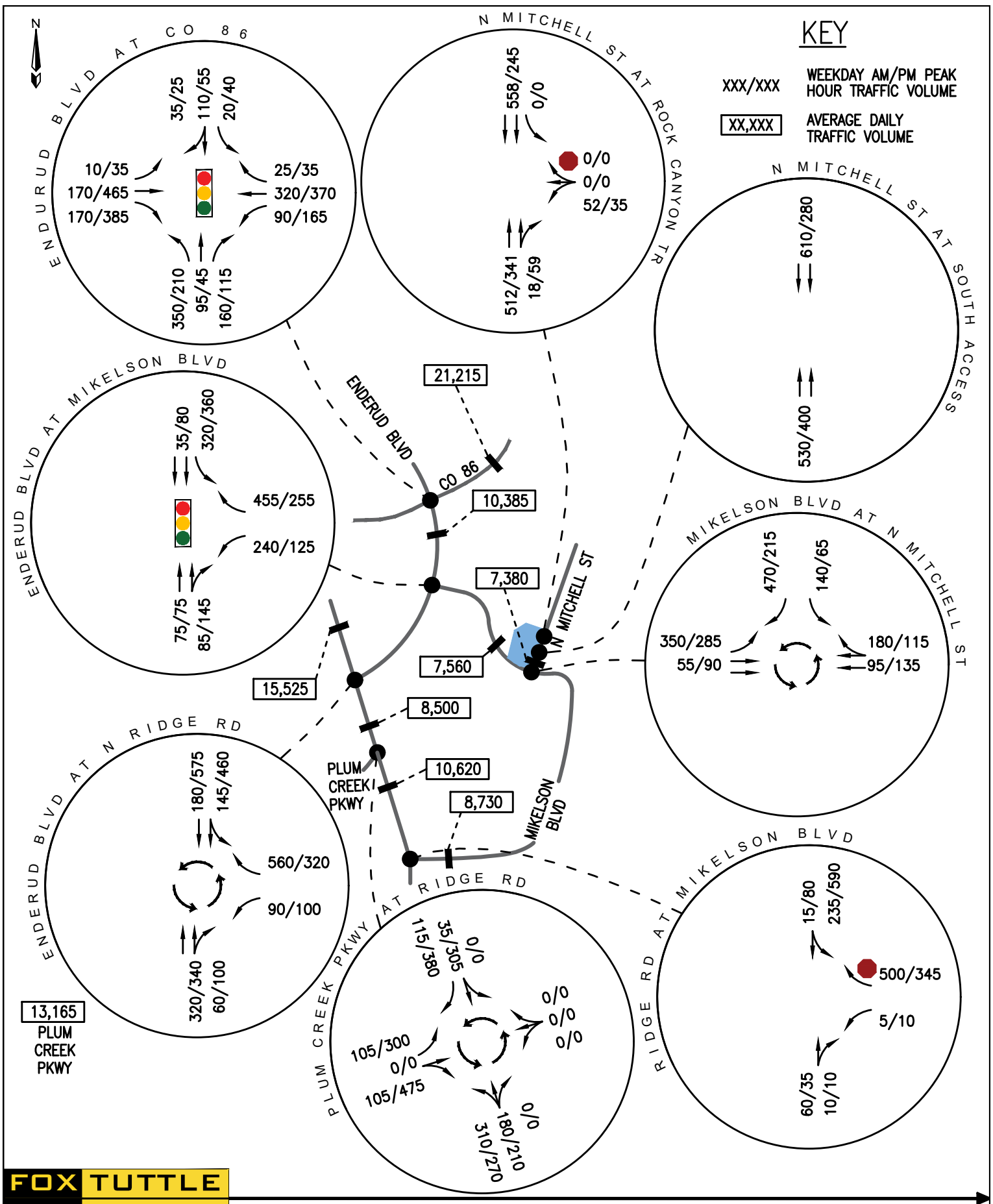
Source : ITE Trip Generation 11th Edition, 2021.

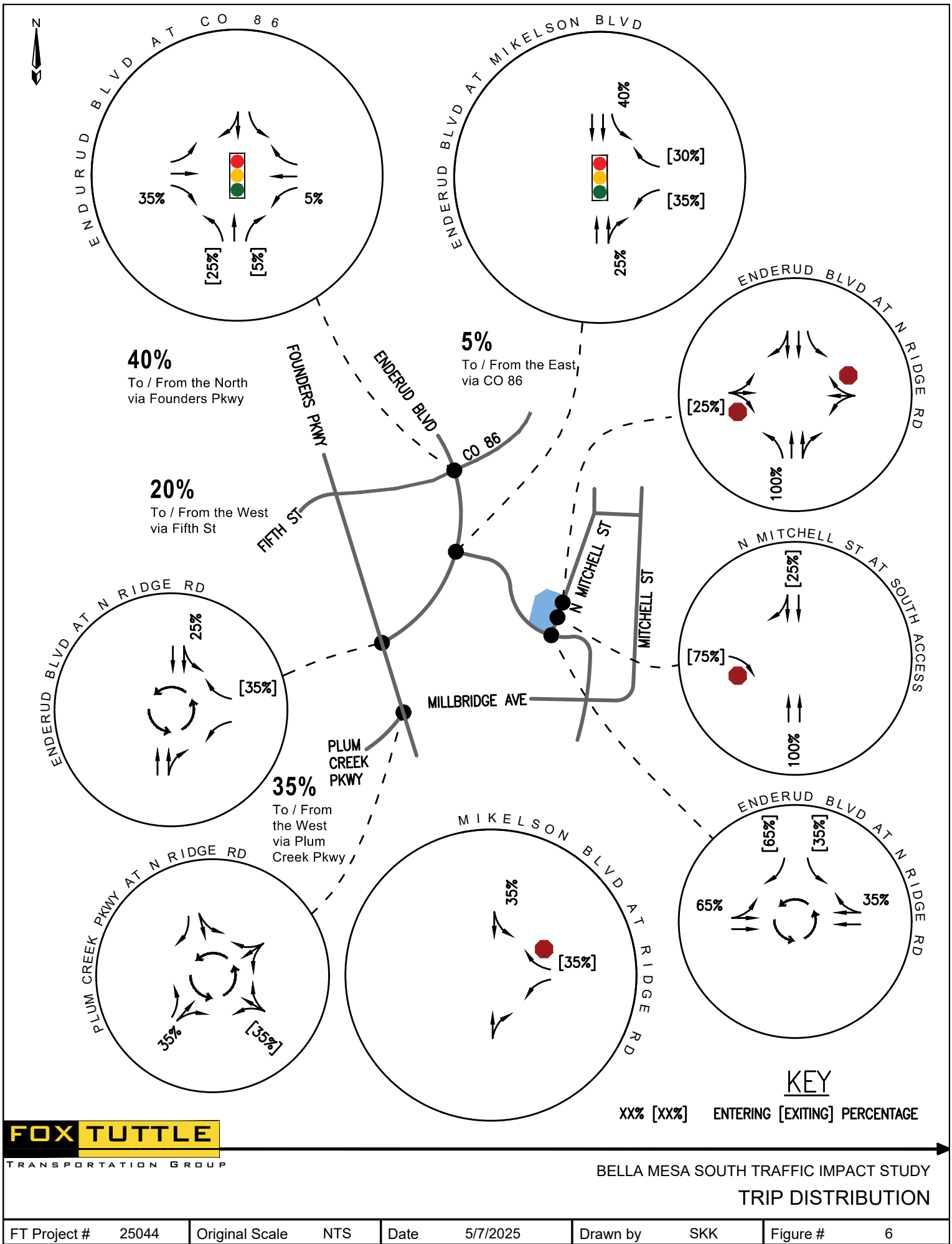


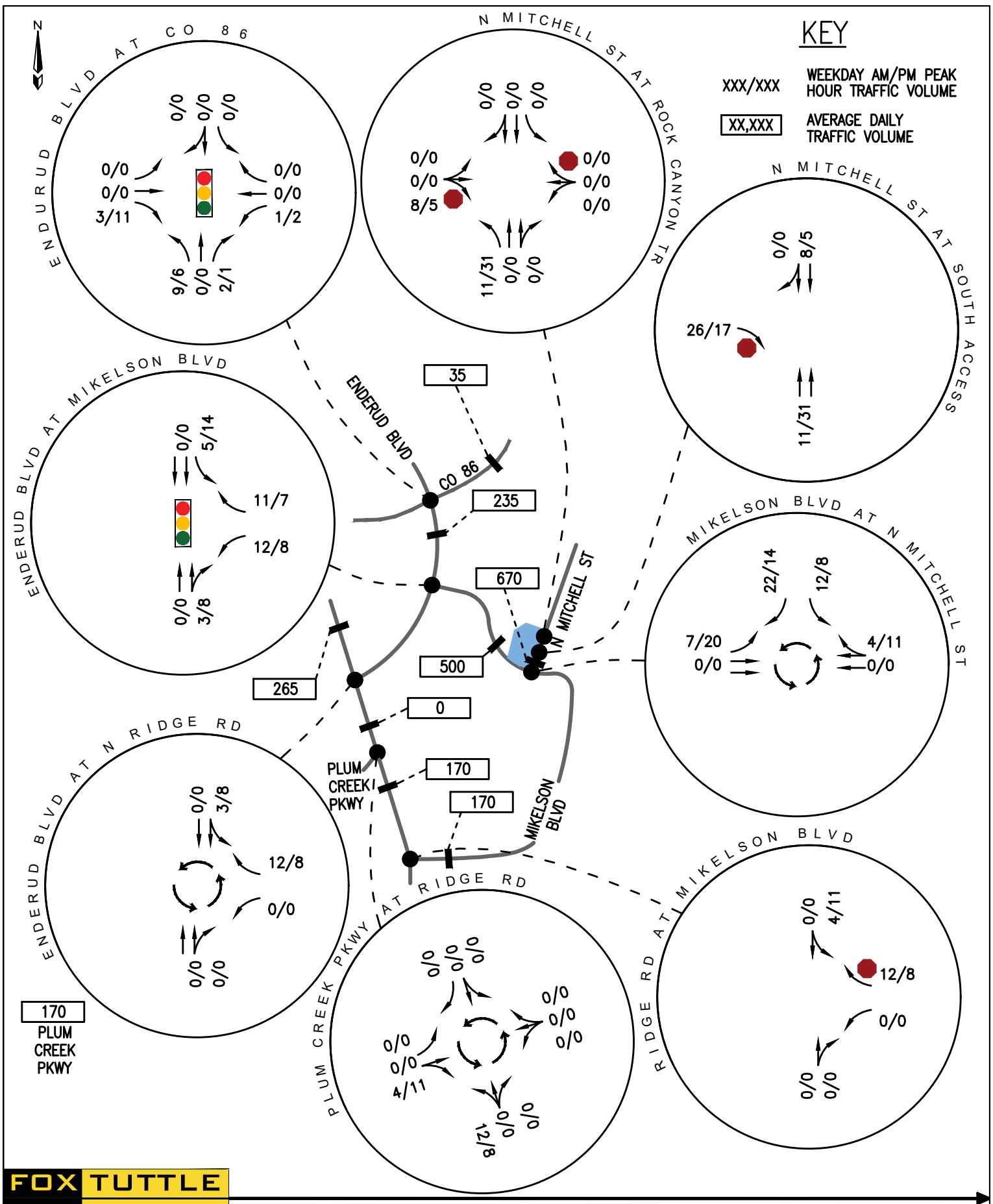


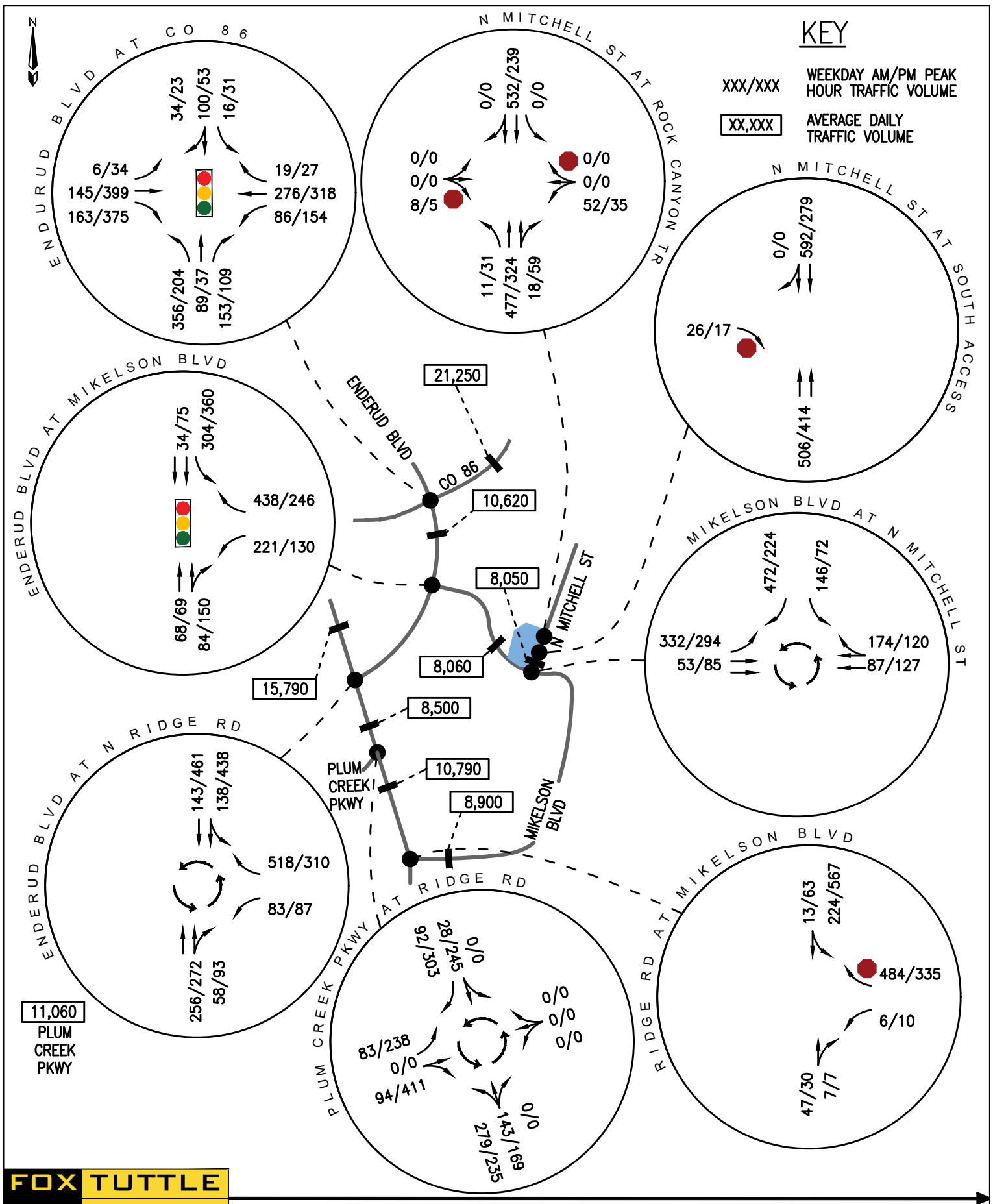


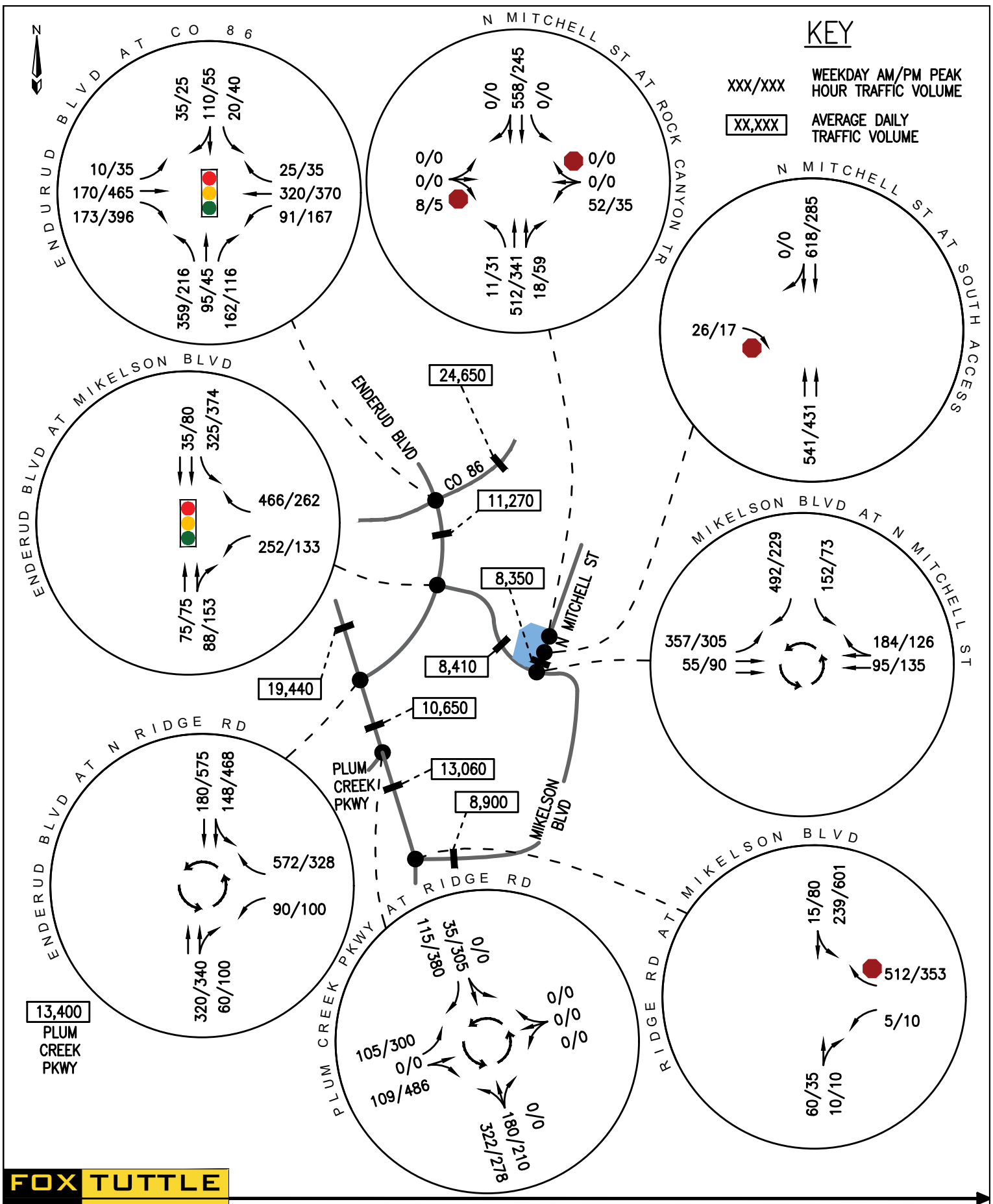












Appendix:

Level of Service Definitions

Existing Traffic Data

Intersection Capacity Worksheets

Level of Service Definitions

LEVEL OF SERVICE DEFINITIONS

In rating roadway and intersection operating conditions with existing or future traffic volumes, “Levels of Service” (LOS) A through F are used, with LOS A indicating very good operation and LOS F indicating poor operation. Levels of service at signalized and unsignalized intersections are closely associated with vehicle delays experienced in seconds per vehicle. More complete level of service definitions and delay data for signal and stop sign controlled intersections are contained in the following table for reference.

Level of Service Rating	Delay in seconds per vehicle (a)		Definition
	Signalized	Unsignalized	
A	0.0 to 10.0	0.0 to 10.0	Low vehicular traffic volumes; primarily free flow operations. Density is low and vehicles can freely maneuver within the traffic stream. Drivers are able to maintain their desired speeds with little or no delay.
B	10.1 to 20.0	10.1 to 15.0	Stable vehicular traffic volume flow with potential for some restriction of operating speeds due to traffic conditions. Vehicle maneuvering is only slightly restricted. The stopped delays are not bothersome and drivers are not subject to appreciable tension.
C	20.1 to 35.0	15.1 to 25.0	Stable traffic operations, however the ability for vehicles to maneuver is more restricted by the increase in traffic volumes. Relatively satisfactory operating speeds prevail, but adverse signal coordination or longer vehicle queues cause delays along the corridor.
D	35.1 to 55.0	25.1 to 35.0	Approaching unstable vehicular traffic flow where small increases in volume could cause substantial delays. Most drivers are restricted in ability to maneuver and selection of travel speeds due to congestion. Driver comfort and convenience are low, but tolerable.
E	55.1 to 80.0	35.1 to 50.0	Traffic operations characterized by significant approach delays and average travel speeds of one-half to one-third the free flow speed. Vehicular flow is unstable and there is potential for stoppages of brief duration. High signal density, extensive vehicle queuing, or corridor signal progression/timing are the typical causes of vehicle delays at signalized corridors.
F	> 80.0	> 50.0	Forced vehicular traffic flow and operations with high approach delays at critical intersections. Vehicle speeds are reduced substantially, and stoppages may occur for short or long periods of time because of downstream congestion.

(a) Delay ranges based on Highway Capacity Manual (6th Edition, 2016) criteria.



Existing Traffic Data



Location: Mikelson Blvd W/O N Mitchell St
Date Range: 12/11/2024 - 12/17/2024
Site Code: 01

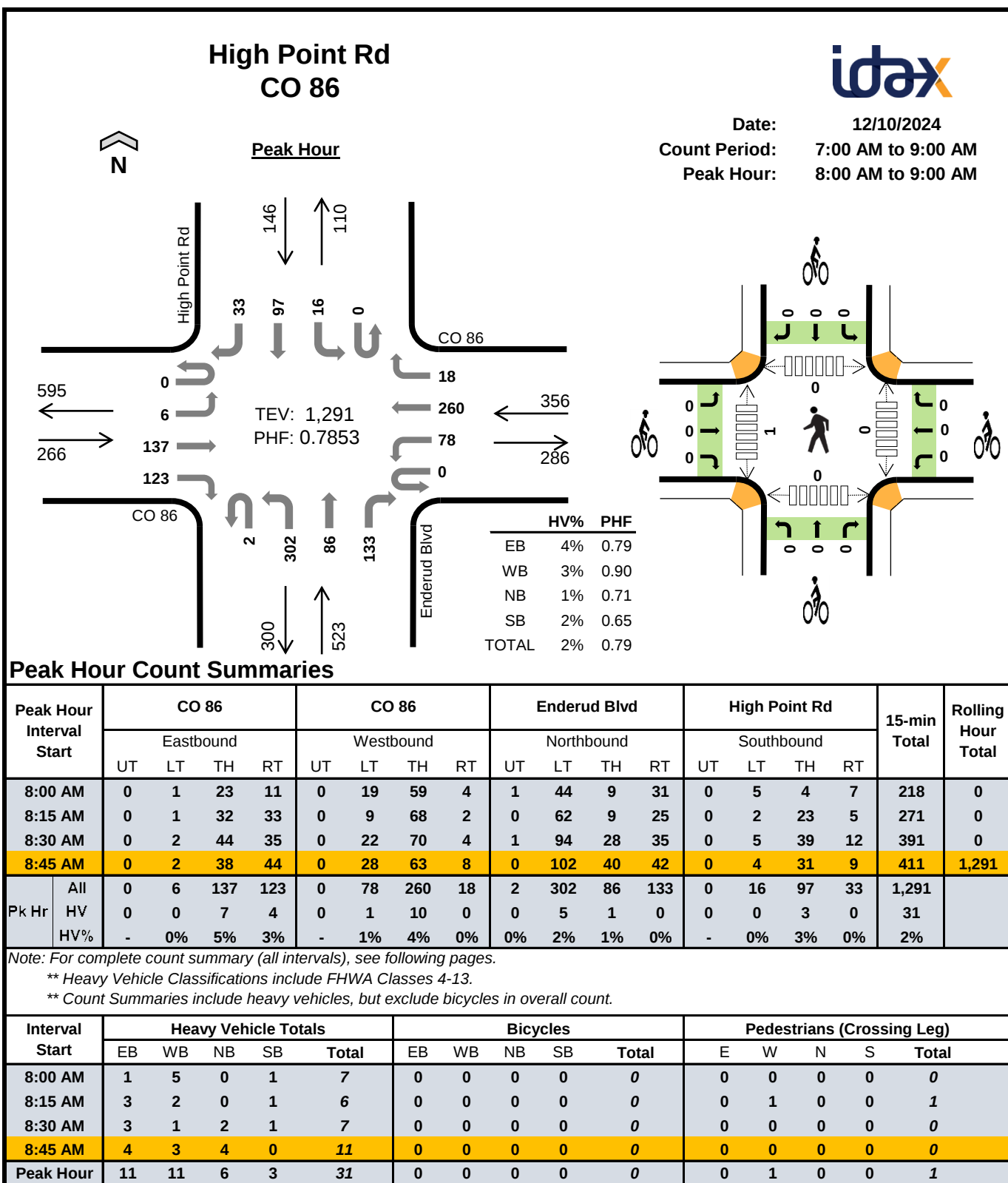
Time	Wednesday 12/11/2024			Thursday 12/12/2024			Friday 12/13/2024			Saturday 12/14/2024			Sunday 12/15/2024			Monday 12/16/2024			Tuesday 12/17/2024			Mid-Week Average		
	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	5	2	7	6	2	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	2	8
1:00 AM	3	2	5	5	3	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	3	7
2:00 AM	2	4	6	2	5	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	5	7
3:00 AM	1	6	7	1	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	6	7
4:00 AM	1	19	20	2	21	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	20	22
5:00 AM	8	54	62	11	56	67	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	55	65
6:00 AM	116	167	283	119	165	284	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	118	166	284
7:00 AM	275	404	679	249	410	659	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	262	407	669
8:00 AM	95	140	235	133	159	292	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	114	150	264
9:00 AM	67	161	228	82	147	229	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	75	154	229
10:00 AM	66	95	161	62	89	151	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	64	92	156
11:00 AM	63	84	147	76	93	169	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	70	89	158
12:00 PM	78	87	165	83	101	184	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	81	94	175
1:00 PM	99	112	211	98	89	187	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	99	101	199
2:00 PM	227	229	456	211	229	440	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	219	229	448
3:00 PM	232	209	441	202	181	383	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	217	195	412
4:00 PM	183	228	411	173	216	389	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	178	222	400
5:00 PM	230	140	370	240	117	357	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	235	129	364
6:00 PM	186	149	335	181	86	267	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	184	118	301
7:00 PM	140	178	318	123	133	256	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	132	156	287
8:00 PM	98	42	140	61	40	101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	41	121
9:00 PM	44	27	71	46	31	77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45	29	74
10:00 PM	24	10	34	27	11	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	11	36
11:00 PM	9	4	13	11	4	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	4	14
Total	2,252	2,553	4,805	2,204	2,394	4,598	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,228	2,474	4,702
Percent	47%	53%		48%	52%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47%	53%	
AM Peak	07:00	07:00	07:00	07:00	07:00	07:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	07:00	07:00	07:00
Vol.	275	404	679	249	410	659	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	262	407	669
PM Peak	15:00	14:00	14:00	17:00	14:00	14:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17:00	14:00	14:00
Vol.	232	229	456	240	229	440	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	235	229	448

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

Location: N Mitchell St N/O Mikelson Blvd
 Date Range: 12/11/2024 - 12/17/2024
 Site Code: 02

Time	Wednesday 12/11/2024			Thursday 12/12/2024			Friday 12/13/2024			Saturday 12/14/2024			Sunday 12/15/2024			Monday 12/16/2024			Tuesday 12/17/2024			Mid-Week Average		
	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
12:00 AM	1	1	2	4	1	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	1	4
1:00 AM	3	0	3	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0	2
2:00 AM	0	1	1	0	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	1	1
3:00 AM	1	2	3	0	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	2
4:00 AM	1	9	10	1	11	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	10	11
5:00 AM	5	26	31	6	26	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	26	32
6:00 AM	141	117	258	139	125	264	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	140	121	261
7:00 AM	359	377	736	345	381	726	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	352	379	731
8:00 AM	47	80	127	56	88	144	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	84	136
9:00 AM	38	71	109	44	77	121	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41	74	115
10:00 AM	48	41	89	39	50	89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44	46	89
11:00 AM	34	52	86	42	54	96	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	53	91
12:00 PM	46	45	91	48	43	91	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47	44	91
1:00 PM	76	56	132	69	46	115	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	73	51	124
2:00 PM	232	201	433	225	184	409	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	229	193	421
3:00 PM	154	182	336	110	147	257	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	132	165	297
4:00 PM	120	132	252	108	130	238	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	114	131	245
5:00 PM	176	99	275	147	68	215	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	162	84	245
6:00 PM	173	78	251	131	43	174	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	152	61	213
7:00 PM	87	195	282	73	125	198	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	160	240
8:00 PM	43	34	77	33	26	59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	30	68
9:00 PM	28	22	50	24	24	48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	23	49
10:00 PM	16	5	21	15	4	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	5	20
11:00 PM	4	0	4	4	2	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	1	5
Total	1,833	1,826	3,659	1,663	1,657	3,320	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,748	1,742	3,490
Percent	50%	50%		50%	50%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50%	50%	
AM Peak	07:00	07:00	07:00	07:00	07:00	07:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	07:00	07:00	07:00
Vol.	359	377	736	345	381	726	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	352	379	731
PM Peak	14:00	14:00	14:00	14:00	14:00	14:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14:00	14:00	14:00
Vol.	232	201	433	225	184	409	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	229	193	421

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



Count Summaries - All Vehicles

Interval Start		CO 86				CO 86				Enderud Blvd				High Point Rd				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	15	8	0	3	44	2	0	43	6	33	0	3	2	1	160	0
7:15 AM		0	2	35	5	0	12	44	1	0	41	6	28	0	6	4	0	184	0
7:30 AM		0	4	20	3	0	17	76	2	0	42	9	23	0	3	5	6	210	0
7:45 AM		0	18	26	15	0	11	68	1	0	52	10	33	0	3	3	3	243	797
8:00 AM		0	1	23	11	0	19	59	4	1	44	9	31	0	5	4	7	218	855
8:15 AM		0	1	32	33	0	9	68	2	0	62	9	25	0	2	23	5	271	942
8:30 AM		0	2	44	35	0	22	70	4	1	94	28	35	0	5	39	12	391	1,123
8:45 AM		0	2	38	44	0	28	63	8	0	102	40	42	0	4	31	9	411	1,291
Count Total		0	30	233	154	0	121	492	24	2	480	117	250	0	31	111	43	2,088	
Pk Hr	All	0	6	137	123	0	78	260	18	2	302	86	133	0	16	97	33	1,291	
	HV	0	0	7	4	0	1	10	0	0	5	1	0	0	0	3	0	31	
	HV%	-	0%	5%	3%	-	1%	4%	0%	0%	2%	1%	0%	-	0%	3%	0%	2%	

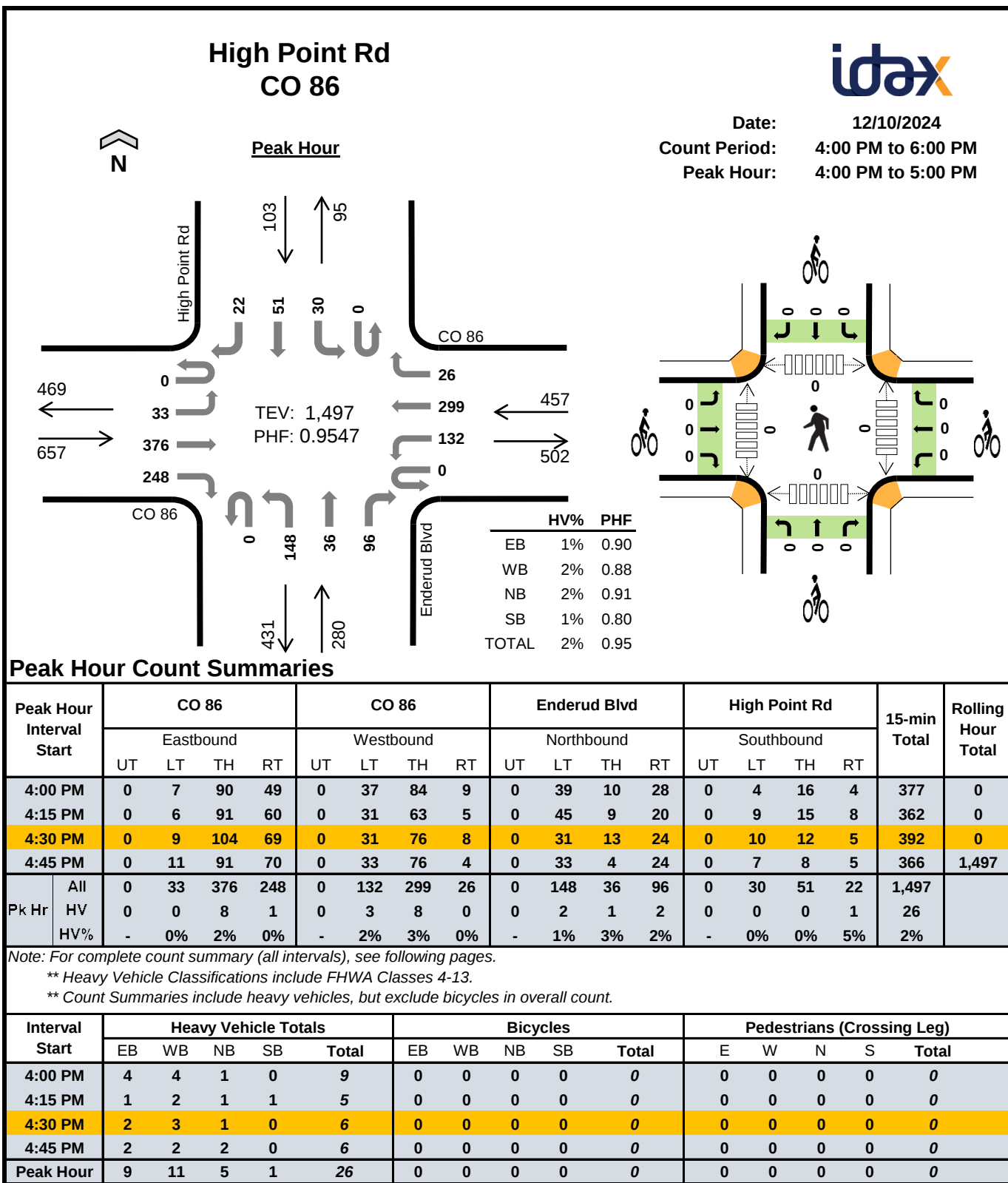
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	0	5	0	1	6	0	0	0	0	0	0	0	0	0	0
7:15 AM	1	7	1	0	9	0	0	0	0	0	0	0	0	0	0
7:30 AM	4	4	0	0	8	0	0	0	0	0	0	0	0	0	0
7:45 AM	2	0	1	0	3	0	0	0	0	0	0	0	0	0	0
8:00 AM	1	5	0	1	7	0	0	0	0	0	0	0	0	0	0
8:15 AM	3	2	0	1	6	0	0	0	0	0	0	1	0	0	1
8:30 AM	3	1	2	1	7	0	0	0	0	0	0	0	0	0	0
8:45 AM	4	3	4	0	11	0	0	0	0	0	0	0	0	0	0
Count Total	18	27	8	4	57	0	0	0	0	0	0	1	0	0	1
Peak Hour	11	11	6	3	31	0	0	0	0	0	0	1	0	0	1

Count Summaries - Heavy Vehicles

Interval Start	CO 86				CO 86				Enderud Blvd				High Point Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	5	0	0	0	0	0	0	0	1	0	6	0
7:15 AM	0	0	1	0	0	1	6	0	0	0	1	0	0	0	0	0	9	0
7:30 AM	0	0	4	0	0	3	1	0	0	0	0	0	0	0	0	0	8	0
7:45 AM	0	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	3	26
8:00 AM	0	0	1	0	0	0	5	0	0	0	0	0	0	0	1	0	7	27
8:15 AM	0	0	3	0	0	0	2	0	0	0	0	0	0	0	1	0	6	24
8:30 AM	0	0	1	2	0	0	1	0	0	2	0	0	0	0	1	0	7	23
8:45 AM	0	0	2	2	0	1	2	0	0	3	1	0	0	0	0	0	11	31
Count Total	0	0	13	5	0	5	22	0	0	5	3	0	0	0	4	0	57	
Pk Hr Heavy	0	0	7	4	0	1	10	0	0	5	1	0	0	0	3	0	31	

Count Summaries - Bikes

Interval Start	CO 86				CO 86				Enderud Blvd				High Point Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Pk Hr Bike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		



Count Summaries - All Vehicles																			
Interval Start		CO 86				CO 86				Enderud Blvd				High Point Rd				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	7	90	49	0	37	84	9	0	39	10	28	0	4	16	4	377	0
4:15 PM		0	6	91	60	0	31	63	5	0	45	9	20	0	9	15	8	362	0
4:30 PM		0	9	104	69	0	31	76	8	0	31	13	24	0	10	12	5	392	0
4:45 PM		0	11	91	70	0	33	76	4	0	33	4	24	0	7	8	5	366	1,497
5:00 PM		0	9	120	60	0	31	53	4	0	41	3	16	0	8	11	15	371	1,491
5:15 PM		0	8	95	64	0	41	55	9	0	41	3	22	0	5	15	7	365	1,494
5:30 PM		0	9	84	66	0	41	53	1	0	28	7	13	0	4	5	3	314	1,416
5:45 PM		0	10	72	75	0	42	41	5	1	51	4	14	0	4	12	4	335	1,385
Count Total		0	69	747	513	0	287	501	45	1	309	53	161	0	51	94	51	2,882	
Pk Hr	All	0	33	376	248	0	132	299	26	0	148	36	96	0	30	51	22	1,497	
	HV	0	0	8	1	0	3	8	0	0	2	1	2	0	0	0	1	26	
	HV%	-	0%	2%	0%	-	2%	3%	0%	-	1%	3%	2%	-	0%	0%	5%	2%	

Interval Start	Heavy Vehicle Totals						Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total		EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	4	4	1	0	9		0	0	0	0	0	0	0	0	0	0
4:15 PM	1	2	1	1	5		0	0	0	0	0	0	0	0	0	0
4:30 PM	2	3	1	0	6		0	0	0	0	0	0	0	0	0	0
4:45 PM	2	2	2	0	6		0	0	0	0	0	0	0	0	0	0
5:00 PM	1	0	1	0	2		0	0	0	0	0	0	0	0	0	0
5:15 PM	4	1	2	0	7		0	0	0	0	0	0	0	0	0	0
5:30 PM	3	0	0	0	3		0	0	0	0	0	0	0	0	0	0
5:45 PM	1	0	0	0	1		0	0	0	0	0	0	0	0	0	0
Count Total	18	12	8	1	39		0	0	0	0	0	0	0	0	0	0
Peak Hour	9	11	5	1	26		0	0	0	0	0	0	0	0	0	0

Count Summaries - Heavy Vehicles

Interval Start	CO 86				CO 86				Enderud Blvd				High Point Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	4	0	0	2	2	0	0	0	1	0	0	0	0	0	9	0
4:15 PM	0	0	1	0	0	1	1	0	0	0	0	1	0	0	0	1	5	0
4:30 PM	0	0	1	1	0	0	3	0	0	1	0	0	0	0	0	0	6	0
4:45 PM	0	0	2	0	0	0	2	0	0	1	0	1	0	0	0	0	6	26
5:00 PM	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	2	19
5:15 PM	0	0	4	0	0	1	0	0	0	2	0	0	0	0	0	0	7	21
5:30 PM	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3	18
5:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	13
Count Total	0	0	16	2	0	4	8	0	0	4	1	3	0	0	0	1	39	
Pk Hr Heavy	0	0	8	1	0	3	8	0	0	2	1	2	0	0	0	1	26	

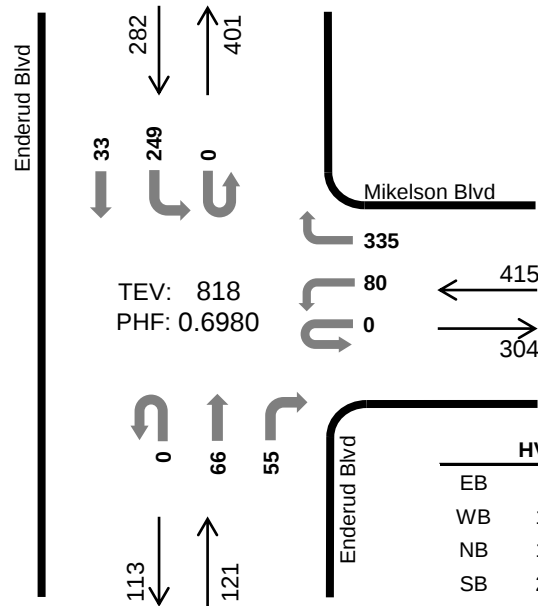
Count Summaries - Bikes

Interval Start	CO 86				CO 86				Enderud Blvd				High Point Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Pk Hr Bike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

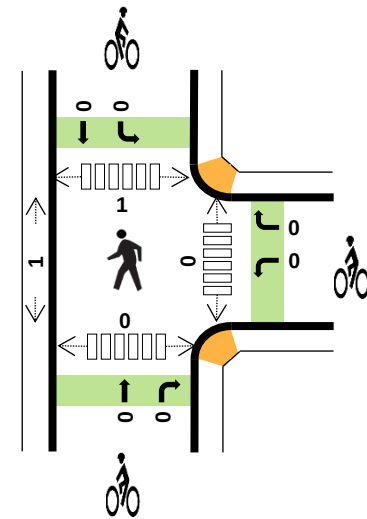
Enderud Blvd Mikelson Blvd



Peak Hour



	HV%	PHF
EB	--	--
WB	1%	0.62
NB	1%	0.64
SB	2%	0.71
TOTAL	2%	0.70



Peak Hour Count Summaries

Peak Hour Interval Start		n/a				Mikelson Blvd				Enderud Blvd				Enderud Blvd				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
8:00 AM		0	0	0	0	0	8	0	35	0	0	16	5	0	23	8	0	95	0
8:15 AM		0	0	0	0	0	10	0	67	0	0	17	9	0	49	7	0	159	0
8:30 AM		0	0	0	0	0	25	0	103	0	0	19	28	0	89	7	0	271	0
8:45 AM		0	0	0	0	0	37	0	130	0	0	14	13	0	88	11	0	293	818
Pk Hr	All	0	0	0	0	0	80	0	335	0	0	66	55	0	249	33	0	818	
	HV	0	0	0	0	0	0	0	6	0	0	0	1	0	7	0	0	14	
	HV%	-	-	-	-	-	0%	-	2%	-	-	0%	2%	-	3%	0%	-	2%	

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
8:00 AM	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	1	0	1	2	0	0	0	0	0	0	1	1	0	2
8:30 AM	0	1	1	4	6	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	6	1	7	14	0	0	0	0	0	0	1	1	0	2

Count Summaries - All Vehicles																			
Interval Start		n/a				Mikelson Blvd				Enderud Blvd				Enderud Blvd				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	0	0	0	9	0	43	0	0	13	1	0	2	3	0	71	0
7:15 AM		0	0	0	0	0	4	0	19	0	0	11	2	0	5	10	0	51	0
7:30 AM		0	0	0	0	0	8	0	34	0	0	24	2	0	12	8	0	88	0
7:45 AM		0	0	0	0	0	5	0	40	0	0	10	7	0	18	7	0	87	297
8:00 AM		0	0	0	0	0	8	0	35	0	0	16	5	0	23	8	0	95	321
8:15 AM		0	0	0	0	0	10	0	67	0	0	17	9	0	49	7	0	159	429
8:30 AM		0	0	0	0	0	25	0	103	0	0	19	28	0	89	7	0	271	612
8:45 AM		0	0	0	0	0	37	0	130	0	0	14	13	0	88	11	0	293	818
Count Total		0	0	0	0	0	106	0	471	0	0	124	67	0	286	61	0	1,115	
Pk Hr	All	0	0	0	0	0	80	0	335	0	0	66	55	0	249	33	0	818	
	HV	0	0	0	0	0	0	0	6	0	0	0	1	0	7	0	0	14	
	HV%	-	-	-	-	-	0%	-	2%	-	-	0%	2%	-	3%	0%	-	2%	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	0	1	0	1	2	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	2	3	5	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	1	0	1	2	0	0	0	0	0	0	1	1	0	2
8:30 AM	0	1	1	4	6	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0
Count Total	0	7	3	11	21	0	0	0	0	0	0	1	1	0	2
Peak Hour	0	6	1	7	14	0	0	0	0	0	0	1	1	0	2

Count Summaries - Heavy Vehicles

Interval Start	n/a				Mikelson Blvd				Enderud Blvd				Enderud Blvd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	2	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	1	2	0	5	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	7
8:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	2	9
8:30 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	4	0	0	6	10
8:45 AM	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	4	14
Count Total	0	0	0	0	0	0	0	7	0	0	1	2	0	8	3	0	21	
Pk Hr Heavy	0	0	0	0	0	0	0	6	0	0	0	1	0	7	0	0	14	

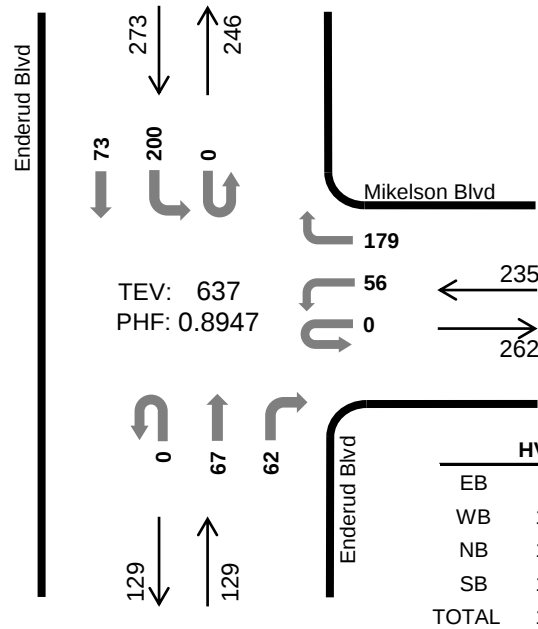
Count Summaries - Bikes

Interval Start	n/a				Mikelson Blvd				Enderud Blvd				Enderud Blvd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Pk Hr Bike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

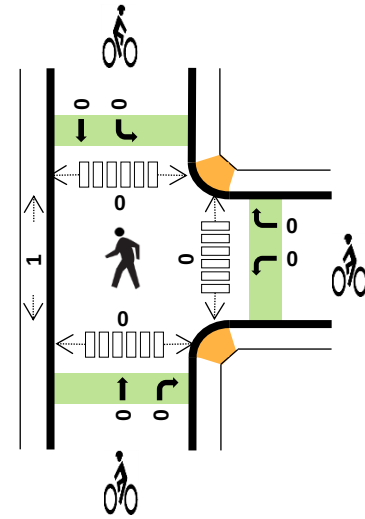
Enderud Blvd Mikelson Blvd



Peak Hour



Date: 12/10/2024
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM



Peak Hour Count Summaries

Peak Hour Interval Start		n/a				Mikelson Blvd				Enderud Blvd				Enderud Blvd				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	0	0	0	25	0	57	0	0	16	18	0	43	18	0	177	0
4:15 PM		0	0	0	0	0	11	0	35	0	0	16	14	0	54	15	0	145	0
4:30 PM		0	0	0	0	0	13	0	58	0	0	21	14	0	51	21	0	178	0
4:45 PM		0	0	0	0	0	7	0	29	0	0	14	16	0	52	19	0	137	637
Pk Hr	All	0	0	0	0	0	56	0	179	0	0	67	62	0	200	73	0	637	
	HV	0	0	0	0	0	0	0	3	0	0	1	0	0	3	0	0	7	
	HV%	-	-	-	-	-	0%	-	2%	-	-	1%	0%	-	2%	0%	-	1%	

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	0	1	0	1	2	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
4:30 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	2	1	1	4	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	3	1	3	7	0	0	0	0	0	0	1	0	0	1

Count Summaries - All Vehicles																			
Interval Start		n/a				Mikelson Blvd				Enderud Blvd				Enderud Blvd				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	0	0	0	25	0	57	0	0	16	18	0	43	18	0	177	0
4:15 PM		0	0	0	0	0	11	0	35	0	0	16	14	0	54	15	0	145	0
4:30 PM		0	0	0	0	0	13	0	58	0	0	21	14	0	51	21	0	178	0
4:45 PM		0	0	0	0	0	7	0	29	0	0	14	16	0	52	19	0	137	637
5:00 PM		0	0	0	0	0	10	0	28	0	0	15	15	0	46	20	0	134	594
5:15 PM		0	0	0	0	0	5	0	33	0	0	22	14	0	43	19	0	136	585
5:30 PM		0	0	0	0	0	10	0	20	0	0	15	25	0	50	25	0	145	552
5:45 PM		0	0	0	0	0	9	0	33	0	0	8	20	0	61	15	0	146	561
Count Total		0	0	0	0	0	90	0	293	0	0	127	136	0	400	152	0	1,198	
Pk Hr	All	0	0	0	0	0	56	0	179	0	0	67	62	0	200	73	0	637	
	HV	0	0	0	0	0	0	0	3	0	0	1	0	0	3	0	0	7	
	HV%	-	-	-	-	-	0%	-	2%	-	-	1%	0%	-	2%	0%	-	1%	

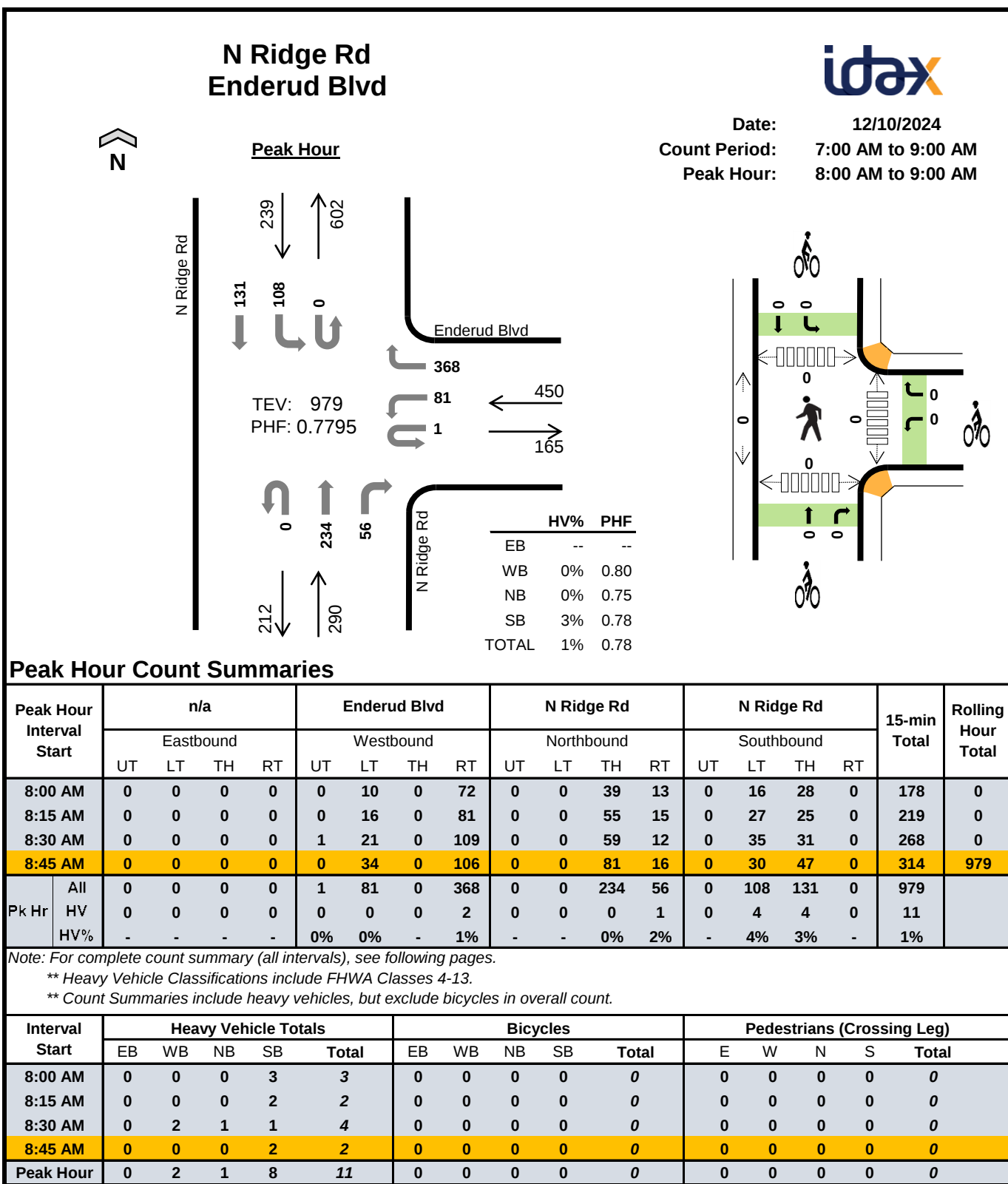
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	0	1	0	1	2	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
4:30 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	2	1	1	4	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
5:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	4	2	4	10	0	0	0	0	0	0	2	0	0	2
Peak Hour	0	3	1	3	7	0	0	0	0	0	0	1	0	0	1

Count Summaries - Heavy Vehicles

Interval Start	n/a				Mikelson Blvd				Enderud Blvd				Enderud Blvd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	2	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0
4:45 PM	0	0	0	0	0	0	0	2	0	0	1	0	0	1	0	0	4	7
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
5:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	6
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	2	7
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Count Total	0	0	0	0	0	0	0	4	0	0	1	1	0	4	0	0	10	
Pk Hr Heavy	0	0	0	0	0	0	0	3	0	0	1	0	0	3	0	0	7	

Count Summaries - Bikes

Interval Start	n/a				Mikelson Blvd				Enderud Blvd				Enderud Blvd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Pk Hr Bike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		



Count Summaries - All Vehicles																			
Interval Start		n/a				Enderud Blvd				N Ridge Rd				N Ridge Rd				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	0	0	0	11	0	59	0	0	43	2	0	7	12	0	134	0
7:15 AM		0	0	0	0	0	12	0	53	0	0	42	6	0	12	18	0	143	0
7:30 AM		0	0	0	0	2	11	0	64	0	0	46	11	0	15	11	0	160	0
7:45 AM		0	0	0	0	1	21	0	71	0	0	47	9	0	16	20	0	185	622
8:00 AM		0	0	0	0	0	10	0	72	0	0	39	13	0	16	28	0	178	666
8:15 AM		0	0	0	0	0	16	0	81	0	0	55	15	0	27	25	0	219	742
8:30 AM		0	0	0	0	1	21	0	109	0	0	59	12	0	35	31	0	268	850
8:45 AM		0	0	0	0	0	34	0	106	0	0	81	16	0	30	47	0	314	979
Count Total		0	0	0	0	4	136	0	615	0	0	412	84	0	158	192	0	1,601	
Pk Hr	All	0	0	0	0	1	81	0	368	0	0	234	56	0	108	131	0	979	
	HV	0	0	0	0	0	0	0	2	0	0	0	1	0	4	4	0	11	
	HV%	-	-	-	-	0%	0%	-	1%	-	-	0%	2%	-	4%	3%	-	1%	

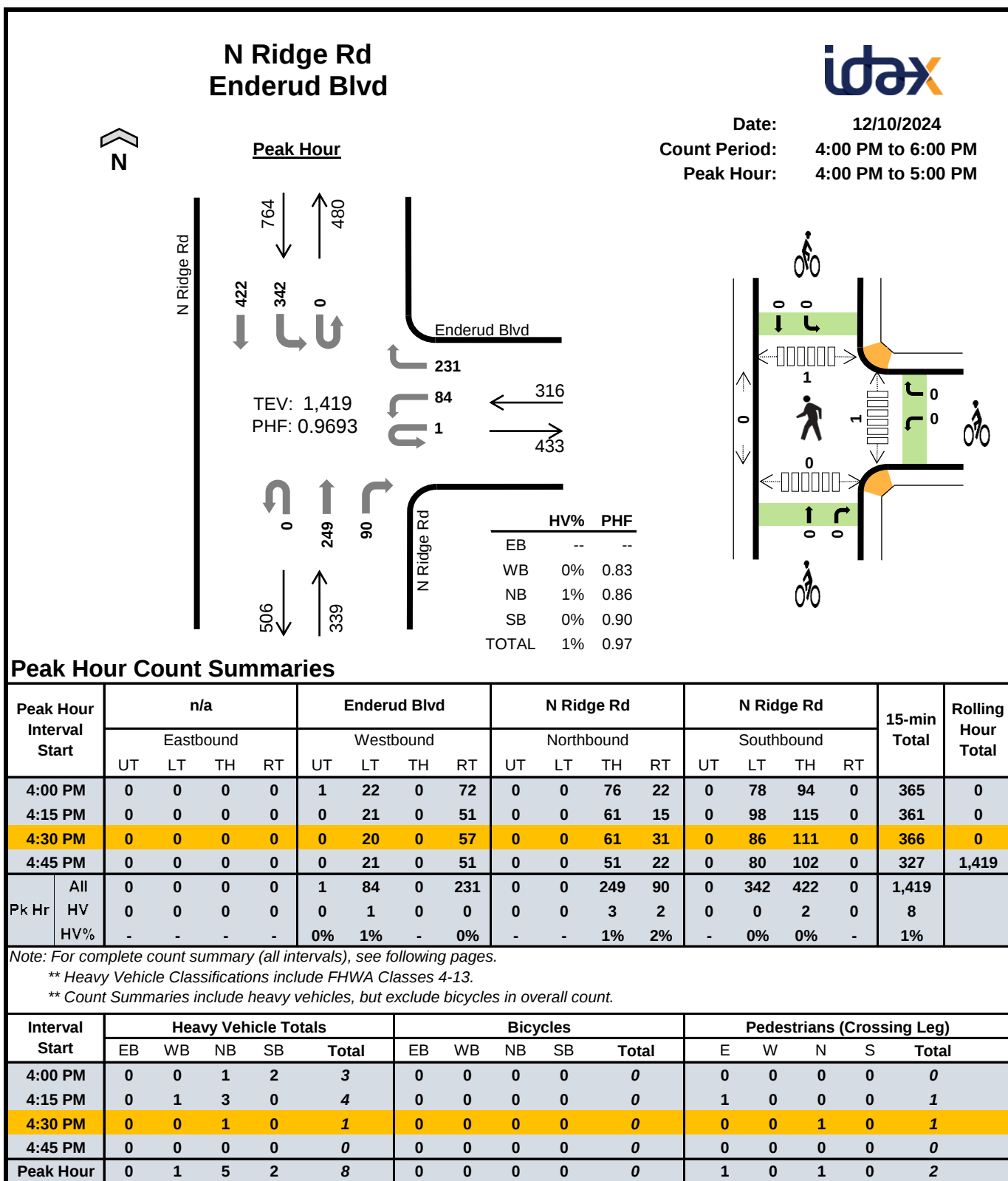
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	1	0	1	2	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	2	1	1	4	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0
Count Total	0	5	1	10	16	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	2	1	8	11	0	0	0	0	0	0	0	0	0	0

Count Summaries - Heavy Vehicles

Interval Start	n/a				Enderud Blvd				N Ridge Rd				N Ridge Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
7:30 AM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0
7:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	2	5
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	8
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	9
8:30 AM	0	0	0	0	0	0	0	2	0	0	0	1	0	0	1	0	4	11
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	11
Count Total	0	0	0	0	2	0	0	3	0	0	0	1	0	4	6	0	16	
Pk Hr Heavy	0	0	0	0	0	0	0	2	0	0	0	1	0	4	4	0	11	

Count Summaries - Bikes

Interval Start	n/a				Enderud Blvd				N Ridge Rd				N Ridge Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Pk Hr Bike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		



Count Summaries - All Vehicles																			
Interval Start		n/a				Enderud Blvd				N Ridge Rd				N Ridge Rd				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	0	0	1	22	0	72	0	0	76	22	0	78	94	0	365	0
4:15 PM		0	0	0	0	0	21	0	51	0	0	61	15	0	98	115	0	361	0
4:30 PM		0	0	0	0	0	20	0	57	0	0	61	31	0	86	111	0	366	0
4:45 PM		0	0	0	0	0	21	0	51	0	0	51	22	0	80	102	0	327	1,419
5:00 PM		0	0	0	0	0	11	0	52	0	0	59	27	0	92	104	0	345	1,399
5:15 PM		0	0	0	0	0	17	0	52	0	0	53	28	0	81	91	0	322	1,360
5:30 PM		0	0	0	0	1	15	0	46	0	0	52	18	0	98	84	0	314	1,308
5:45 PM		0	0	0	0	0	14	0	66	0	0	46	15	0	89	81	0	311	1,292
Count Total		0	0	0	0	2	141	0	447	0	0	459	178	0	702	782	0	2,711	
Pk Hr	All	0	0	0	0	1	84	0	231	0	0	249	90	0	342	422	0	1,419	
	HV	0	0	0	0	0	1	0	0	0	0	3	2	0	0	2	0	8	
	HV%	-	-	-	-	0%	1%	-	0%	-	-	1%	2%	-	0%	0%	-	1%	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	3	0	4	0	0	0	0	0	1	0	0	0	1
4:30 PM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	1	1	1	3	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
Count Total	0	2	8	3	13	0	0	0	0	0	1	0	1	0	2
Peak Hour	0	1	5	2	8	0	0	0	0	0	1	0	1	0	2

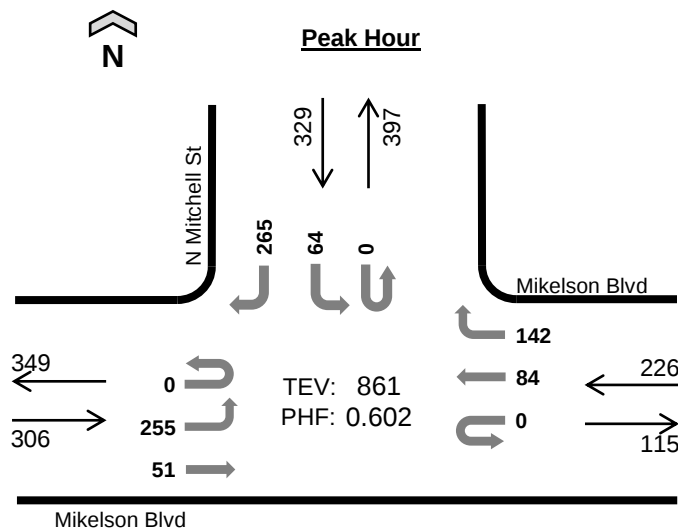
Count Summaries - Heavy Vehicles

Interval Start	n/a				Enderud Blvd				N Ridge Rd				N Ridge Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	3	0
4:15 PM	0	0	0	0	0	1	0	0	0	0	2	1	0	0	0	0	4	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	6
5:15 PM	0	0	0	0	0	1	0	0	0	0	0	1	0	0	1	0	3	5
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	5
Count Total	0	0	0	0	0	2	0	0	0	0	4	4	0	0	3	0	13	
Pk Hr Heavy	0	0	0	0	0	1	0	0	0	0	3	2	0	0	2	0	8	

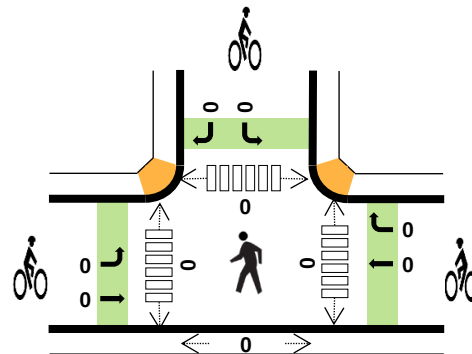
Count Summaries - Bikes

Interval Start	n/a				Enderud Blvd				N Ridge Rd				N Ridge Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Pk Hr Bike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

N Mitchell St Mikelson Blvd



Date: 12/10/2024
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM



	HV%	PHF
EB	2%	0.61
WB	2%	0.53
NB	--	--
SB	2%	0.57
TOTAL	2%	0.60

Peak Hour Count Summaries

Peak Hour Interval Start		Mikelson Blvd				Mikelson Blvd				n/a				N Mitchell St				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
8:00 AM		0	11	7	0	0	0	11	6	0	0	0	0	0	2	0	11	48	0
8:15 AM		0	48	8	0	0	0	16	19	0	0	0	0	0	8	0	47	146	0
8:30 AM		0	112	14	0	0	0	25	42	0	0	0	0	0	19	0	98	310	0
8:45 AM		0	84	22	0	0	0	32	75	0	0	0	0	0	35	0	109	357	861
Pk Hr	All	0	255	51	0	0	0	84	142	0	0	0	0	0	64	0	265	861	
	HV	0	5	1	0	0	0	0	4	0	0	0	0	0	2	0	5	17	
	HV%	-	2%	2%	-	-	-	0%	3%	-	-	-	-	-	3%	-	2%	2%	

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
8:00 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
8:15 AM	1	2	0	2	5	0	0	0	0	0	0	0	0	0	0
8:30 AM	4	1	0	2	7	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	1	0	3	4	0	0	0	0	0	0	0	0	0	0
Peak Hour	6	4	0	7	17	0	0	0	0	0	0	0	0	0	0

Count Summaries - All Vehicles																			
Interval Start		Mikelson Blvd				Mikelson Blvd				n/a				N Mitchell St				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	1	7	0	0	0	19	1	0	0	0	0	0	1	0	15	44	0
7:15 AM		0	3	6	0	0	0	10	6	0	0	0	0	0	3	0	7	35	0
7:30 AM		0	2	10	0	0	0	12	4	0	0	0	0	0	1	0	13	42	0
7:45 AM		0	13	7	0	0	0	13	8	0	0	0	0	0	0	0	8	49	170
8:00 AM		0	11	7	0	0	0	11	6	0	0	0	0	0	2	0	11	48	174
8:15 AM		0	48	8	0	0	0	16	19	0	0	0	0	0	8	0	47	146	285
8:30 AM		0	112	14	0	0	0	25	42	0	0	0	0	0	19	0	98	310	553
8:45 AM		0	84	22	0	0	0	32	75	0	0	0	0	0	35	0	109	357	861
Count Total		0	274	81	0	0	0	138	161	0	0	0	0	0	69	0	308	1,031	
Pk Hr	All	0	255	51	0	0	0	84	142	0	0	0	0	0	64	0	265	861	
	HV	0	5	1	0	0	0	0	4	0	0	0	0	0	2	0	5	17	
	HV%	-	2%	2%	-	-	-	0%	3%	-	-	-	-	-	3%	-	2%	2%	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
8:00 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
8:15 AM	1	2	0	2	5	0	0	0	0	0	0	0	0	0	0
8:30 AM	4	1	0	2	7	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	1	0	3	4	0	0	0	0	0	0	0	0	0	0
Count Total	7	5	0	7	19	0	0	0	0	0	0	0	0	0	0
Peak Hour	6	4	0	7	17	0	0	0	0	0	0	0	0	0	0

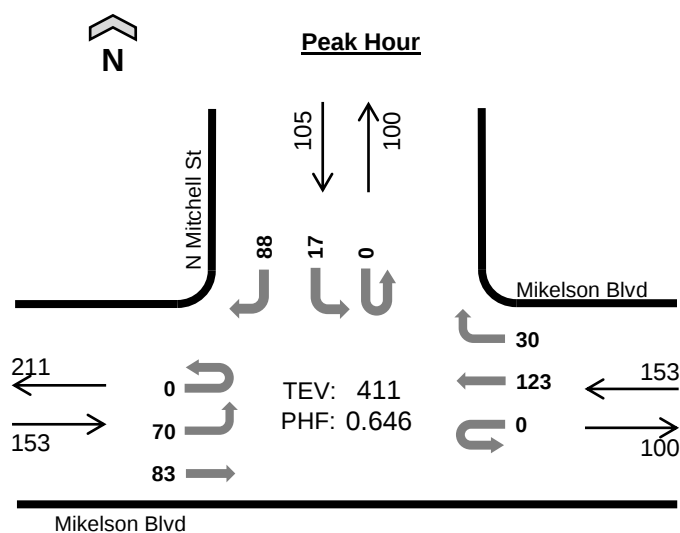
Count Summaries - Heavy Vehicles

Interval Start	Mikelson Blvd				Mikelson Blvd				n/a				N Mitchell St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
8:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
8:15 AM	0	1	0	0	0	0	0	2	0	0	0	0	0	2	0	0	5	7
8:30 AM	0	4	0	0	0	0	0	1	0	0	0	0	0	0	0	2	7	14
8:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3	4	17
Count Total	0	6	1	0	0	0	1	4	0	0	0	0	0	2	0	5	19	
Pk Hr Heavy	0	5	1	0	0	0	0	4	0	0	0	0	0	2	0	5	17	

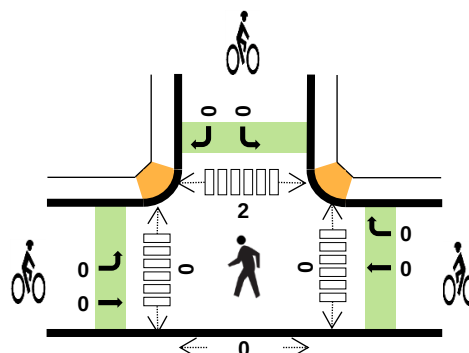
Count Summaries - Bikes

Interval Start	Mikelson Blvd				Mikelson Blvd				n/a				N Mitchell St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Pk Hr Bike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

N Mitchell St Mikelson Blvd



Date: 12/10/2024
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM



	HV%	PHF
EB	1%	0.91
WB	1%	0.59
NB	--	--
SB	0%	0.49
TOTAL	0%	0.65

Peak Hour Count Summaries

Peak Hour Interval Start		Mikelson Blvd				Mikelson Blvd				n/a				N Mitchell St				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	20	20	0	0	0	55	10	0	0	0	0	0	8	0	46	159	0
4:15 PM		0	18	24	0	0	0	24	4	0	0	0	0	0	0	0	13	83	0
4:30 PM		0	17	18	0	0	0	29	9	0	0	0	0	0	5	0	19	97	0
4:45 PM		0	15	21	0	0	0	15	7	0	0	0	0	0	4	0	10	72	411
Pk Hr	All	0	70	83	0	0	0	123	30	0	0	0	0	0	17	0	88	411	
	HV	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	
	HV%	-	0%	1%	-	-	-	1%	0%	-	-	-	-	-	0%	-	0%	0%	

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	1	0	0	0	1	0	0	0	0	0	0	0	2	0	2
4:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	1	1	0	0	2	0	0	0	0	0	0	0	2	0	2

Count Summaries - All Vehicles																			
Interval Start		Mikelson Blvd				Mikelson Blvd				n/a				N Mitchell St				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	20	20	0	0	0	55	10	0	0	0	0	0	8	0	46	159	0
4:15 PM		0	18	24	0	0	0	24	4	0	0	0	0	0	0	0	13	83	0
4:30 PM		0	17	18	0	0	0	29	9	0	0	0	0	0	5	0	19	97	0
4:45 PM		0	15	21	0	0	0	15	7	0	0	0	0	0	4	0	10	72	411
5:00 PM		0	10	25	0	0	0	19	4	0	0	0	0	0	3	0	8	69	321
5:15 PM		0	10	22	0	0	0	26	3	0	0	0	0	0	3	0	5	69	307
5:30 PM		0	18	29	0	0	0	13	4	0	0	0	0	0	0	0	7	71	281
5:45 PM		1	21	33	0	0	0	12	1	0	0	0	0	0	0	0	15	83	292
Count Total		1	129	192	0	0	0	193	42	0	0	0	0	0	23	0	123	703	
Pk Hr	All	0	70	83	0	0	0	123	30	0	0	0	0	0	17	0	88	411	
	HV	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	
	HV%	-	0%	1%	-	-	-	1%	0%	-	-	-	-	-	0%	-	0%	0%	

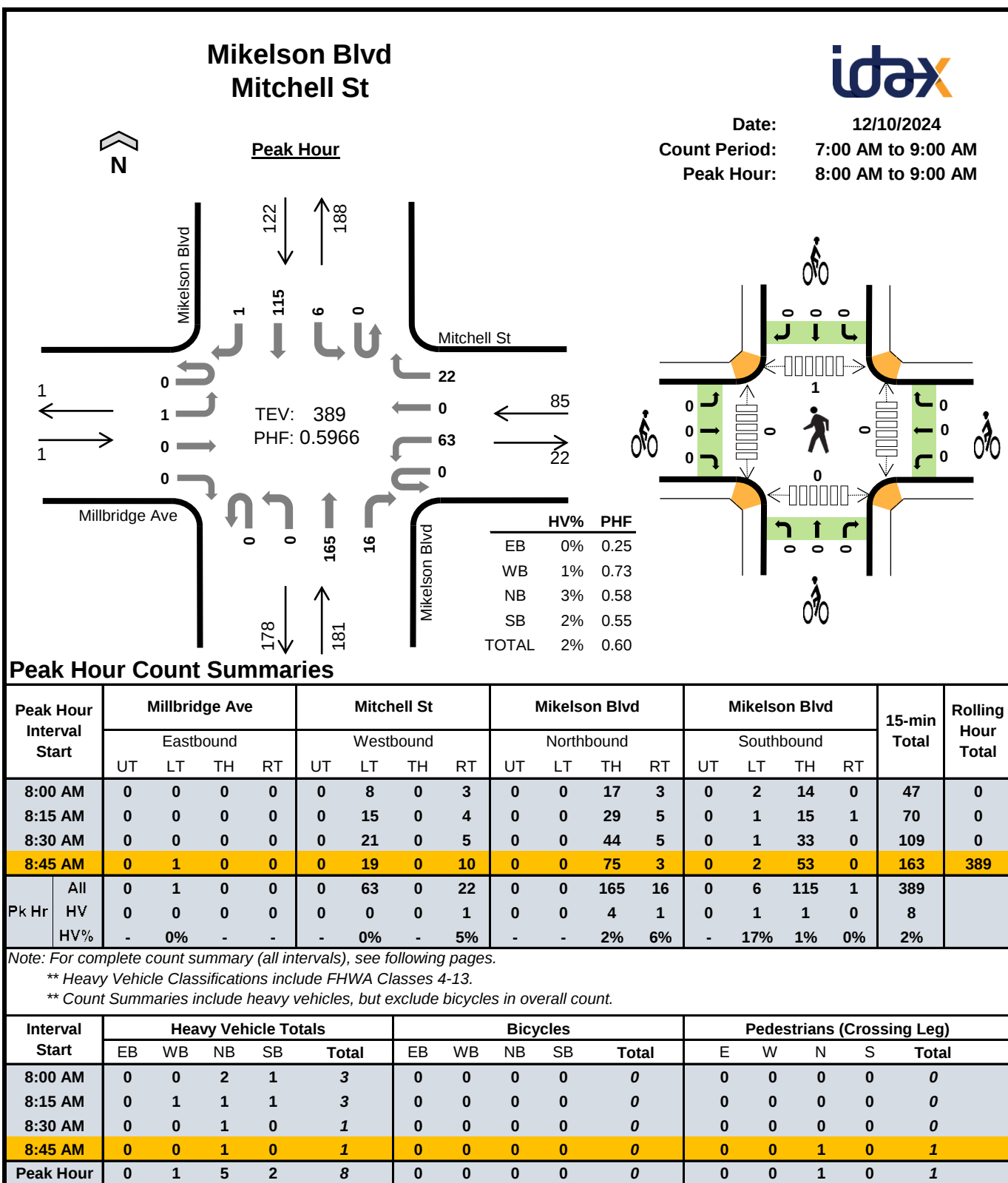
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	1	0	0	0	1	0	0	0	0	0	0	0	2	0	2
4:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	1	1	0	0	2	0	0	0	0	0	0	0	2	0	2
Peak Hour	1	1	0	0	2	0	0	0	0	0	0	0	2	0	2

Count Summaries - Heavy Vehicles

Interval Start	Mikelson Blvd				Mikelson Blvd				n/a				N Mitchell St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	
Pk Hr Heavy	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	

Count Summaries - Bikes

Interval Start	Mikelson Blvd				Mikelson Blvd				n/a				N Mitchell St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Pk Hr Bike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		



Count Summaries - All Vehicles																			
Interval Start		Millbridge Ave				Mitchell St				Mikelson Blvd				Mikelson Blvd				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	0	2	0	10	0	2	0	0	6	0	0	0	3	0	23	0
7:15 AM		0	0	0	0	0	7	0	0	0	0	12	0	0	1	11	0	31	0
7:30 AM		0	0	0	0	0	15	0	1	0	0	10	3	0	2	5	0	36	0
7:45 AM		0	1	0	0	0	12	0	2	0	0	9	2	0	1	8	0	35	125
8:00 AM		0	0	0	0	0	8	0	3	0	0	17	3	0	2	14	0	47	149
8:15 AM		0	0	0	0	0	15	0	4	0	0	29	5	0	1	15	1	70	188
8:30 AM		0	0	0	0	0	21	0	5	0	0	44	5	0	1	33	0	109	261
8:45 AM		0	1	0	0	0	19	0	10	0	0	75	3	0	2	53	0	163	389
Count Total		0	2	0	2	0	107	0	27	0	0	202	21	0	10	142	1	514	
Pk Hr	All	0	1	0	0	0	63	0	22	0	0	165	16	0	6	115	1	389	
	HV	0	0	0	0	0	0	0	1	0	0	4	1	0	1	1	0	8	
	HV%	-	0%	-	-	-	0%	-	5%	-	-	2%	6%	-	17%	1%	0%	2%	

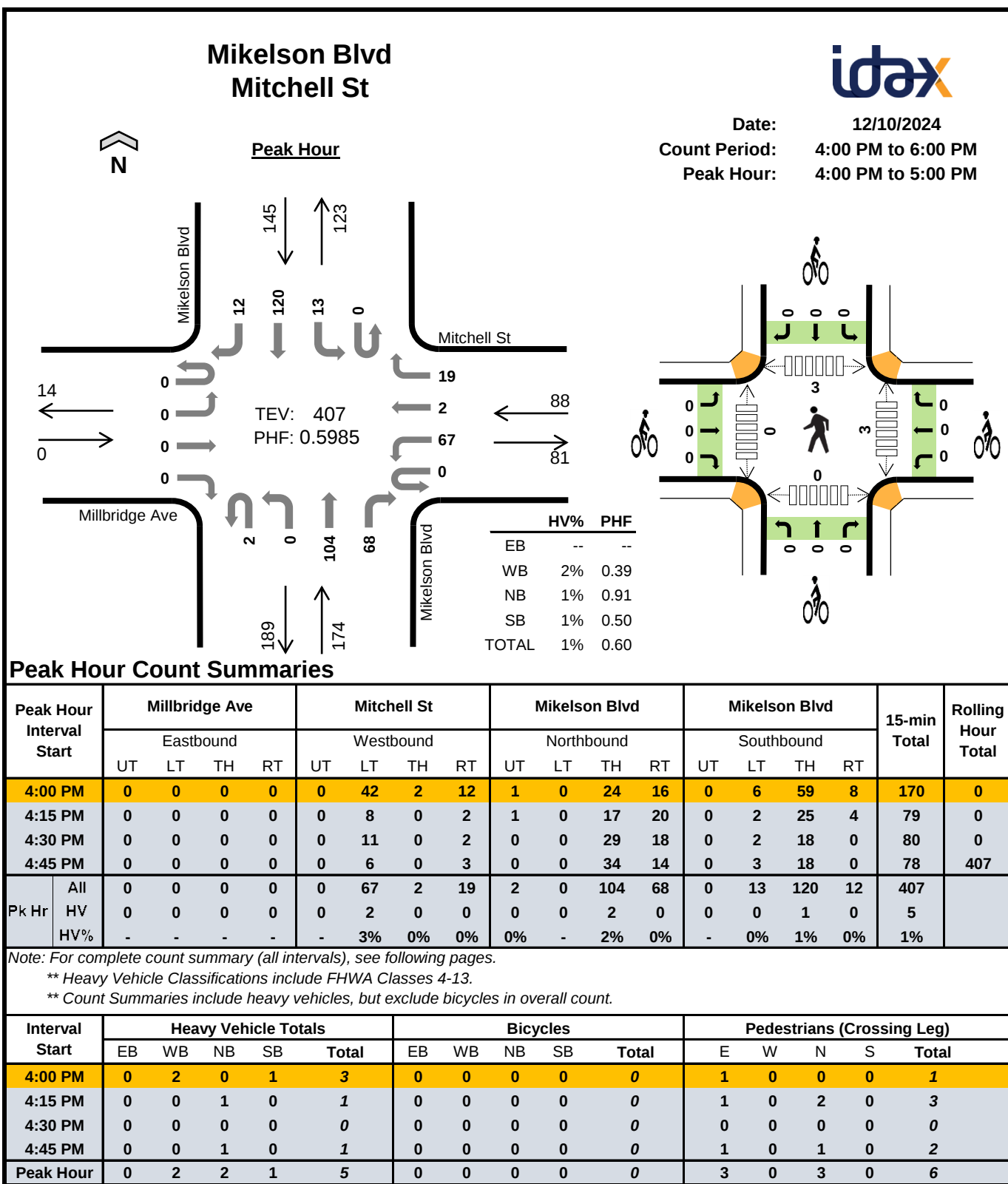
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
8:00 AM	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	1	1	1	3	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1
Count Total	0	1	5	2	8	0	0	0	0	0	0	0	2	0	2
Peak Hour	0	1	5	2	8	0	0	0	0	0	0	0	1	0	1

Count Summaries - Heavy Vehicles

Interval Start	Millbridge Ave				Mitchell St				Mikelson Blvd				Mikelson Blvd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	3	3
8:15 AM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	3	6
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	7
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	8
Count Total	0	0	0	0	0	0	0	1	0	0	4	1	0	1	1	0	8	
Pk Hr Heavy	0	0	0	0	0	0	0	1	0	0	4	1	0	1	1	0	8	

Count Summaries - Bikes

Interval Start	Millbridge Ave				Mitchell St				Mikelson Blvd				Mikelson Blvd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Pk Hr Bike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		



Count Summaries - All Vehicles																			
Interval Start		Millbridge Ave				Mitchell St				Mikelson Blvd				Mikelson Blvd				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	0	0	0	42	2	12	1	0	24	16	0	6	59	8	170	
4:15 PM		0	0	0	0	0	8	0	2	1	0	17	20	0	2	25	4	79	
4:30 PM		0	0	0	0	0	11	0	2	0	0	29	18	0	2	18	0	80	
4:45 PM		0	0	0	0	0	6	0	3	0	0	34	14	0	3	18	0	78	
5:00 PM		0	0	0	1	0	6	0	2	0	1	21	25	0	2	22	1	81	
5:15 PM		0	0	0	1	0	6	0	4	0	0	28	12	0	0	14	0	65	
5:30 PM		0	0	0	0	0	7	1	2	0	0	19	16	0	2	10	1	58	
5:45 PM		0	0	0	1	0	6	0	1	0	0	18	13	0	2	11	2	54	
Count Total		0	0	0	3	0	92	3	28	2	1	190	134	0	19	177	16	665	
Pk Hr	All	0	0	0	0	0	67	2	19	2	0	104	68	0	13	120	12	407	
	HV	0	0	0	0	0	2	0	0	0	0	2	0	0	0	1	0	5	
	HV%	-	-	-	-	-	3%	0%	0%	0%	-	2%	0%	-	0%	1%	0%	1%	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	0	2	0	1	3	0	0	0	0	0	1	0	0	0	1
4:15 PM	0	0	1	0	1	0	0	0	0	0	1	0	2	0	3
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	1	0	1	0	0	0	0	0	1	0	1	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
5:30 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	2	2	2	6	0	0	0	0	0	5	0	3	0	8
Peak Hour	0	2	2	1	5	0	0	0	0	0	3	0	3	0	6

Count Summaries - Heavy Vehicles

Interval Start	Millbridge Ave				Mitchell St				Mikelson Blvd				Mikelson Blvd				15-min Total	Rolling Hour Total	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	3	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	5
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	2	0	6	
Pk Hr Heavy	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	1	0	5	

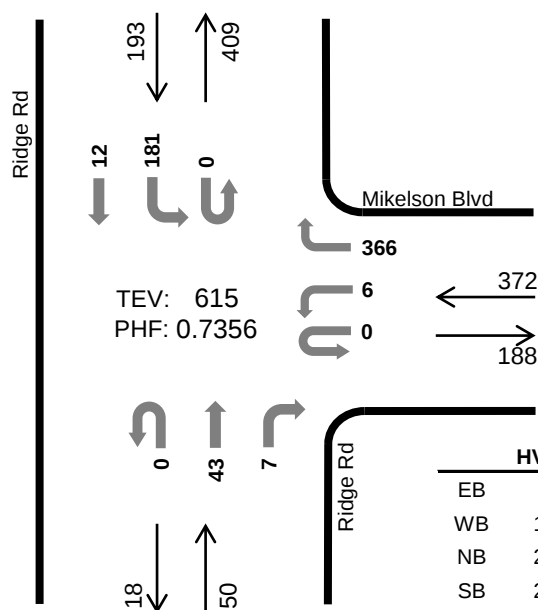
Count Summaries - Bikes

Interval Start	Millbridge Ave				Mitchell St				Mikelson Blvd				Mikelson Blvd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Pk Hr Bike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

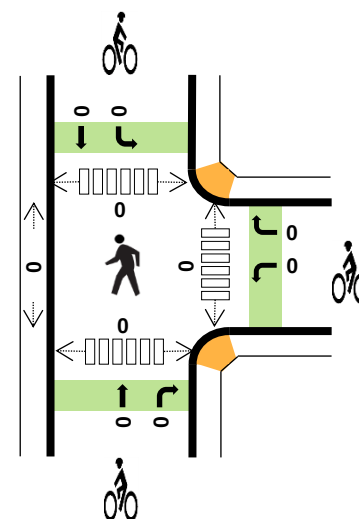
Ridge Rd Mikelson Blvd



Peak Hour



	HV%	PHF
EB	--	--
WB	1%	0.76
NB	2%	0.69
SB	2%	0.65
TOTAL	1%	0.74



Peak Hour Count Summaries

Peak Hour Interval Start		n/a				Mikelson Blvd				Ridge Rd				Ridge Rd				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
8:00 AM		0	0	0	0	0	1	0	68	0	0	10	2	0	30	1	0	112	0
8:15 AM		0	0	0	0	0	2	0	80	0	0	7	0	0	33	3	0	125	0
8:30 AM		0	0	0	0	0	1	0	98	0	0	16	2	0	47	5	0	169	0
8:45 AM		0	0	0	0	0	2	0	120	0	0	10	3	0	71	3	0	209	615
Pk Hr	All	0	0	0	0	0	6	0	366	0	0	43	7	0	181	12	0	615	
	HV	0	0	0	0	0	0	0	2	0	0	1	0	0	4	0	0	7	
	HV%	-	-	-	-	-	0%	-	1%	-	-	2%	0%	-	2%	0%	-	1%	

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
8:00 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	1	0	1	2	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	1	1	1	3	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	2	1	4	7	0	0	0	0	0	0	0	0	0	0

Count Summaries - All Vehicles																			
Interval Start		n/a				Mikelson Blvd				Ridge Rd				Ridge Rd				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	0	0	0	0	0	51	0	0	13	0	0	12	1	0	77	0
7:15 AM		0	0	0	0	0	1	0	72	0	0	7	2	0	16	2	0	100	0
7:30 AM		0	0	0	0	0	0	0	52	0	0	6	0	0	17	3	0	78	0
7:45 AM		0	0	0	0	0	2	0	57	0	0	13	3	0	18	2	0	95	350
8:00 AM		0	0	0	0	0	1	0	68	0	0	10	2	0	30	1	0	112	385
8:15 AM		0	0	0	0	0	2	0	80	0	0	7	0	0	33	3	0	125	410
8:30 AM		0	0	0	0	0	1	0	98	0	0	16	2	0	47	5	0	169	501
8:45 AM		0	0	0	0	0	2	0	120	0	0	10	3	0	71	3	0	209	615
Count Total		0	0	0	0	0	9	0	598	0	0	82	12	0	244	20	0	965	
Pk Hr	All	0	0	0	0	0	6	0	366	0	0	43	7	0	181	12	0	615	
	HV	0	0	0	0	0	0	0	2	0	0	1	0	0	4	0	0	7	
	HV%	-	-	-	-	-	0%	-	1%	-	-	2%	0%	-	2%	0%	-	1%	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	1	0	1	2	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	1	0	1	2	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	1	1	1	3	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
Count Total	0	3	1	7	11	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	2	1	4	7	0	0	0	0	0	0	0	0	0	0

Count Summaries - Heavy Vehicles

Interval Start	n/a				Mikelson Blvd				Ridge Rd				Ridge Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
7:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	2	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	4
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	4
8:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	2	4
8:30 AM	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	3	7
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	7
Count Total	0	0	0	0	0	0	0	3	0	0	1	0	0	6	1	0	11	
Pk Hr Heavy	0	0	0	0	0	0	0	2	0	0	1	0	0	4	0	0	7	

Count Summaries - Bikes

Interval Start	n/a				Mikelson Blvd				Ridge Rd				Ridge Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Pk Hr Bike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

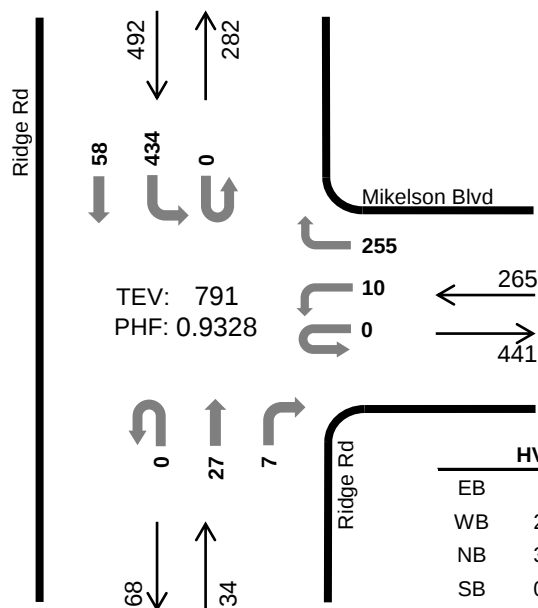
Ridge Rd
Mikelson Blvd



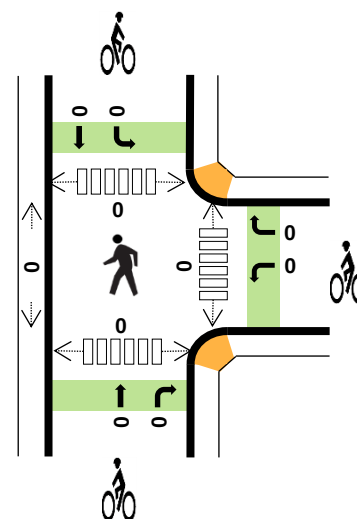
Date: 12/10/2024
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



Peak Hour



	HV%	PHF
EB	--	--
WB	2%	0.74
NB	3%	0.65
SB	0%	0.86
TOTAL	1%	0.93



Peak Hour Count Summaries

Peak Hour Interval Start		n/a				Mikelson Blvd				Ridge Rd				Ridge Rd				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:30 PM		0	0	0	0	0	0	0	48	0	0	10	3	0	120	23	0	204	0
4:45 PM		0	0	0	0	0	3	0	75	0	0	2	1	0	108	3	0	192	0
5:00 PM		0	0	0	0	0	5	0	84	0	0	4	2	0	99	18	0	212	0
5:15 PM		0	0	0	0	0	2	0	48	0	0	11	1	0	107	14	0	183	791
Pk Hr	All	0	0	0	0	0	10	0	255	0	0	27	7	0	434	58	0	791	
	HV	0	0	0	0	0	0	0	4	0	0	1	0	0	0	0	0	5	
	HV%	-	-	-	-	-	0%	-	2%	-	-	4%	0%	-	0%	0%	-	1%	

Note: For complete count summary (all intervals), see following pages.

**** Heavy Vehicle Classifications include FHWA Classes 4-13.**

**** Count Summaries include heavy vehicles, but exclude bicycles in overall count.**

[illegible]

Count Summaries - All Vehicles																			
Interval Start		n/a				Mikelson Blvd				Ridge Rd				Ridge Rd				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	0	0	0	9	0	30	0	0	11	1	0	88	14	0	153	0
4:15 PM		0	0	0	0	0	6	0	35	0	0	6	4	0	92	20	0	163	0
4:30 PM		0	0	0	0	0	0	0	48	0	0	10	3	0	120	23	0	204	0
4:45 PM		0	0	0	0	0	3	0	75	0	0	2	1	0	108	3	0	192	712
5:00 PM		0	0	0	0	0	5	0	84	0	0	4	2	0	99	18	0	212	771
5:15 PM		0	0	0	0	0	2	0	48	0	0	11	1	0	107	14	0	183	791
5:30 PM		0	0	0	0	0	0	0	62	0	0	10	7	0	101	9	0	189	776
5:45 PM		0	0	0	0	0	1	0	56	0	0	7	6	0	93	11	0	174	758
Count Total		0	0	0	0	0	26	0	438	0	0	61	25	0	808	112	0	1,470	
Pk Hr	All	0	0	0	0	0	10	0	255	0	0	27	7	0	434	58	0	791	
	HV	0	0	0	0	0	0	0	4	0	0	1	0	0	0	0	0	5	
	HV%	-	-	-	-	-	0%	-	2%	-	-	4%	0%	-	0%	0%	-	1%	

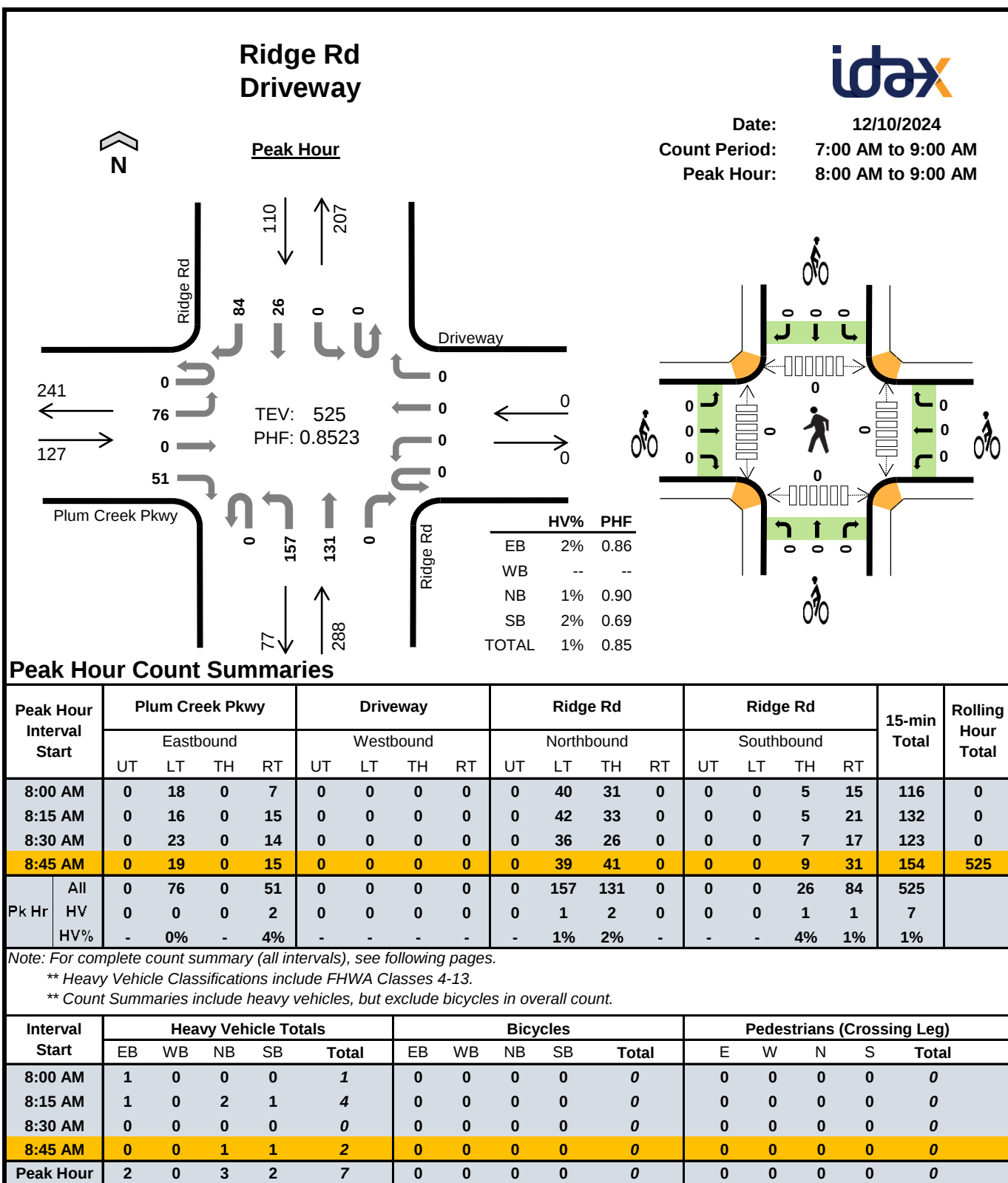
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0
Count Total	0	9	3	0	12	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	4	1	0	5	0	0	0	0	0	0	0	0	0	0

Count Summaries - Heavy Vehicles

Interval Start	n/a				Mikelson Blvd				Ridge Rd				Ridge Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	3	6
5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	6
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	5
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
5:45 PM	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	4	6
Count Total	0	0	0	0	0	1	0	8	0	0	2	1	0	0	0	0	12	
Pk Hr Heavy	0	0	0	0	0	0	0	4	0	0	1	0	0	0	0	0	5	

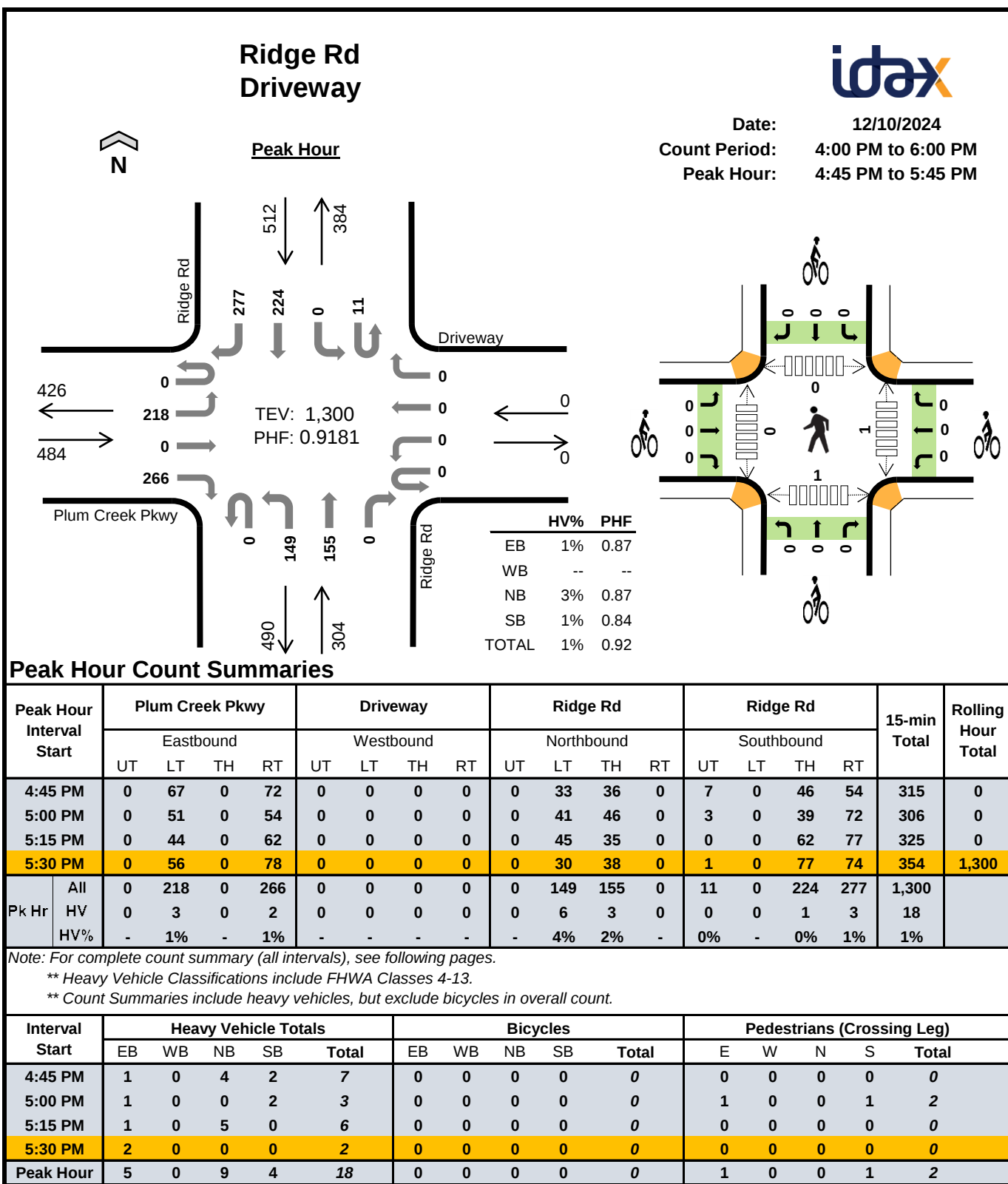
Count Summaries - Bikes

Interval Start	n/a				Mikelson Blvd				Ridge Rd				Ridge Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Pk Hr Bike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		



Count Summaries - All Vehicles																			
Interval Start		Plum Creek Pkwy				Driveway				Ridge Rd				Ridge Rd				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	10	0	1	0	0	0	0	0	23	15	0	0	0	5	8	62	0
7:15 AM		0	9	0	4	0	0	0	0	0	37	27	0	0	0	4	10	91	0
7:30 AM		0	15	0	6	0	0	0	0	0	30	16	0	0	0	4	6	77	0
7:45 AM		0	13	0	9	0	0	0	0	0	39	37	0	0	0	6	18	122	352
8:00 AM		0	18	0	7	0	0	0	0	0	40	31	0	0	0	5	15	116	406
8:15 AM		0	16	0	15	0	0	0	0	0	42	33	0	0	0	5	21	132	447
8:30 AM		0	23	0	14	0	0	0	0	0	36	26	0	0	0	7	17	123	493
8:45 AM		0	19	0	15	0	0	0	0	0	39	41	0	0	0	9	31	154	525
Count Total		0	123	0	71	0	0	0	0	0	286	226	0	0	0	45	126	877	
Pk Hr	All	0	76	0	51	0	0	0	0	0	157	131	0	0	0	26	84	525	
	HV	0	0	0	2	0	0	0	0	0	1	2	0	0	0	1	1	7	
	HV%	-	0%	-	4%	-	-	-	-	-	1%	2%	-	-	-	4%	1%	1%	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0
7:30 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
7:45 AM	2	0	0	1	3	0	0	0	0	0	0	0	0	0	0
8:00 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
8:15 AM	1	0	2	1	4	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0
Count Total	5	0	5	3	13	0	0	0	0	0	0	0	0	0	0
Peak Hour	2	0	3	2	7	0	0	0	0	0	0	0	0	0	0



Count Summaries - All Vehicles

Interval Start		Plum Creek Pkwy				Driveway				Ridge Rd				Ridge Rd				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	38	0	35	0	0	0	0	0	54	44	0	1	0	41	64	277	0
4:15 PM		0	57	0	69	0	0	0	1	0	27	25	1	0	0	39	65	284	0
4:30 PM		0	62	0	61	0	0	0	1	0	45	31	0	1	0	47	97	345	0
4:45 PM		0	67	0	72	0	0	0	0	0	33	36	0	7	0	46	54	315	1,221
5:00 PM		0	51	0	54	0	0	0	0	0	41	46	0	3	0	39	72	306	1,250
5:15 PM		0	44	0	62	0	0	0	0	0	45	35	0	0	0	62	77	325	1,291
5:30 PM		0	56	0	78	0	0	0	0	0	30	38	0	1	0	77	74	354	1,300
5:45 PM		0	45	0	61	0	0	0	0	0	26	28	0	0	0	48	59	267	1,252
Count Total		0	420	0	492	0	0	0	2	0	301	283	1	13	0	399	562	2,473	
Pk Hr	All	0	218	0	266	0	0	0	0	0	149	155	0	11	0	224	277	1,300	
	HV	0	3	0	2	0	0	0	0	0	6	3	0	0	0	1	3	18	
	HV%	-	1%	-	1%	-	-	-	-	-	4%	2%	-	0%	-	0%	1%	1%	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	1	0	1	3	5	0	0	0	0	0	0	0	0	0	0
4:15 PM	1	0	0	3	4	0	0	0	0	0	0	0	0	0	0
4:30 PM	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0
4:45 PM	1	0	4	2	7	0	0	0	0	0	0	0	0	0	0
5:00 PM	1	0	0	2	3	0	0	0	0	0	1	0	0	1	2
5:15 PM	1	0	5	0	6	0	0	0	0	0	0	0	0	0	0
5:30 PM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	10	0	10	10	30	0	0	0	0	0	1	0	0	1	2
Peak Hour	5	0	9	4	18	0	0	0	0	0	1	0	0	1	2

Count Summaries - Heavy Vehicles

Interval Start	Plum Creek Pkwy				Driveway				Ridge Rd				Ridge Rd				15-min Total	Rolling Hour Total	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	2	5	0
4:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2	4	0
4:30 PM	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
4:45 PM	0	0	0	1	0	0	0	0	0	3	1	0	0	0	0	1	1	7	19
5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	17
5:15 PM	0	1	0	0	0	0	0	0	0	3	2	0	0	0	0	0	0	6	19
5:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	18
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
Count Total	0	5	0	5	0	0	0	0	0	7	3	0	0	0	3	7		30	
Pk Hr Heavy	0	3	0	2	0	0	0	0	0	6	3	0	0	0	1	3		18	

Count Summaries - Bikes

Interval Start	Plum Creek Pkwy				Driveway				Ridge Rd				Ridge Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Pk Hr Bike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

Count Summaries - Heavy Vehicles

Interval Start	Plum Creek Pkwy				Driveway				Ridge Rd				Ridge Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	0
7:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:45 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	6
8:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	7
8:15 AM	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	1	4	9
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	7
Count Total	0	3	0	2	0	0	0	0	0	3	2	0	0	0	1	2	13	
Pk Hr Heavy	0	0	0	2	0	0	0	0	0	1	2	0	0	0	1	1	7	

Count Summaries - Bikes

Interval Start	Plum Creek Pkwy				Driveway				Ridge Rd				Ridge Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Pk Hr Bike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

Intersection Capacity Worksheets:
2024 Existing

Timings

1: Enderud Blvd & CO 86

2024 Existing AM
Bella Mesa South TIS - Castle Rock

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	6	137	123	78	260	18	302	86	133	16	97
Future Volume (vph)	6	137	123	78	260	18	302	86	133	16	97
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6		7	4		3	8
Permitted Phases	2		2	6		6	4		4	8	
Detector Phase	5	2	2	1	6	6	7	4	4	3	8
Switch Phase											
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	5.0	8.0	8.0	5.0	8.0
Minimum Split (s)	10.0	31.0	31.0	10.0	31.0	31.0	10.0	30.0	30.0	10.0	25.0
Total Split (s)	10.0	35.0	35.0	10.0	35.0	35.0	30.0	45.0	45.0	10.0	25.0
Total Split (%)	10.0%	35.0%	35.0%	10.0%	35.0%	35.0%	30.0%	45.0%	45.0%	10.0%	25.0%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None
Act Effect Green (s)	34.4	29.6	29.6	37.2	35.3	35.3	41.9	38.2	38.2	19.3	14.2
Actuated g/C Ratio	0.38	0.33	0.33	0.41	0.39	0.39	0.46	0.42	0.42	0.21	0.16
v/c Ratio	0.02	0.29	0.25	0.18	0.40	0.03	0.72	0.15	0.24	0.08	0.68
Control Delay (s/veh)	17.8	27.1	3.6	19.1	24.4	0.1	24.9	18.2	3.9	16.9	46.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	17.8	27.1	3.6	19.1	24.4	0.1	24.9	18.2	3.9	16.9	46.6
LOS	B	C	A	B	C	A	C	B	A	B	D
Approach Delay (s/veh)		16.0			22.0			18.4			43.3
Approach LOS		B			C			B			D

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 90.2

Natural Cycle: 85

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.72

Intersection Signal Delay (s/veh): 22.1

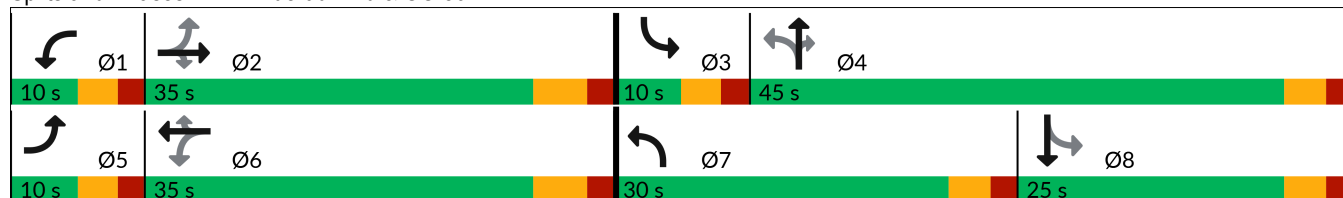
Intersection LOS: C

Intersection Capacity Utilization 67.3%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: Enderud Blvd & CO 86



Queues

1: Enderud Blvd & CO 86

2024 Existing AM

Bella Mesa South TIS - Castle Rock

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	8	173	156	87	289	20	425	121	187	25	200
v/c Ratio	0.02	0.29	0.25	0.18	0.40	0.03	0.72	0.15	0.24	0.08	0.68
Control Delay (s/veh)	17.8	27.1	3.6	19.1	24.4	0.1	24.9	18.2	3.9	16.9	46.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	17.8	27.1	3.6	19.1	24.4	0.1	24.9	18.2	3.9	16.9	46.6
Queue Length 50th (ft)	3	79	0	31	118	0	171	40	0	8	106
Queue Length 95th (ft)	11	124	16	66	239	0	182	67	16	15	120
Internal Link Dist (ft)	1178			1294			2535			817	
Turn Bay Length (ft)	575		360	370		375	130		120	185	
Base Capacity (vph)	411	598	633	478	722	711	624	869	839	298	414
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.29	0.25	0.18	0.40	0.03	0.68	0.14	0.22	0.08	0.48
Intersection Summary											

HCM 7th Signalized Intersection Summary

1: Enderud Blvd & CO 86

2024 Existing AM

Bella Mesa South TIS - Castle Rock

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	137	123	78	260	18	302	86	133	16	97	33
Future Volume (veh/h)	6	137	123	78	260	18	302	86	133	16	97	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1841	1841	1841	1856	1856	1856	1885	1885	1885	1870	1870	1870
Adj Flow Rate, veh/h	8	173	156	87	289	20	425	121	187	25	149	51
Peak Hour Factor	0.79	0.79	0.79	0.90	0.90	0.90	0.71	0.71	0.71	0.65	0.65	0.65
Percent Heavy Veh, %	4	4	4	3	3	3	1	1	1	2	2	2
Cap, veh/h	381	624	527	456	705	597	524	638	540	283	188	65
Arrive On Green	0.01	0.34	0.34	0.05	0.38	0.38	0.22	0.34	0.34	0.03	0.14	0.14
Sat Flow, veh/h	1753	1841	1555	1767	1856	1570	1795	1885	1598	1781	1330	455
Grp Volume(v), veh/h	8	173	156	87	289	20	425	121	187	25	0	200
Grp Sat Flow(s),veh/h/ln	1753	1841	1555	1767	1856	1570	1795	1885	1598	1781	0	1785
Q Serve(g_s), s	0.3	5.9	6.3	2.7	9.8	0.7	16.2	3.9	7.5	1.0	0.0	9.3
Cycle Q Clear(g_c), s	0.3	5.9	6.3	2.7	9.8	0.7	16.2	3.9	7.5	1.0	0.0	9.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	381	624	527	456	705	597	524	638	540	283	0	253
V/C Ratio(X)	0.02	0.28	0.30	0.19	0.41	0.03	0.81	0.19	0.35	0.09	0.00	0.79
Avail Cap(c_a), veh/h	466	624	527	469	705	597	649	882	747	340	0	417
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.4	20.6	20.8	16.7	19.5	16.7	22.0	20.0	21.2	30.0	0.0	35.5
Incr Delay (d2), s/veh	0.0	1.1	1.4	0.2	1.8	0.1	6.3	0.1	0.4	0.1	0.0	5.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.4	2.4	1.0	4.0	0.3	7.3	1.7	2.8	0.4	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.5	21.7	22.2	16.9	21.2	16.8	28.4	20.2	21.6	30.2	0.0	41.0
LnGrp LOS	B	C	C	B	C	B	C	C	C	C		D
Approach Vol, veh/h	337			396			733			225		
Approach Delay, s/veh	21.9			20.1			25.3			39.8		
Approach LOS	C			C			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.4	35.0	7.2	33.9	5.9	38.5	24.0	17.1				
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0				
Max Green Setting (Gmax), s	5.0	29.0	5.0	40.0	5.0	29.0	25.0	20.0				
Max Q Clear Time (g_c+I1), s	4.7	8.3	3.0	9.5	2.3	11.8	18.2	11.3				
Green Ext Time (p_c), s	0.0	1.2	0.0	1.3	0.0	1.3	0.8	0.7				

Intersection Summary

HCM 7th Control Delay, s/veh 25.3

HCM 7th LOS C

Notes

User approved pedestrian interval to be less than phase max green.

HCM 7th Roundabout
3: N Ridge Rd & Enderud Blvd

2024 Existing AM
Bella Mesa South TIS - Castle Rock

Intersection						
Intersection Delay, s/veh	5.5					
Intersection LOS	A					
Approach	WB		NB		SB	
Entry Lanes	2		2		2	
Conflicting Circle Lanes	2		2		2	
Adj Approach Flow, veh/h	561		387		306	
Demand Flow Rate, veh/h	561		387		315	
Vehicles Circulating, veh/h	312		142		101	
Vehicles Exiting, veh/h	217		274		772	
Ped Vol Crossing Leg, #/h	1		1		1	
Ped Cap Adj	0.999		0.999		0.999	
Approach Delay, s/veh	7.2		4.3		4.0	
Approach LOS	A		A		A	
Lane	Left	Right	Left	Right	Left	Right
Designated Moves	L	TR	LT	TR	LT	TR
Assumed Moves	L	TR	LT	TR	LT	TR
RT Channelized						
Lane Util	0.180	0.820	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	101	460	182	205	148	167
Cap Entry Lane, veh/h	1013	1089	1185	1259	1230	1303
Entry HV Adj Factor	1.000	1.000	0.999	1.001	0.972	0.971
Flow Entry, veh/h	101	460	182	205	144	162
Cap Entry, veh/h	1012	1088	1183	1258	1194	1264
V/C Ratio	0.100	0.423	0.154	0.163	0.120	0.128
Control Delay, s/veh	4.4	7.8	4.4	4.2	4.0	3.9
LOS	A	A	A	A	A	A
95th %tile Queue, veh	0	2	1	1	0	0

HCM 7th Roundabout
4: Mikelson Blvd & N Mitchell St

2024 Existing AM
Bella Mesa South TIS - Castle Rock

Intersection						
Intersection Delay, s/veh	6.1					
Intersection LOS	A					
Approach	EB		WB		SB	
Entry Lanes	2		2		2	
Conflicting Circle Lanes	2		2		2	
Adj Approach Flow, veh/h	502		426		577	
Demand Flow Rate, veh/h	512		434		588	
Vehicles Circulating, veh/h	114		426		161	
Vehicles Exiting, veh/h	635		200		699	
Ped Vol Crossing Leg, #/h	5		5		5	
Ped Cap Adj	0.995		0.996		0.995	
Approach Delay, s/veh	5.9		6.3		6.2	
Approach LOS	A		A		A	
Lane	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	L	TR
Assumed Moves	L	TR	LT	R	L	TR
RT Channelized						
Lane Util	0.832	0.168	0.371	0.629	0.194	0.806
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	426	86	161	273	114	474
Cap Entry Lane, veh/h	1215	1289	912	989	1164	1238
Entry HV Adj Factor	0.981	0.980	0.980	0.982	0.982	0.981
Flow Entry, veh/h	418	84	158	268	112	465
Cap Entry, veh/h	1186	1257	891	967	1138	1209
V/C Ratio	0.352	0.067	0.177	0.277	0.098	0.385
Control Delay, s/veh	6.4	3.4	5.8	6.5	4.0	6.8
LOS	A	A	A	A	A	A
95th %tile Queue, veh	2	0	1	1	0	2

HCM 7th Roundabout
7: Plum Creek Pkwy & Ridge Rd

2024 Existing AM
Bella Mesa South TIS - Castle Rock

Intersection					
Intersection Delay, s/veh	3.4				
Intersection LOS	A				
Approach	NB		SE		NW
Entry Lanes	2		1		1
Conflicting Circle Lanes	2		2		2
Adj Approach Flow, veh/h	147		160		320
Demand Flow Rate, veh/h	150		163		323
Vehicles Circulating, veh/h	39		176		90
Vehicles Exiting, veh/h	176		237		99
Ped Vol Crossing Leg, #/h	0		0		0
Ped Cap Adj	1.000		1.000		1.000
Approach Delay, s/veh	3.2		0.8		4.9
Approach LOS	A		A		A
Lane	Left	Right	Left	Bypass	Left
Designated Moves	L	LTR	T	R	LT
Assumed Moves	L	LTR	T		LT
RT Channelized				Free	
Lane Util	0.533	0.467	1.000		1.000
Follow-Up Headway, s	2.667	2.535	2.535		2.535
Critical Headway, s	4.645	4.328	4.328		4.328
A (Intercept)	1350	1420	1420		1420
B (Slope)	9.199e-4	8.501e-4	8.501e-4		8.501e-4
Entry Flow, veh/h	80	70	39	124	323
Cap Entry Lane, veh/h	1302	1374	1223	1938	1316
Entry HV Adj Factor	0.974	0.987	0.980	0.980	0.989
Flow Entry, veh/h	78	69	38	122	320
Cap Entry, veh/h	1268	1356	1199	1900	1301
V/C Ratio	0.061	0.051	0.032	0.064	0.246
Control Delay, s/veh	3.3	3.1	3.3	0.0	4.9
LOS	A	A	A	A	A
95th %tile Queue, veh	0	0	0	0	1

HCM 7th TWSC
2: Enderud Blvd & Mikelson Blvd

2024 Existing AM
Bella Mesa South TIS - Castle Rock

Intersection						
Int Delay, s/veh	12.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	80	335	66	55	249	33
Future Vol, veh/h	80	335	66	55	249	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	62	62	64	64	71	71
Heavy Vehicles, %	1	1	1	1	2	2
Mvmt Flow	129	540	103	86	351	46

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	871	95	0	0	189	0
Stage 1	146	-	-	-	-	-
Stage 2	725	-	-	-	-	-
Critical Hdwy	6.82	6.92	-	-	4.14	-
Critical Hdwy Stg 1	5.82	-	-	-	-	-
Critical Hdwy Stg 2	5.82	-	-	-	-	-
Follow-up Hdwy	3.51	3.31	-	-	2.22	-
Pot Cap-1 Maneuver	292	947	-	-	1382	-
Stage 1	869	-	-	-	-	-
Stage 2	443	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	217	947	-	-	1382	-
Mov Cap-2 Maneuver	217	-	-	-	-	-
Stage 1	869	-	-	-	-	-
Stage 2	329	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v19.42		0	7.51
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT
Capacity (veh/h)	-	- 217 947	1364	-
HCM Lane V/C Ratio	-	- 0.594 0.571	0.254	-
HCM Control Delay (s/veh)	-	- 43.2 13.7	8.5	0.1
HCM Lane LOS	-	- E B	A	A
HCM 95th %tile Q(veh)	-	- 3.4 3.7	1	-

Intersection						
Int Delay, s/veh	9.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	366	43	7	181	12
Future Vol, veh/h	6	366	43	7	181	12
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	76	76	69	69	65	65
Heavy Vehicles, %	1	1	2	2	2	2
Mvmt Flow	8	482	62	10	278	18
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	643	67	0	0	72	0
Stage 1	67	-	-	-	-	-
Stage 2	575	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.12	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.218	-
Pot Cap-1 Maneuver	440	999	-	-	1528	-
Stage 1	958	-	-	-	-	-
Stage 2	565	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	359	999	-	-	1528	-
Mov Cap-2 Maneuver	359	-	-	-	-	-
Stage 1	958	-	-	-	-	-
Stage 2	461	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s/v	11.97	0	7.39			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	359	999	1512	-
HCM Lane V/C Ratio	-	-	0.022	0.482	0.182	-
HCM Control Delay (s/veh)	-	-	15.3	11.9	7.9	0
HCM Lane LOS	-	-	C	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	2.7	0.7	-

HCM 7th TWSC
26: N Mitchell St & Rock Canyon Trail

2024 Existing AM
Bella Mesa South TIS - Castle Rock

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	52	0	0	0	379	18	0	277	0
Future Vol, veh/h	0	0	0	52	0	0	0	379	18	0	277	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	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	57	0	0	0	412	20	0	301	0
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	507	733	151	572	723	216	301	0	0	432	0	0
Stage 1	301	301	-	422	422	-	-	-	-	-	-	-
Stage 2	206	432	-	151	301	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	448	346	869	403	351	789	1257	-	-	1124	-	-
Stage 1	683	663	-	580	587	-	-	-	-	-	-	-
Stage 2	777	581	-	837	663	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	448	346	869	403	351	789	1257	-	-	1124	-	-
Mov Cap-2 Maneuver	448	346	-	403	351	-	-	-	-	-	-	-
Stage 1	683	663	-	580	587	-	-	-	-	-	-	-
Stage 2	777	581	-	837	663	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s/v	0		15.39			0			0			
HCM LOS	A		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1257	-	-	-	403	1124	-	-				
HCM Lane V/C Ratio	-	-	-	-	0.14	-	-	-				
HCM Control Delay (s/veh)	0	-	-	0	15.4	0	-	-				
HCM Lane LOS	A	-	-	A	C	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	-	0.5	0	-	-				

Timings

1: Enderud Blvd & CO 86

2024 Existing PM
Bella Mesa South TIS - Castle Rock

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	33	376	248	132	299	26	148	36	96	30	51
Future Volume (vph)	33	376	248	132	299	26	148	36	96	30	51
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6		7	4		3	8
Permitted Phases	2		2	6		6	4		4	8	
Detector Phase	5	2	2	1	6	6	7	4	4	3	8
Switch Phase											
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	5.0	8.0	8.0	5.0	8.0
Minimum Split (s)	10.0	31.0	31.0	10.0	31.0	31.0	10.0	25.0	25.0	10.0	25.0
Total Split (s)	10.0	32.0	32.0	13.0	35.0	35.0	15.0	30.0	30.0	10.0	25.0
Total Split (%)	11.8%	37.6%	37.6%	15.3%	41.2%	41.2%	17.6%	35.3%	35.3%	11.8%	29.4%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None
Act Effect Green (s)	34.3	29.4	29.4	39.2	33.6	33.6	20.6	14.9	14.9	12.2	9.1
Actuated g/C Ratio	0.48	0.41	0.41	0.55	0.47	0.47	0.29	0.21	0.21	0.17	0.13
v/c Ratio	0.07	0.54	0.33	0.31	0.39	0.04	0.45	0.10	0.23	0.14	0.37
Control Delay (s/veh)	9.2	22.2	3.9	10.6	16.8	0.1	23.0	24.8	2.4	19.1	27.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	9.2	22.2	3.9	10.6	16.8	0.1	23.0	24.8	2.4	19.1	27.8
LOS	A	C	A	B	B	A	C	C	A	B	C
Approach Delay (s/veh)		14.6			14.1			16.2			25.2
Approach LOS		B			B			B			C

Intersection Summary

Cycle Length: 85

Actuated Cycle Length: 71

Natural Cycle: 80

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.54

Intersection Signal Delay (s/veh): 15.6

Intersection LOS: B

Intersection Capacity Utilization 55.3%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 1: Enderud Blvd & CO 86

 Ø1	 Ø2	 Ø3	 Ø4
13 s	32 s	10 s	30 s
 Ø5	 Ø6	 Ø7	 Ø8
10 s	35 s	15 s	25 s

Queues

1: Enderud Blvd & CO 86

2024 Existing PM

Bella Mesa South TIS - Castle Rock

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	37	418	276	150	340	30	163	40	105	38	92
v/c Ratio	0.07	0.54	0.33	0.31	0.39	0.04	0.45	0.10	0.23	0.14	0.37
Control Delay (s/veh)	9.2	22.2	3.9	10.6	16.8	0.1	23.0	24.8	2.4	19.1	27.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	9.2	22.2	3.9	10.6	16.8	0.1	23.0	24.8	2.4	19.1	27.8
Queue Length 50th (ft)	7	154	0	31	110	0	55	15	0	12	29
Queue Length 95th (ft)	21	262	48	63	188	0	100	40	12	28	60
Internal Link Dist (ft)	1178			1294			2535			817	
Turn Bay Length (ft)	575		360	370		375	130		120	185	
Base Capacity (vph)	550	779	824	489	881	812	376	663	671	265	524
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.54	0.33	0.31	0.39	0.04	0.43	0.06	0.16	0.14	0.18
Intersection Summary											

HCM 7th Signalized Intersection Summary

1: Enderud Blvd & CO 86

2024 Existing PM

Bella Mesa South TIS - Castle Rock

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	376	248	132	299	26	148	36	96	30	51	22
Future Volume (veh/h)	33	376	248	132	299	26	148	36	96	30	51	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1885	1885	1885	1870	1870	1870	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	37	418	276	150	340	30	163	40	105	38	64	28
Peak Hour Factor	0.90	0.90	0.90	0.88	0.88	0.88	0.91	0.91	0.91	0.80	0.80	0.80
Percent Heavy Veh, %	1	1	1	2	2	2	2	2	2	1	1	1
Cap, veh/h	481	737	623	403	802	679	384	347	294	326	150	66
Arrive On Green	0.04	0.39	0.39	0.08	0.43	0.43	0.10	0.19	0.19	0.04	0.12	0.12
Sat Flow, veh/h	1795	1885	1594	1781	1870	1583	1781	1870	1585	1795	1240	542
Grp Volume(v), veh/h	37	418	276	150	340	30	163	40	105	38	0	92
Grp Sat Flow(s),veh/h/ln	1795	1885	1594	1781	1870	1583	1781	1870	1585	1795	0	1782
Q Serve(g_s), s	0.8	11.7	8.6	3.3	8.6	0.7	5.2	1.2	3.9	1.2	0.0	3.2
Cycle Q Clear(g_c), s	0.8	11.7	8.6	3.3	8.6	0.7	5.2	1.2	3.9	1.2	0.0	3.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.30
Lane Grp Cap(c), veh/h	481	737	623	403	802	679	384	347	294	326	0	216
V/C Ratio(X)	0.08	0.57	0.44	0.37	0.42	0.04	0.42	0.12	0.36	0.12	0.00	0.43
Avail Cap(c_a), veh/h	547	737	623	480	802	679	465	692	586	391	0	527
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.6	16.1	15.2	11.8	13.5	11.2	21.5	22.9	24.0	24.4	0.0	27.5
Incr Delay (d2), s/veh	0.1	3.2	2.3	0.6	1.6	0.1	0.7	0.1	0.7	0.2	0.0	1.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	4.6	3.2	1.0	3.2	0.3	2.1	0.5	1.5	0.5	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	11.6	19.3	17.4	12.4	15.1	11.4	22.2	23.1	24.7	24.6	0.0	28.9
LnGrp LOS	B	B	B	B	B	B	C	C	C	C		C
Approach Vol, veh/h	731			520			308			130		
Approach Delay, s/veh	18.2			14.1			23.2			27.6		
Approach LOS	B			B			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.1	32.4	7.6	17.6	7.5	35.0	11.9	13.2				
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0				
Max Green Setting (Gmax), s	8.0	26.0	5.0	25.0	5.0	29.0	10.0	20.0				
Max Q Clear Time (g_c+I1), s	5.3	13.7	3.2	5.9	2.8	10.6	7.2	5.2				
Green Ext Time (p_c), s	0.1	2.5	0.0	0.4	0.0	1.6	0.1	0.3				

Intersection Summary

HCM 7th Control Delay, s/veh 18.6

HCM 7th LOS B

Notes

User approved pedestrian interval to be less than phase max green.

HCM 7th Roundabout
3: N Ridge Rd & Enderud Blvd

2024 Existing PM
Bella Mesa South TIS - Castle Rock

Intersection						
Intersection Delay, s/veh	6.5					
Intersection LOS	A					
Approach	WB		NB		SB	
Entry Lanes	2		2		2	
Conflicting Circle Lanes	2		2		2	
Adj Approach Flow, veh/h	394		452		979	
Demand Flow Rate, veh/h	394		452		1008	
Vehicles Circulating, veh/h	332		451		105	
Vehicles Exiting, veh/h	571		662		621	
Ped Vol Crossing Leg, #/h	1		1		1	
Ped Cap Adj	0.999		0.999		0.999	
Approach Delay, s/veh	5.6		6.3		6.9	
Approach LOS	A		A		A	
Lane	Left	Right	Left	Right	Left	Right
Designated Moves	L	TR	LT	TR	LT	TR
Assumed Moves	L	TR	LT	TR	LT	TR
RT Channelized						
Lane Util	0.266	0.734	0.469	0.531	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	105	289	212	240	474	534
Cap Entry Lane, veh/h	995	1071	891	968	1226	1299
Entry HV Adj Factor	1.000	1.000	1.002	0.998	0.971	0.971
Flow Entry, veh/h	105	289	212	240	460	519
Cap Entry, veh/h	994	1070	893	965	1188	1260
V/C Ratio	0.106	0.270	0.238	0.248	0.387	0.412
Control Delay, s/veh	4.6	6.0	6.5	6.2	6.9	6.9
LOS	A	A	A	A	A	A
95th %tile Queue, veh	0	1	1	1	2	2

HCM 7th Roundabout
4: Mikelson Blvd & N Mitchell St

2024 Existing PM
Bella Mesa South TIS - Castle Rock

Intersection						
Intersection Delay, s/veh	3.7					
Intersection LOS	A					
Approach	EB		WB		SB	
Entry Lanes	2		2		2	
Conflicting Circle Lanes	2		2		2	
Adj Approach Flow, veh/h	168		259		215	
Demand Flow Rate, veh/h	170		262		215	
Vehicles Circulating, veh/h	35		78		210	
Vehicles Exiting, veh/h	390		127		130	
Ped Vol Crossing Leg, #/h	5		5		5	
Ped Cap Adj	0.994		0.995		0.995	
Approach Delay, s/veh	3.2		3.7		4.2	
Approach LOS	A		A		A	
Lane	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	L	TR
Assumed Moves	LT	TR	LT	TR	L	TR
RT Channelized						
Lane Util	0.471	0.529	0.469	0.531	0.163	0.837
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	80	90	123	139	35	180
Cap Entry Lane, veh/h	1307	1378	1256	1329	1113	1188
Entry HV Adj Factor	0.988	0.990	0.989	0.987	1.000	1.000
Flow Entry, veh/h	79	89	122	137	35	180
Cap Entry, veh/h	1284	1357	1236	1305	1107	1182
V/C Ratio	0.062	0.066	0.098	0.105	0.032	0.152
Control Delay, s/veh	3.3	3.2	3.7	3.6	3.5	4.4
LOS	A	A	A	A	A	A
95th %tile Queue, veh	0	0	0	0	0	1

HCM 7th Roundabout
7: Plum Creek Pkwy & Ridge Rd

2024 Existing PM
Bella Mesa South TIS - Castle Rock

Intersection					
Intersection Delay, s/veh	4.5				
Intersection LOS	A				
Approach	NB		SE		NW
Entry Lanes	2		1		1
Conflicting Circle Lanes	2		2		2
Adj Approach Flow, veh/h	557		597		349
Demand Flow Rate, veh/h	563		603		359
Vehicles Circulating, veh/h	270		176		254
Vehicles Exiting, veh/h	176		437		579
Ped Vol Crossing Leg, #/h	0		0		0
Ped Cap Adj	1.000		1.000		1.000
Approach Delay, s/veh	5.8		2.2		6.3
Approach LOS	A		A		A
Lane	Left	Right	Left	Bypass	Left
Designated Moves	L	LTR	T	R	LT
Assumed Moves	L	TR	T		LT
RT Channelized				Free	
Lane Util	0.451	0.549	1.000		1.000
Follow-Up Headway, s	2.667	2.535	2.535		2.535
Critical Headway, s	4.645	4.328	4.328		4.328
A (Intercept)	1350	1420	1420		1420
B (Slope)	9.199e-4	8.501e-4	8.501e-4		8.501e-4
Entry Flow, veh/h	254	309	270	333	359
Cap Entry Lane, veh/h	1053	1129	1223	1919	1144
Entry HV Adj Factor	0.988	0.990	0.990	0.990	0.971
Flow Entry, veh/h	251	306	267	330	349
Cap Entry, veh/h	1041	1118	1211	1900	1111
V/C Ratio	0.241	0.274	0.221	0.174	0.314
Control Delay, s/veh	5.8	5.8	4.9	0.0	6.3
LOS	A	A	A	A	A
95th %tile Queue, veh	1	1	1	1	1

HCM 7th TWSC
2: Enderud Blvd & Mikelson Blvd

2024 Existing PM
Bella Mesa South TIS - Castle Rock

Intersection						
Int Delay, s/veh	7.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	56	179	67	62	200	73
Future Vol, veh/h	56	179	67	62	200	73
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	72	72	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	78	249	73	67	217	79
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	581	70	0	0	140	0
Stage 1	107	-	-	-	-	-
Stage 2	474	-	-	-	-	-
Critical Hdwy	6.82	6.92	-	-	4.12	-
Critical Hdwy Stg 1	5.82	-	-	-	-	-
Critical Hdwy Stg 2	5.82	-	-	-	-	-
Follow-up Hdwy	3.51	3.31	-	-	2.21	-
Pot Cap-1 Maneuver	447	981	-	-	1448	-
Stage 1	909	-	-	-	-	-
Stage 2	595	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	378	981	-	-	1448	-
Mov Cap-2 Maneuver	378	-	-	-	-	-
Stage 1	909	-	-	-	-	-
Stage 2	504	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s/v11.59		0		5.86		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	378	981	1416	-
HCM Lane V/C Ratio	-	-	0.206	0.253	0.15	-
HCM Control Delay (s/veh)	-	-	17	9.9	7.9	0.2
HCM Lane LOS	-	-	C	A	A	A
HCM 95th %tile Q(veh)	-	-	0.8	1	0.5	-

HCM 7th TWSC
6: Ridge Rd & Mikelson Blvd

2024 Existing PM
Bella Mesa South TIS - Castle Rock

Intersection

Int Delay, s/veh 8.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	255	27	7	434	58
Future Vol, veh/h	10	255	27	7	434	58
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	74	74	65	65	86	86
Heavy Vehicles, %	2	2	3	3	0	0
Mvmt Flow	14	345	42	11	505	67

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1124	47	0	0	52	0
Stage 1	47	-	-	-	-	-
Stage 2	1077	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.1	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.2	-
Pot Cap-1 Maneuver	227	1022	-	-	1567	-
Stage 1	976	-	-	-	-	-
Stage 2	327	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	151	1022	-	-	1567	-
Mov Cap-2 Maneuver	151	-	-	-	-	-
Stage 1	976	-	-	-	-	-
Stage 2	218	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v11.09		0	7.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT
Capacity (veh/h)	-	- 151 1022 1508	-	-
HCM Lane V/C Ratio	-	- 0.089 0.337 0.322	-	-
HCM Control Delay (s/veh)	-	- 31.1 10.3 8.4	0	
HCM Lane LOS	-	- D B A	A	
HCM 95th %tile Q(veh)	-	- 0.3 1.5 1.4	-	

HCM 7th TWSC
26: N Mitchell St & Rock Canyon Trail

2024 Existing PM
Bella Mesa South TIS - Castle Rock

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	35	0	0	0	41	59	0	70	0
Future Vol, veh/h	0	0	0	35	0	0	0	41	59	0	70	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	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	38	0	0	0	45	64	0	76	0
Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	98	185	38	115	153	54	76	0	0	109	0	0
Stage 1	76	76	-	77	77	-	-	-	-	-	-	-
Stage 2	22	109	-	38	76	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	873	708	1025	850	738	1001	1521	-	-	1480	-	-
Stage 1	924	831	-	924	830	-	-	-	-	-	-	-
Stage 2	993	804	-	972	831	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	873	708	1025	850	738	1001	1521	-	-	1480	-	-
Mov Cap-2 Maneuver	873	708	-	850	738	-	-	-	-	-	-	-
Stage 1	924	831	-	924	830	-	-	-	-	-	-	-
Stage 2	993	804	-	972	831	-	-	-	-	-	-	-
Approach	EB		WB		NB			SB				
HCM Control Delay, s/v	0		9.43		0			0				
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1521	-	-	-	850	1480	-	-				
HCM Lane V/C Ratio	-	-	-	-	0.045	-	-	-				
HCM Control Delay (s/veh)	0	-	-	0	9.4	0	-	-				
HCM Lane LOS	A	-	-	A	A	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0	-	-				

Intersection Capacity Worksheets: 2030 Background

Timings
1: Enderud Blvd & CO 86

2030 Background Improved AM
Bella Mesa Traffic Impact Study - Castle Rock

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	6	145	160	85	276	19	347	89	151	16	100
Future Volume (vph)	6	145	160	85	276	19	347	89	151	16	100
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6		7	4		3	8
Permitted Phases	2		2	6		6	4		4	8	
Detector Phase	5	2	2	1	6	6	7	4	4	3	8
Switch Phase											
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	5.0	8.0	8.0	5.0	8.0
Minimum Split (s)	10.0	31.0	31.0	10.0	31.0	31.0	10.0	30.0	30.0	10.0	25.0
Total Split (s)	10.0	38.0	38.0	10.0	38.0	38.0	27.0	42.0	42.0	10.0	25.0
Total Split (%)	10.0%	38.0%	38.0%	10.0%	38.0%	38.0%	27.0%	42.0%	42.0%	10.0%	25.0%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None
Act Effect Green (s)	37.3	32.5	32.5	40.2	38.3	38.3	37.2	33.5	33.5	17.1	12.1
Actuated g/C Ratio	0.42	0.37	0.37	0.45	0.43	0.43	0.42	0.38	0.38	0.19	0.14
v/c Ratio	0.02	0.24	0.25	0.17	0.38	0.03	0.67	0.14	0.23	0.06	0.57
Control Delay (s/veh)	14.8	23.1	4.2	15.8	20.8	0.1	25.5	20.6	4.6	18.1	42.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	14.8	23.1	4.2	15.8	20.8	0.1	25.5	20.6	4.6	18.1	42.2
LOS	B	C	A	B	C	A	C	C	A	B	D
Approach Delay (s/veh)		13.2			18.6			19.4			39.7
Approach LOS		B			B			B			D

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 88.4

Natural Cycle: 85

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.67

Intersection Signal Delay (s/veh): 20.0

Intersection LOS: B

Intersection Capacity Utilization 70.0%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: Enderud Blvd & CO 86

 Ø1	 Ø2	 Ø3	 Ø4
10 s	38 s	10 s	42 s
 Ø5	 Ø6	 Ø7	 Ø8
10 s	38 s	27 s	25 s

Queues

1: Enderud Blvd & CO 86

2030 Background Improved AM

Bella Mesa Traffic Impact Study - Castle Rock

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	7	158	174	92	300	21	377	97	164	17	146
v/c Ratio	0.02	0.24	0.25	0.17	0.38	0.03	0.67	0.14	0.23	0.06	0.57
Control Delay (s/veh)	14.8	23.1	4.2	15.8	20.8	0.1	25.5	20.6	4.6	18.1	42.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	14.8	23.1	4.2	15.8	20.8	0.1	25.5	20.6	4.6	18.1	42.2
Queue Length 50th (ft)	2	65	0	29	109	0	156	33	0	6	73
Queue Length 95th (ft)	10	123	40	63	229	0	235	77	42	18	133
Internal Link Dist (ft)	1178			1294			2535			817	
Turn Bay Length (ft)	575		360	370		375	130		120	185	
Base Capacity (vph)	455	671	687	545	798	766	587	806	779	277	420
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.24	0.25	0.17	0.38	0.03	0.64	0.12	0.21	0.06	0.35
Intersection Summary											

HCM 7th Signalized Intersection Summary

1: Enderud Blvd & CO 86

2030 Background Improved AM

Bella Mesa Traffic Impact Study - Castle Rock

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	145	160	85	276	19	347	89	151	16	100	34
Future Volume (veh/h)	6	145	160	85	276	19	347	89	151	16	100	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1841	1841	1841	1856	1856	1856	1885	1885	1885	1870	1870	1870
Adj Flow Rate, veh/h	7	158	174	92	300	21	377	97	164	17	109	37
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
Percent Heavy Veh, %	4	4	4	3	3	3	1	1	1	2	2	2
Cap, veh/h	427	700	592	513	786	665	496	562	477	246	149	51
Arrive On Green	0.01	0.38	0.38	0.05	0.42	0.42	0.21	0.30	0.30	0.02	0.11	0.11
Sat Flow, veh/h	1753	1841	1556	1767	1856	1570	1795	1885	1598	1781	1332	452
Grp Volume(v), veh/h	7	158	174	92	300	21	377	97	164	17	0	146
Grp Sat Flow(s),veh/h/ln	1753	1841	1556	1767	1856	1570	1795	1885	1598	1781	0	1784
Q Serve(g_s), s	0.2	4.9	6.6	2.6	9.4	0.7	14.7	3.2	6.8	0.7	0.0	6.7
Cycle Q Clear(g_c), s	0.2	4.9	6.6	2.6	9.4	0.7	14.7	3.2	6.8	0.7	0.0	6.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	427	700	592	513	786	665	496	562	477	246	0	200
V/C Ratio(X)	0.02	0.23	0.29	0.18	0.38	0.03	0.76	0.17	0.34	0.07	0.00	0.73
Avail Cap(c_a), veh/h	515	700	592	525	786	665	596	829	702	317	0	424
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.0	17.7	18.2	14.1	16.7	14.2	23.7	21.8	23.1	32.0	0.0	36.1
Incr Delay (d2), s/veh	0.0	0.7	1.3	0.2	1.4	0.1	4.7	0.1	0.4	0.1	0.0	5.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.0	0.2	0.9	3.7	0.2	6.5	1.4	2.5	0.3	0.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	16.0	18.4	19.5	14.3	18.1	14.3	28.4	22.0	23.5	32.2	0.0	41.2
LnGrp LOS	B	B	B	B	B	B	C	C	C	C		D
Approach Vol, veh/h	339			413			638			163		
Approach Delay, s/veh	18.9			17.0			26.2			40.2		
Approach LOS	B			B			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.4	38.0	6.6	30.1	5.8	41.7	22.3	14.4				
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0				
Max Green Setting (Gmax), s	5.0	32.0	5.0	37.0	5.0	32.0	22.0	20.0				
Max Q Clear Time (g_c+I1), s	4.6	8.6	2.7	8.8	2.2	11.4	16.7	8.7				
Green Ext Time (p_c), s	0.0	1.2	0.0	1.0	0.0	1.4	0.6	0.5				
Intersection Summary												
HCM 7th Control Delay, s/veh	23.6											
HCM 7th LOS	C											
Notes												
User approved pedestrian interval to be less than phase max green.												

Timings

2: Enderud Blvd & Mikelson Blvd

2030 Background Improved AM
Bella Mesa Traffic Impact Study - Castle Rock

					
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	209	427	68	299	34
Future Volume (vph)	209	427	68	299	34
Turn Type	Prot	pm+ov	NA	pm+pt	NA
Protected Phases	8	1	2	1	6
Permitted Phases		8		6	
Detector Phase	8	1	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5
Total Split (s)	23.0	23.0	24.0	23.0	47.0
Total Split (%)	32.9%	32.9%	34.3%	32.9%	67.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5
Lead/Lag		Lead	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	None	None	Max	None	Max
Act Effect Green (s)	13.2	29.4	26.5	42.7	42.7
Actuated g/C Ratio	0.20	0.45	0.41	0.66	0.66
v/c Ratio	0.63	0.47	0.12	0.40	0.02
Control Delay (s/veh)	31.4	2.6	8.2	7.0	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	31.4	2.6	8.2	7.0	4.8
LOS	C	A	A	A	A
Approach Delay (s/veh)	12.1		8.2		6.7
Approach LOS	B		A		A

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 64.9

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.63

Intersection Signal Delay (s/veh): 10.0

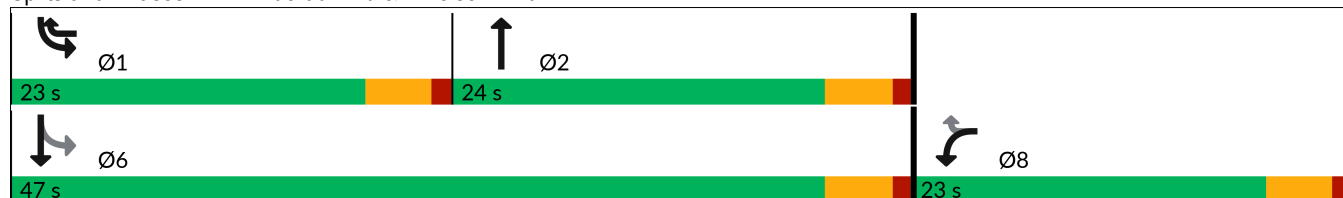
Intersection LOS: A

Intersection Capacity Utilization 43.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 2: Enderud Blvd & Mikelson Blvd



Queues
2: Enderud Blvd & Mikelson Blvd

2030 Background Improved AM
Bella Mesa Traffic Impact Study - Castle Rock

					
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	227	464	162	325	37
v/c Ratio	0.63	0.47	0.12	0.40	0.02
Control Delay (s/veh)	31.4	2.6	8.2	7.0	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	31.4	2.6	8.2	7.0	4.8
Queue Length 50th (ft)	82	0	8	45	2
Queue Length 95th (ft)	145	33	33	100	7
Internal Link Dist (ft)	4240		3911		2535
Turn Bay Length (ft)	310	305		138	
Base Capacity (vph)	511	1098	1393	890	2326
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.44	0.42	0.12	0.37	0.02
Intersection Summary					

HCM 7th Signalized Intersection Summary

2: Enderud Blvd & Mikelson Blvd

2030 Background Improved AM
Bella Mesa Traffic Impact Study - Castle Rock

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	209	427	68	81	299	34
Future Volume (veh/h)	209	427	68	81	299	34
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1870	1870
Adj Flow Rate, veh/h	227	464	74	88	325	37
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	2	2
Cap, veh/h	475	636	732	653	800	2158
Arrive On Green	0.26	0.26	0.41	0.41	0.13	0.61
Sat Flow, veh/h	1795	1598	1885	1598	1781	3647
Grp Volume(v), veh/h	227	464	74	88	325	37
Grp Sat Flow(s),veh/h/ln	1795	1598	1791	1598	1781	1777
Q Serve(g_s), s	7.5	17.2	1.8	2.4	6.7	0.3
Cycle Q Clear(g_c), s	7.5	17.2	1.8	2.4	6.7	0.3
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	475	636	732	653	800	2158
V/C Ratio(X)	0.48	0.73	0.10	0.13	0.41	0.02
Avail Cap(c_a), veh/h	475	636	732	653	1032	2158
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.7	17.9	12.8	12.9	8.1	5.5
Incr Delay (d2), s/veh	0.7	4.2	0.3	0.4	0.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	6.4	0.7	0.9	2.1	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	22.4	22.1	13.0	13.4	8.4	5.5
LnGrp LOS	C	C	B	B	A	A
Approach Vol, veh/h	691		162			362
Approach Delay, s/veh	22.2		13.2			8.1
Approach LOS	C		B			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	13.9	33.1			47.0	23.0
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5
Max Green Setting (Gmax), s	18.5	19.5			42.5	18.5
Max Q Clear Time (g_c+I1), s	8.7	4.4			2.3	19.2
Green Ext Time (p_c), s	0.7	0.7			0.2	0.0
Intersection Summary						
HCM 7th Control Delay, s/veh			16.8			
HCM 7th LOS			B			

HCM 7th Roundabout
3: N Ridge Rd & Enderud Blvd

2030 Background Improved AM
Bella Mesa Traffic Impact Study - Castle Rock

Intersection						
Intersection Delay, s/veh	6.1					
Intersection LOS	A					
Approach	WB		NB		SB	
Entry Lanes	2		2		2	
Conflicting Circle Lanes	2		2		2	
Adj Approach Flow, veh/h	640		341		302	
Demand Flow Rate, veh/h	640		341		311	
Vehicles Circulating, veh/h	278		151		90	
Vehicles Exiting, veh/h	214		250		828	
Ped Vol Crossing Leg, #/h	1		1		1	
Ped Cap Adj	0.999		0.999		0.999	
Approach Delay, s/veh	8.1		4.2		3.9	
Approach LOS	A		A		A	
Lane	Left	Right	Left	Right	Left	Right
Designated Moves	L	TR	LT	TR	LT	TR
Assumed Moves	L	TR	LT	TR	LT	TR
RT Channelized						
Lane Util	0.141	0.859	0.469	0.531	0.469	0.531
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	90	550	160	181	146	165
Cap Entry Lane, veh/h	1045	1121	1175	1249	1243	1316
Entry HV Adj Factor	1.000	1.000	1.002	0.999	0.973	0.971
Flow Entry, veh/h	90	550	160	181	142	160
Cap Entry, veh/h	1044	1120	1176	1246	1208	1276
V/C Ratio	0.086	0.491	0.136	0.145	0.118	0.126
Control Delay, s/veh	4.2	8.7	4.2	4.1	4.0	3.9
LOS	A	A	A	A	A	A
95th %tile Queue, veh	0	3	0	1	0	0

Intersection						
Intersection Delay, s/veh	5.7					
Intersection LOS	A					
Approach	EB		WB		SB	
Entry Lanes	2		2		2	
Conflicting Circle Lanes	2		2		2	
Adj Approach Flow, veh/h	411		280		635	
Demand Flow Rate, veh/h	419		286		648	
Vehicles Circulating, veh/h	149		360		97	
Vehicles Exiting, veh/h	596		208		549	
Ped Vol Crossing Leg, #/h	5		5		5	
Ped Cap Adj	0.995		0.996		0.995	
Approach Delay, s/veh	5.7		5.1		5.9	
Approach LOS	A		A		A	
Lane	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	L	TR
Assumed Moves	L	TR	LT	R	L	TR
RT Channelized						
Lane Util	0.859	0.141	0.339	0.661	0.230	0.770
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	360	59	97	189	149	499
Cap Entry Lane, veh/h	1177	1251	969	1046	1235	1308
Entry HV Adj Factor	0.981	0.980	0.980	0.979	0.980	0.980
Flow Entry, veh/h	353	58	95	185	146	489
Cap Entry, veh/h	1148	1220	947	1019	1203	1275
V/C Ratio	0.307	0.047	0.100	0.181	0.121	0.384
Control Delay, s/veh	6.1	3.3	4.7	5.2	4.0	6.5
LOS	A	A	A	A	A	A
95th %tile Queue, veh	1	0	0	1	0	2

Intersection					
Intersection Delay, s/veh	4.4				
Intersection LOS	A				
Approach	NB		SE		NW
Entry Lanes	2		1		1
Conflicting Circle Lanes	2		2		2
Adj Approach Flow, veh/h	188		130		445
Demand Flow Rate, veh/h	192		133		450
Vehicles Circulating, veh/h	31		293		92
Vehicles Exiting, veh/h	293		249		131
Ped Vol Crossing Leg, #/h	0		0		0
Ped Cap Adj	1.000		1.000		1.000
Approach Delay, s/veh	3.3		0.8		5.9
Approach LOS	A		A		A
Lane	Left	Right	Left	Bypass	Left
Designated Moves	L	LTR	T	R	LT
Assumed Moves	L	TR	T		LT
RT Channelized				Free	
Lane Util	0.479	0.521	1.000		1.000
Follow-Up Headway, s	2.667	2.535	2.535		2.535
Critical Headway, s	4.645	4.328	4.328		4.328
A (Intercept)	1350	1420	1420		1420
B (Slope)	9.199e-4	8.501e-4	8.501e-4		8.501e-4
Entry Flow, veh/h	92	100	31	102	450
Cap Entry Lane, veh/h	1312	1383	1107	1938	1313
Entry HV Adj Factor	0.978	0.980	0.980	0.980	0.990
Flow Entry, veh/h	90	98	30	100	445
Cap Entry, veh/h	1283	1356	1085	1900	1300
V/C Ratio	0.070	0.072	0.028	0.053	0.343
Control Delay, s/veh	3.4	3.2	3.6	0.0	5.9
LOS	A	A	A	A	A
95th %tile Queue, veh	0	0	0	0	2

Intersection						
Int Delay, s/veh	9.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	472	47	7	220	13
Future Vol, veh/h	6	472	47	7	220	13
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, %	1	1	2	2	2	2
Mvmt Flow	7	513	51	8	239	14
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	547	55	0	0	59	0
Stage 1	55	-	-	-	-	-
Stage 2	492	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.12	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.218	-
Pot Cap-1 Maneuver	500	1015	-	-	1545	-
Stage 1	970	-	-	-	-	-
Stage 2	616	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	422	1015	-	-	1545	-
Mov Cap-2 Maneuver	422	-	-	-	-	-
Stage 1	970	-	-	-	-	-
Stage 2	520	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s/v12.14		0	7.32			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 422 1015	1533	-		
HCM Lane V/C Ratio	-	- 0.015 0.506	0.155	-		
HCM Control Delay (s/veh)	-	- 13.7 12.1	7.8	0		
HCM Lane LOS	-	- B B	A	A		
HCM 95th %tile Q(veh)	-	- 0 2.9	0.5	-		

HCM 7th TWSC
26: N Mitchell St & Rock Canyon Trail

2030 Background Improved AM
Bella Mesa Traffic Impact Study - Castle Rock

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	52	0	0	0	477	18	0	532	0
Future Vol, veh/h	0	0	0	52	0	0	0	477	18	0	532	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	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	57	0	0	0	518	20	0	578	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	838	1116	289	817	1107	269	578	0	0	538	0	0
Stage 1	578	578	-	528	528	-	-	-	-	-	-	-
Stage 2	259	538	-	289	578	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	259	206	707	268	209	729	991	-	-	1026	-	-
Stage 1	468	499	-	502	526	-	-	-	-	-	-	-
Stage 2	723	521	-	694	499	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	259	206	707	268	209	729	991	-	-	1026	-	-
Mov Cap-2 Maneuver	259	206	-	268	209	-	-	-	-	-	-	-
Stage 1	468	499	-	502	526	-	-	-	-	-	-	-
Stage 2	723	521	-	694	499	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	0		21.98		0		0					
HCM LOS	A		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	991	-	-	-	268	1026	-	-				
HCM Lane V/C Ratio	-	-	-	-	0.211	-	-	-				
HCM Control Delay (s/veh)	0	-	-	0	22	0	-	-				
HCM Lane LOS	A	-	-	A	C	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	-	0.8	0	-	-				

Timings

1: Enderud Blvd & CO 86

2030 Background Improved PM
Bella Mesa Traffic Impact Study - Castle Rock

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	34	399	364	152	318	27	198	37	108	31	53
Future Volume (vph)	34	399	364	152	318	27	198	37	108	31	53
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6		7	4		3	8
Permitted Phases	2		2	6		6	4		4	8	
Detector Phase	5	2	2	1	6	6	7	4	4	3	8
Switch Phase											
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	5.0	8.0	8.0	5.0	8.0
Minimum Split (s)	10.0	31.0	31.0	10.0	31.0	31.0	10.0	25.0	25.0	10.0	25.0
Total Split (s)	10.0	36.0	36.0	11.0	37.0	37.0	13.0	28.0	28.0	10.0	25.0
Total Split (%)	11.8%	42.4%	42.4%	12.9%	43.5%	43.5%	15.3%	32.9%	32.9%	11.8%	29.4%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None
Act Effect Green (s)	36.2	30.2	30.2	40.0	35.5	35.5	18.1	15.1	15.1	12.0	8.8
Actuated g/C Ratio	0.51	0.42	0.42	0.56	0.50	0.50	0.25	0.21	0.21	0.17	0.12
v/c Ratio	0.06	0.54	0.44	0.36	0.37	0.03	0.68	0.10	0.25	0.13	0.34
Control Delay (s/veh)	7.9	19.7	3.5	10.2	15.2	0.1	33.3	25.1	3.3	20.2	26.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	7.9	19.7	3.5	10.2	15.2	0.1	33.3	25.1	3.3	20.2	26.8
LOS	A	B	A	B	B	A	C	C	A	C	C
Approach Delay (s/veh)		11.8			12.8			23.0			24.9
Approach LOS		B			B			C			C

Intersection Summary

Cycle Length: 85

Actuated Cycle Length: 71.2

Natural Cycle: 80

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.68

Intersection Signal Delay (s/veh): 15.1

Intersection LOS: B

Intersection Capacity Utilization 60.4%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 1: Enderud Blvd & CO 86

 Ø1	 Ø2	 Ø3	 Ø4
11 s	36 s	10 s	28 s
 Ø5	 Ø6	 Ø7	 Ø8
10 s	37 s	13 s	25 s

Queues

1: Enderud Blvd & CO 86

2030 Background Improved PM

Bella Mesa Traffic Impact Study - Castle Rock

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	37	434	396	165	346	29	215	40	117	34	83
v/c Ratio	0.06	0.54	0.44	0.36	0.37	0.03	0.68	0.10	0.25	0.13	0.34
Control Delay (s/veh)	7.9	19.7	3.5	10.2	15.2	0.1	33.3	25.1	3.3	20.2	26.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	7.9	19.7	3.5	10.2	15.2	0.1	33.3	25.1	3.3	20.2	26.8
Queue Length 50th (ft)	7	145	0	32	106	0	78	13	0	11	25
Queue Length 95th (ft)	20	247	51	65	186	0	#137	42	19	30	64
Internal Link Dist (ft)	1178			1294			2535			817	
Turn Bay Length (ft)	575		360	370		375	130		120	185	
Base Capacity (vph)	572	798	906	462	929	848	318	605	627	259	521
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.54	0.44	0.36	0.37	0.03	0.68	0.07	0.19	0.13	0.16

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM 7th Signalized Intersection Summary

1: Enderud Blvd & CO 86

2030 Background Improved PM

Bella Mesa Traffic Impact Study - Castle Rock

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	399	364	152	318	27	198	37	108	31	53	23
Future Volume (veh/h)	34	399	364	152	318	27	198	37	108	31	53	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1885	1885	1885	1870	1870	1870	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	37	434	396	165	346	29	215	40	117	34	58	25
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
Percent Heavy Veh, %	1	1	1	2	2	2	2	2	2	1	1	1
Cap, veh/h	497	777	657	392	847	717	386	353	299	300	141	61
Arrive On Green	0.04	0.41	0.41	0.08	0.45	0.45	0.11	0.19	0.19	0.03	0.11	0.11
Sat Flow, veh/h	1795	1885	1594	1781	1870	1583	1781	1870	1585	1795	1246	537
Grp Volume(v), veh/h	37	434	396	165	346	29	215	40	117	34	0	83
Grp Sat Flow(s),veh/h/ln	1795	1885	1594	1781	1870	1583	1781	1870	1585	1795	0	1783
Q Serve(g_s), s	0.8	12.8	14.2	3.8	9.0	0.7	7.5	1.3	4.7	1.2	0.0	3.2
Cycle Q Clear(g_c), s	0.8	12.8	14.2	3.8	9.0	0.7	7.5	1.3	4.7	1.2	0.0	3.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.30
Lane Grp Cap(c), veh/h	497	777	657	392	847	717	386	353	299	300	0	201
V/C Ratio(X)	0.07	0.56	0.60	0.42	0.41	0.04	0.56	0.11	0.39	0.11	0.00	0.41
Avail Cap(c_a), veh/h	556	777	657	402	847	717	386	591	501	362	0	490
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.6	16.4	16.7	12.0	13.4	11.1	23.5	24.5	25.9	27.0	0.0	30.1
Incr Delay (d2), s/veh	0.1	2.9	4.1	0.7	1.5	0.1	1.8	0.1	0.8	0.2	0.0	1.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	5.1	5.5	1.2	3.3	0.3	3.1	0.6	1.8	0.5	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	11.6	19.2	20.8	12.7	14.8	11.2	25.3	24.6	26.7	27.2	0.0	31.4
LnGrp LOS	B	B	C	B	B	B	C	C	C	C		C
Approach Vol, veh/h	867		540				372		117			
Approach Delay, s/veh	19.6		14.0				25.7		30.2			
Approach LOS	B		B				C		C			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.6	36.0	7.5	18.7	7.6	39.0	13.0	13.2				
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0				
Max Green Setting (Gmax), s	6.0	30.0	5.0	23.0	5.0	31.0	8.0	20.0				
Max Q Clear Time (g_c+I1), s	5.8	16.2	3.2	6.7	2.8	11.0	9.5	5.2				
Green Ext Time (p_c), s	0.0	3.2	0.0	0.5	0.0	1.7	0.0	0.3				
Intersection Summary												
HCM 7th Control Delay, s/veh	19.9											
HCM 7th LOS	B											
Notes												
User approved pedestrian interval to be less than phase max green.												

Timings

2: Enderud Blvd & Mikelson Blvd

2030 Background Improved PM
Bella Mesa Traffic Impact Study - Castle Rock

					
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	122	239	69	346	75
Future Volume (vph)	122	239	69	346	75
Turn Type	Prot	pm+ov	NA	pm+pt	NA
Protected Phases	8	1	2	1	6
Permitted Phases		8		6	
Detector Phase	8	1	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5
Total Split (s)	23.0	23.0	24.0	23.0	47.0
Total Split (%)	32.9%	32.9%	34.3%	32.9%	67.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5
Lead/Lag		Lead	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	None	None	Max	None	Max
Act Effect Green (s)	9.7	22.3	27.8	43.0	44.2
Actuated g/C Ratio	0.16	0.38	0.47	0.73	0.75
v/c Ratio	0.46	0.34	0.14	0.44	0.03
Control Delay (s/veh)	28.4	2.6	5.5	5.7	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	28.4	2.6	5.5	5.7	3.5
LOS	C	A	A	A	A
Approach Delay (s/veh)	11.4		5.5		5.3
Approach LOS	B		A		A

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 59.2

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.46

Intersection Signal Delay (s/veh): 7.6

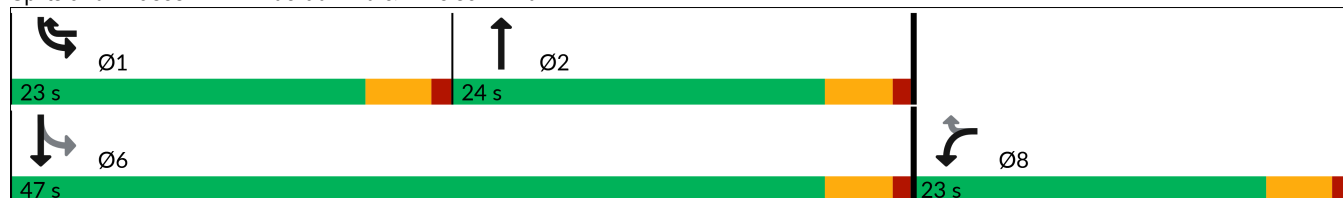
Intersection LOS: A

Intersection Capacity Utilization 43.7%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 2: Enderud Blvd & Mikelson Blvd



Queues
2: Enderud Blvd & Mikelson Blvd

2030 Background Improved PM
Bella Mesa Traffic Impact Study - Castle Rock

					
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	133	260	229	376	82
v/c Ratio	0.46	0.34	0.14	0.44	0.03
Control Delay (s/veh)	28.4	2.6	5.5	5.7	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	28.4	2.6	5.5	5.7	3.5
Queue Length 50th (ft)	45	0	7	42	4
Queue Length 95th (ft)	91	28	32	93	11
Internal Link Dist (ft)	4240		3911		2535
Turn Bay Length (ft)	310	305		138	
Base Capacity (vph)	565	946	1588	970	2667
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.24	0.27	0.14	0.39	0.03
Intersection Summary					

HCM 7th Signalized Intersection Summary

2: Enderud Blvd & Mikelson Blvd

2030 Background Improved PM
Bella Mesa Traffic Impact Study - Castle Rock

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	122	239	69	142	346	75
Future Volume (veh/h)	122	239	69	142	346	75
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	133	260	75	154	376	82
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	319	510	833	743	843	2431
Arrive On Green	0.18	0.18	0.47	0.47	0.14	0.68
Sat Flow, veh/h	1795	1598	1885	1598	1795	3676
Grp Volume(v), veh/h	133	260	75	154	376	82
Grp Sat Flow(s),veh/h/ln	1795	1598	1791	1598	1795	1791
Q Serve(g_s), s	4.1	8.3	1.5	3.6	6.0	0.5
Cycle Q Clear(g_c), s	4.1	8.3	1.5	3.6	6.0	0.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	319	510	833	743	843	2431
V/C Ratio(X)	0.42	0.51	0.09	0.21	0.45	0.03
Avail Cap(c_a), veh/h	530	698	833	743	1119	2431
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.9	17.3	9.3	9.9	5.5	3.3
Incr Delay (d2), s/veh	0.9	0.8	0.2	0.6	0.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	2.8	0.5	1.2	1.6	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	23.7	18.1	9.6	10.5	5.9	3.3
LnGrp LOS	C	B	A	B	A	A
Approach Vol, veh/h	393		229			458
Approach Delay, s/veh	20.0		10.2			5.4
Approach LOS	C		B			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	13.4	33.6			47.0	15.6
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5
Max Green Setting (Gmax), s	18.5	19.5			42.5	18.5
Max Q Clear Time (g_c+I1), s	8.0	5.6			2.5	10.3
Green Ext Time (p_c), s	0.9	1.0			0.5	0.8
Intersection Summary						
HCM 7th Control Delay, s/veh			11.8			
HCM 7th LOS			B			

HCM 7th Roundabout
3: N Ridge Rd & Enderud Blvd

2030 Background Improved PM
Bella Mesa Traffic Impact Study - Castle Rock

Intersection						
Intersection Delay, s/veh	6.4					
Intersection LOS	A					
Approach	WB		NB		SB	
Entry Lanes	2		2		2	
Conflicting Circle Lanes	2		2		2	
Adj Approach Flow, veh/h	423		397		968	
Demand Flow Rate, veh/h	423		397		997	
Vehicles Circulating, veh/h	296		481		95	
Vehicles Exiting, veh/h	582		611		624	
Ped Vol Crossing Leg, #/h	1		1		1	
Ped Cap Adj	0.999		0.999		0.999	
Approach Delay, s/veh	5.7		6.2		6.7	
Approach LOS	A		A		A	
Lane	Left	Right	Left	Right	Left	Right
Designated Moves	L	TR	LT	TR	LT	TR
Assumed Moves	L	TR	LT	TR	LT	TR
RT Channelized						
Lane Util	0.225	0.775	0.471	0.529	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	95	328	187	210	469	528
Cap Entry Lane, veh/h	1028	1104	867	943	1237	1310
Entry HV Adj Factor	1.000	1.000	0.998	1.002	0.970	0.972
Flow Entry, veh/h	95	328	187	210	455	513
Cap Entry, veh/h	1027	1103	865	945	1199	1271
V/C Ratio	0.092	0.297	0.216	0.223	0.380	0.404
Control Delay, s/veh	4.3	6.1	6.4	6.0	6.7	6.8
LOS	A	A	A	A	A	A
95th %tile Queue, veh	0	1	1	1	2	2

Intersection						
Intersection Delay, s/veh	4.4					
Intersection LOS	A					
Approach	EB		WB		SB	
Entry Lanes	2		2		2	
Conflicting Circle Lanes	2		2		2	
Adj Approach Flow, veh/h	390		256		298	
Demand Flow Rate, veh/h	394		258		298	
Vehicles Circulating, veh/h	70		301		139	
Vehicles Exiting, veh/h	367		163		420	
Ped Vol Crossing Leg, #/h	5		5		5	
Ped Cap Adj	0.995		0.996		0.995	
Approach Delay, s/veh	4.6		4.5		4.2	
Approach LOS	A		A		A	
Lane	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	L	TR
Assumed Moves	L	TR	LT	TR	L	TR
RT Channelized						
Lane Util	0.764	0.236	0.469	0.531	0.235	0.765
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	301	93	121	137	70	228
Cap Entry Lane, veh/h	1266	1338	1023	1099	1188	1262
Entry HV Adj Factor	0.990	0.990	0.993	0.989	1.000	1.000
Flow Entry, veh/h	298	92	120	135	70	228
Cap Entry, veh/h	1246	1318	1012	1083	1182	1255
V/C Ratio	0.239	0.070	0.119	0.125	0.059	0.182
Control Delay, s/veh	5.0	3.3	4.6	4.4	3.5	4.4
LOS	A	A	A	A	A	A
95th %tile Queue, veh	1	0	0	0	0	1

Intersection					
Intersection Delay, s/veh	5.3				
Intersection LOS	A				
Approach	NB		SE		NW
Entry Lanes	2		1		1
Conflicting Circle Lanes	2		2		2
Adj Approach Flow, veh/h	694		595		431
Demand Flow Rate, veh/h	701		601		444
Vehicles Circulating, veh/h	269		254		262
Vehicles Exiting, veh/h	254		452		708
Ped Vol Crossing Leg, #/h	0		0		0
Ped Cap Adj	1.000		1.000		1.000
Approach Delay, s/veh	6.7		2.4		7.3
Approach LOS	A		A		A
Lane	Left	Right	Left	Bypass	Left
Designated Moves	L	LTR	T	R	LT
Assumed Moves	L	TR	T		LT
RT Channelized				Free	
Lane Util	0.374	0.626	1.000		1.000
Follow-Up Headway, s	2.667	2.535	2.535		2.535
Critical Headway, s	4.645	4.328	4.328		4.328
A (Intercept)	1350	1420	1420		1420
B (Slope)	9.199e-4	8.501e-4	8.501e-4		8.501e-4
Entry Flow, veh/h	262	439	269	332	444
Cap Entry Lane, veh/h	1054	1130	1144	1919	1137
Entry HV Adj Factor	0.989	0.991	0.990	0.990	0.972
Flow Entry, veh/h	259	435	266	329	431
Cap Entry, veh/h	1042	1120	1133	1900	1104
V/C Ratio	0.249	0.389	0.235	0.173	0.391
Control Delay, s/veh	5.8	7.2	5.3	0.0	7.3
LOS	A	A	A	A	A
95th %tile Queue, veh	1	2	1	1	2

HCM 7th TWSC
6: Ridge Rd & Mikelson Blvd

2030 Background Improved PM
Bella Mesa Traffic Impact Study - Castle Rock

Intersection

Int Delay, s/veh 8.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	327	30	7	556	63
Future Vol, veh/h	10	327	30	7	556	63
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	3	3	0	0
Mvmt Flow	11	355	33	8	604	68

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1314	36	0	0	40
Stage 1	36	-	-	-	-
Stage 2	1277	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.1
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.2
Pot Cap-1 Maneuver	175	1036	-	-	1582
Stage 1	986	-	-	-	-
Stage 2	262	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	105	1036	-	-	1582
Mov Cap-2 Maneuver	105	-	-	-	-
Stage 1	986	-	-	-	-
Stage 2	158	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v11.25		0	7.79
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	105 1036	1522	-
HCM Lane V/C Ratio	-	-	0.103 0.343	0.382	-
HCM Control Delay (s/veh)	-	-	43.1 10.3	8.7	0
HCM Lane LOS	-	-	E B	A	A
HCM 95th %tile Q(veh)	-	-	0.3 1.5	1.8	-

HCM 7th TWSC
26: N Mitchell St & Rock Canyon Trail

2030 Background Improved PM
Bella Mesa Traffic Impact Study - Castle Rock

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	35	0	0	0	324	59	0	239	0
Future Vol, veh/h	0	0	0	35	0	0	0	324	59	0	239	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	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	38	0	0	0	352	64	0	260	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	436	676	130	514	644	208	260	0	0	416	0	0
Stage 1	260	260	-	384	384	-	-	-	-	-	-	-
Stage 2	176	416	-	130	260	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	504	374	896	443	390	798	1302	-	-	1139	-	-
Stage 1	722	692	-	610	610	-	-	-	-	-	-	-
Stage 2	809	590	-	860	692	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	504	374	896	443	390	798	1302	-	-	1139	-	-
Mov Cap-2 Maneuver	504	374	-	443	390	-	-	-	-	-	-	-
Stage 1	722	692	-	610	610	-	-	-	-	-	-	-
Stage 2	809	590	-	860	692	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	0		13.88		0		0					
HCM LOS	A		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1302	-	-	-	443	1139	-	-				
HCM Lane V/C Ratio	-	-	-	-	0.086	-	-	-				
HCM Control Delay (s/veh)	0	-	-	0	13.9	0	-	-				
HCM Lane LOS	A	-	-	A	B	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	-	0.3	0	-	-				

Intersection Capacity Worksheets: 2045 Background

Timings
1: Enderud Blvd & CO 86

2045 Background Improved AM
Bella Mesa South TIS - Castle Rock

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	10	170	170	90	320	25	350	95	160	20	110
Future Volume (vph)	10	170	170	90	320	25	350	95	160	20	110
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6		7	4		3	8
Permitted Phases	2		2	6		6	4		4	8	
Detector Phase	5	2	2	1	6	6	7	4	4	3	8
Switch Phase											
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	5.0	8.0	8.0	5.0	8.0
Minimum Split (s)	10.0	31.0	31.0	10.0	31.0	31.0	10.0	30.0	30.0	10.0	25.0
Total Split (s)	10.0	38.0	38.0	10.0	38.0	38.0	27.0	42.0	42.0	10.0	25.0
Total Split (%)	10.0%	38.0%	38.0%	10.0%	38.0%	38.0%	27.0%	42.0%	42.0%	10.0%	25.0%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None
Act Effect Green (s)	37.3	32.5	32.5	40.2	38.3	38.3	37.8	34.2	34.2	17.7	12.7
Actuated g/C Ratio	0.42	0.36	0.36	0.45	0.43	0.43	0.42	0.38	0.38	0.20	0.14
v/c Ratio	0.03	0.28	0.27	0.19	0.44	0.04	0.68	0.14	0.24	0.08	0.60
Control Delay (s/veh)	15.3	23.9	4.8	16.4	22.2	0.1	25.8	20.5	4.5	18.2	43.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	15.3	23.9	4.8	16.4	22.2	0.1	25.8	20.5	4.5	18.2	43.3
LOS	B	C	A	B	C	A	C	C	A	B	D
Approach Delay (s/veh)		14.4			19.7			19.3			40.2
Approach LOS		B			B			B			D

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 89.1

Natural Cycle: 85

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.68

Intersection Signal Delay (s/veh): 20.5

Intersection LOS: C

Intersection Capacity Utilization 70.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: Enderud Blvd & CO 86

 Ø1	 Ø2	 Ø3	 Ø4
10 s	38 s	10 s	42 s
 Ø5	 Ø6	 Ø7	 Ø8
10 s	38 s	27 s	25 s

Queues

1: Enderud Blvd & CO 86

2045 Background Improved AM

Bella Mesa South TIS - Castle Rock

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	11	185	185	98	348	27	380	103	174	22	158
v/c Ratio	0.03	0.28	0.27	0.19	0.44	0.04	0.68	0.14	0.24	0.08	0.60
Control Delay (s/veh)	15.3	23.9	4.8	16.4	22.2	0.1	25.8	20.5	4.5	18.2	43.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	15.3	23.9	4.8	16.4	22.2	0.1	25.8	20.5	4.5	18.2	43.3
Queue Length 50th (ft)	3	78	0	31	133	0	158	36	0	7	81
Queue Length 95th (ft)	14	144	46	67	273	0	238	81	43	21	144
Internal Link Dist (ft)	1178			1294			2535			817	
Turn Bay Length (ft)	575		360	370		375	130		120	185	
Base Capacity (vph)	412	666	683	518	792	762	583	803	782	282	417
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.28	0.27	0.19	0.44	0.04	0.65	0.13	0.22	0.08	0.38
Intersection Summary											

HCM 7th Signalized Intersection Summary

1: Enderud Blvd & CO 86

2045 Background Improved AM

Bella Mesa South TIS - Castle Rock

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	170	170	90	320	25	350	95	160	20	110	35
Future Volume (veh/h)	10	170	170	90	320	25	350	95	160	20	110	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1841	1841	1841	1856	1856	1856	1885	1885	1885	1870	1870	1870
Adj Flow Rate, veh/h	11	185	185	98	348	27	380	103	174	22	120	38
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
Percent Heavy Veh, %	4	4	4	3	3	3	1	1	1	2	2	2
Cap, veh/h	387	693	585	486	772	653	494	566	479	258	161	51
Arrive On Green	0.01	0.38	0.38	0.05	0.42	0.42	0.21	0.30	0.30	0.02	0.12	0.12
Sat Flow, veh/h	1753	1841	1556	1767	1856	1570	1795	1885	1598	1781	1358	430
Grp Volume(v), veh/h	11	185	185	98	348	27	380	103	174	22	0	158
Grp Sat Flow(s),veh/h/ln	1753	1841	1556	1767	1856	1570	1795	1885	1598	1781	0	1789
Q Serve(g_s), s	0.3	5.9	7.2	2.8	11.5	0.9	14.9	3.4	7.3	0.9	0.0	7.3
Cycle Q Clear(g_c), s	0.3	5.9	7.2	2.8	11.5	0.9	14.9	3.4	7.3	0.9	0.0	7.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	387	693	585	486	772	653	494	566	479	258	0	212
V/C Ratio(X)	0.03	0.27	0.32	0.20	0.45	0.04	0.77	0.18	0.36	0.09	0.00	0.75
Avail Cap(c_a), veh/h	466	693	585	496	772	653	590	820	695	320	0	421
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.3	18.4	18.8	14.7	17.9	14.8	23.7	22.0	23.4	31.7	0.0	36.3
Incr Delay (d2), s/veh	0.0	0.9	1.4	0.2	1.9	0.1	5.1	0.2	0.5	0.1	0.0	5.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.4	2.7	1.0	4.6	0.3	6.6	1.5	2.7	0.4	0.0	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	16.4	19.3	20.2	14.9	19.8	14.9	28.8	22.2	23.8	31.8	0.0	41.4
LnGrp LOS	B	B	C	B	B	B	C	C	C	C		D
Approach Vol, veh/h	381			473			657			180		
Approach Delay, s/veh	19.7			18.5			26.4			40.3		
Approach LOS	B			B			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	38.0	7.0	30.5	6.1	41.4	22.5	15.1				
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0				
Max Green Setting (Gmax), s	5.0	32.0	5.0	37.0	5.0	32.0	22.0	20.0				
Max Q Clear Time (g_c+I1), s	4.8	9.2	2.9	9.3	2.3	13.5	16.9	9.3				
Green Ext Time (p_c), s	0.0	1.4	0.0	1.1	0.0	1.7	0.6	0.6				

Intersection Summary

HCM 7th Control Delay, s/veh 24.2

HCM 7th LOS C

Notes

User approved pedestrian interval to be less than phase max green.

Timings 2: Enderud Blvd & Mikelson Blvd

2045 Background Improved AM
Bella Mesa South TIS - Castle Rock

					
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	240	455	75	320	35
Future Volume (vph)	240	455	75	320	35
Turn Type	Prot	pm+ov	NA	pm+pt	NA
Protected Phases	8	1	2	1	6
Permitted Phases		8		6	
Detector Phase	8	1	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5
Total Split (s)	23.0	23.0	24.0	23.0	47.0
Total Split (%)	32.9%	32.9%	34.3%	32.9%	67.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5
Lead/Lag		Lead	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	None	None	Max	None	Max
Act Effect Green (s)	14.2	31.0	25.8	42.6	42.6
Actuated g/C Ratio	0.22	0.47	0.39	0.65	0.65
v/c Ratio	0.68	0.49	0.13	0.44	0.02
Control Delay (s/veh)	33.0	2.6	8.7	7.6	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	33.0	2.6	8.7	7.6	5.1
LOS	C	A	A	A	A
Approach Delay (s/veh)	13.0		8.7		7.4
Approach LOS	B		A		A

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 65.9

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.68

Intersection Signal Delay (s/veh): 10.8

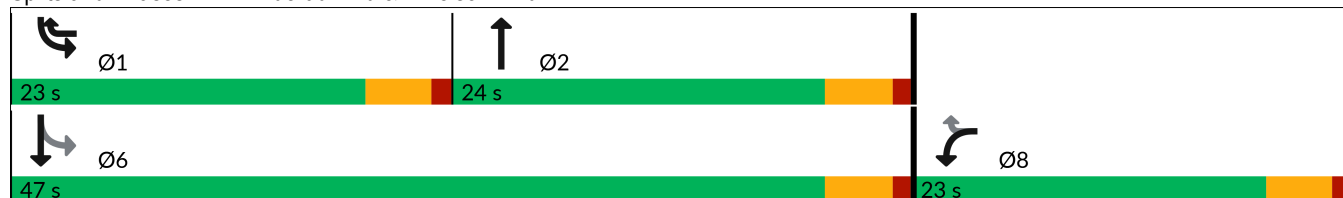
Intersection LOS: B

Intersection Capacity Utilization 47.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 2: Enderud Blvd & Mikelson Blvd



Queues
2: Enderud Blvd & Mikelson Blvd

2045 Background Improved AM
Bella Mesa South TIS - Castle Rock

					
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	261	495	174	348	38
v/c Ratio	0.68	0.49	0.13	0.44	0.02
Control Delay (s/veh)	33.0	2.6	8.7	7.6	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	33.0	2.6	8.7	7.6	5.1
Queue Length 50th (ft)	97	0	10	53	2
Queue Length 95th (ft)	166	33	35	107	7
Internal Link Dist (ft)	4240		3911		2535
Turn Bay Length (ft)	310	305		138	
Base Capacity (vph)	503	1119	1346	870	2289
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.52	0.44	0.13	0.40	0.02
Intersection Summary					

HCM 7th Signalized Intersection Summary

2: Enderud Blvd & Mikelson Blvd

2045 Background Improved AM
Bella Mesa South TIS - Castle Rock

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	240	455	75	85	320	35
Future Volume (veh/h)	240	455	75	85	320	35
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1870	1870
Adj Flow Rate, veh/h	261	495	82	92	348	38
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	2	2
Cap, veh/h	475	651	716	639	797	2158
Arrive On Green	0.26	0.26	0.40	0.40	0.14	0.61
Sat Flow, veh/h	1795	1598	1885	1598	1781	3647
Grp Volume(v), veh/h	261	495	82	92	348	38
Grp Sat Flow(s),veh/h/ln	1795	1598	1791	1598	1781	1777
Q Serve(g_s), s	8.8	18.5	2.0	2.6	7.3	0.3
Cycle Q Clear(g_c), s	8.8	18.5	2.0	2.6	7.3	0.3
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	475	651	716	639	797	2158
V/C Ratio(X)	0.55	0.76	0.11	0.14	0.44	0.02
Avail Cap(c_a), veh/h	475	651	716	639	1013	2158
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	17.8	13.2	13.4	8.2	5.5
Incr Delay (d2), s/veh	1.4	5.2	0.3	0.5	0.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	7.0	0.8	0.9	2.3	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	23.5	23.0	13.5	13.9	8.6	5.5
LnGrp LOS	C	C	B	B	A	A
Approach Vol, veh/h	756		174			386
Approach Delay, s/veh	23.2		13.7			8.3
Approach LOS	C		B			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	14.5	32.5			47.0	23.0
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5
Max Green Setting (Gmax), s	18.5	19.5			42.5	18.5
Max Q Clear Time (g_c+I1), s	9.3	4.6			2.3	20.5
Green Ext Time (p_c), s	0.7	0.7			0.2	0.0
Intersection Summary						
HCM 7th Control Delay, s/veh			17.6			
HCM 7th LOS			B			

HCM 7th Roundabout
3: N Ridge Rd & Enderud Blvd

2045 Background Improved AM
Bella Mesa South TIS - Castle Rock

Intersection						
Intersection Delay, s/veh	7.0					
Intersection LOS	A					
Approach	WB		NB		SB	
Entry Lanes	2		2		2	
Conflicting Circle Lanes	2		2		2	
Adj Approach Flow, veh/h	707		413		354	
Demand Flow Rate, veh/h	707		413		365	
Vehicles Circulating, veh/h	348		163		98	
Vehicles Exiting, veh/h	228		300		957	
Ped Vol Crossing Leg, #/h	1		1		1	
Ped Cap Adj	0.999		0.999		0.999	
Approach Delay, s/veh	10.0		4.5		4.1	
Approach LOS	A		A		A	
Lane	Left	Right	Left	Right	Left	Right
Designated Moves	L	TR	LT	TR	LT	TR
Assumed Moves	L	TR	LT	TR	LT	TR
RT Channelized						
Lane Util	0.139	0.861	0.470	0.530	0.471	0.529
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	98	609	194	219	172	193
Cap Entry Lane, veh/h	980	1056	1162	1236	1233	1307
Entry HV Adj Factor	1.000	1.000	1.001	0.999	0.968	0.972
Flow Entry, veh/h	98	609	194	219	166	188
Cap Entry, veh/h	979	1056	1161	1235	1192	1269
V/C Ratio	0.100	0.577	0.167	0.177	0.140	0.148
Control Delay, s/veh	4.6	10.8	4.6	4.4	4.2	4.1
LOS	A	B	A	A	A	A
95th %tile Queue, veh	0	4	1	1	0	1

HCM 7th Roundabout
4: Mikelson Blvd & N Mitchell St

2045 Background Improved AM
Bella Mesa South TIS - Castle Rock

Intersection						
Intersection Delay, s/veh	5.9					
Intersection LOS	A					
Approach	EB		WB		SB	
Entry Lanes	2		2		2	
Conflicting Circle Lanes	2		2		2	
Adj Approach Flow, veh/h	440		299		663	
Demand Flow Rate, veh/h	449		305		676	
Vehicles Circulating, veh/h	155		388		105	
Vehicles Exiting, veh/h	626		216		588	
Ped Vol Crossing Leg, #/h	5		5		5	
Ped Cap Adj	0.995		0.996		0.995	
Approach Delay, s/veh	6.0		5.3		6.1	
Approach LOS	A		A		A	
Lane	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	L	TR
Assumed Moves	L	TR	LT	R	L	TR
RT Channelized						
Lane Util	0.864	0.136	0.344	0.656	0.229	0.771
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	388	61	105	200	155	521
Cap Entry Lane, veh/h	1170	1245	945	1021	1226	1299
Entry HV Adj Factor	0.979	0.980	0.980	0.980	0.981	0.981
Flow Entry, veh/h	380	60	103	196	152	511
Cap Entry, veh/h	1141	1214	923	997	1196	1267
V/C Ratio	0.333	0.049	0.112	0.197	0.127	0.403
Control Delay, s/veh	6.4	3.4	4.9	5.5	4.1	6.8
LOS	A	A	A	A	A	A
95th %tile Queue, veh	1	0	0	1	0	2

HCM 7th Roundabout
7: Plum Creek Pkwy & Ridge Rd

2045 Background Improved AM
Bella Mesa South TIS - Castle Rock

Intersection					
Intersection Delay, s/veh	5.0				
Intersection LOS	A				
Approach	NB		SE		NW
Entry Lanes	2		1		1
Conflicting Circle Lanes	2		2		2
Adj Approach Flow, veh/h	228		163		533
Demand Flow Rate, veh/h	232		167		538
Vehicles Circulating, veh/h	39		340		116
Vehicles Exiting, veh/h	340		314		155
Ped Vol Crossing Leg, #/h	0		0		0
Ped Cap Adj	1.000		1.000		1.000
Approach Delay, s/veh	3.4		0.9		6.9
Approach LOS	A		A		A
Lane	Left	Right	Left	Bypass	Left
Designated Moves	L	LTR	T	R	LT
Assumed Moves	L	LTR	T		LT
RT Channelized				Free	
Lane Util	0.530	0.470	1.000		1.000
Follow-Up Headway, s	2.667	2.535	2.535		2.535
Critical Headway, s	4.645	4.328	4.328		4.328
A (Intercept)	1350	1420	1420		1420
B (Slope)	9.199e-4	8.501e-4	8.501e-4		8.501e-4
Entry Flow, veh/h	123	109	39	128	538
Cap Entry Lane, veh/h	1302	1374	1064	1938	1287
Entry HV Adj Factor	0.982	0.983	0.980	0.980	0.991
Flow Entry, veh/h	121	107	38	125	533
Cap Entry, veh/h	1279	1351	1043	1900	1275
V/C Ratio	0.094	0.079	0.037	0.066	0.418
Control Delay, s/veh	3.6	3.3	3.8	0.0	6.9
LOS	A	A	A	A	A
95th %tile Queue, veh	0	0	0	0	2

Intersection						
Int Delay, s/veh	10.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	500	60	10	235	15
Future Vol, veh/h	5	500	60	10	235	15
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, %	1	1	2	2	2	2
Mvmt Flow	5	543	65	11	255	16
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	598	71	0	0	76	0
Stage 1	71	-	-	-	-	-
Stage 2	527	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.12	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.218	-
Pot Cap-1 Maneuver	467	995	-	-	1523	-
Stage 1	955	-	-	-	-	-
Stage 2	594	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	388	995	-	-	1523	-
Mov Cap-2 Maneuver	388	-	-	-	-	-
Stage 1	955	-	-	-	-	-
Stage 2	494	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s/v	12.9	0	7.37			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 388 995	1509	-		
HCM Lane V/C Ratio	-	- 0.014 0.546	0.168	-		
HCM Control Delay (s/veh)	-	- 14.4 12.9	7.8	0		
HCM Lane LOS	-	- B B	A	A		
HCM 95th %tile Q(veh)	-	- 0 3.4	0.6	-		

HCM 7th TWSC
26: N Mitchell St & Rock Canyon Trail

2045 Background Improved AM
Bella Mesa South TIS - Castle Rock

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	52	0	0	0	512	18	0	558	0
Future Vol, veh/h	0	0	0	52	0	0	0	512	18	0	558	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	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	57	0	0	0	557	20	0	607	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	885	1183	303	870	1173	288	607	0	0	576	0	0
Stage 1	607	607	-	566	566	-	-	-	-	-	-	-
Stage 2	278	576	-	303	607	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	240	188	693	246	191	709	968	-	-	993	-	-
Stage 1	450	485	-	476	505	-	-	-	-	-	-	-
Stage 2	705	500	-	681	485	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	240	188	693	246	191	709	968	-	-	993	-	-
Mov Cap-2 Maneuver	240	188	-	246	191	-	-	-	-	-	-	-
Stage 1	450	485	-	476	505	-	-	-	-	-	-	-
Stage 2	705	500	-	681	485	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	0		23.97		0		0					
HCM LOS	A		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	968	-	-	-	246	993	-	-				
HCM Lane V/C Ratio	-	-	-	-	0.23	-	-	-				
HCM Control Delay (s/veh)	0	-	-	0	24	0	-	-				
HCM Lane LOS	A	-	-	A	C	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	-	0.9	0	-	-				

Timings
1: Enderud Blvd & CO 86

2045 Background Improved PM
Bella Mesa South TIS - Castle Rock

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	35	465	385	165	370	35	210	45	115	40	55
Future Volume (vph)	35	465	385	165	370	35	210	45	115	40	55
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6		7	4		3	8
Permitted Phases	2		2	6		6	4		4	8	
Detector Phase	5	2	2	1	6	6	7	4	4	3	8
Switch Phase											
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	5.0	8.0	8.0	5.0	8.0
Minimum Split (s)	10.0	31.0	31.0	10.0	31.0	31.0	10.0	25.0	25.0	10.0	25.0
Total Split (s)	10.0	37.0	37.0	12.0	39.0	39.0	11.0	26.0	26.0	10.0	25.0
Total Split (%)	11.8%	43.5%	43.5%	14.1%	45.9%	45.9%	12.9%	30.6%	30.6%	11.8%	29.4%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None
Act Effect Green (s)	37.2	31.2	31.2	42.4	37.3	37.3	15.1	11.7	11.7	12.1	8.9
Actuated g/C Ratio	0.52	0.44	0.44	0.59	0.52	0.52	0.21	0.16	0.16	0.17	0.12
v/c Ratio	0.07	0.62	0.45	0.41	0.41	0.04	0.85	0.16	0.31	0.17	0.36
Control Delay (s/veh)	7.2	20.8	3.4	9.9	14.6	0.1	54.2	29.0	4.6	22.0	27.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	7.2	20.8	3.4	9.9	14.6	0.1	54.2	29.0	4.6	22.0	27.1
LOS	A	C	A	A	B	A	D	C	A	C	C
Approach Delay (s/veh)		12.7			12.3			35.7			25.4
Approach LOS		B			B			D			C

Intersection Summary

Cycle Length: 85

Actuated Cycle Length: 71.6

Natural Cycle: 80

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.85

Intersection Signal Delay (s/veh): 17.7

Intersection LOS: B

Intersection Capacity Utilization 65.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: Enderud Blvd & CO 86

 Ø1	 Ø2	 Ø3	 Ø4
12 s	37 s	10 s	26 s
 Ø5	 Ø6	 Ø7	 Ø8
10 s	39 s	11 s	25 s

Queues

1: Enderud Blvd & CO 86

2045 Background Improved PM

Bella Mesa South TIS - Castle Rock

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	38	505	418	179	402	38	228	49	125	43	87
v/c Ratio	0.07	0.62	0.45	0.41	0.41	0.04	0.85	0.16	0.31	0.17	0.36
Control Delay (s/veh)	7.2	20.8	3.4	9.9	14.6	0.1	54.2	29.0	4.6	22.0	27.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	7.2	20.8	3.4	9.9	14.6	0.1	54.2	29.0	4.6	22.0	27.1
Queue Length 50th (ft)	6	173	0	32	121	0	87	20	0	15	26
Queue Length 95th (ft)	19	293	51	65	211	0	#194	49	25	37	66
Internal Link Dist (ft)	1178			1294			2535			817	
Turn Bay Length (ft)	575		360	370		375	130		120	185	
Base Capacity (vph)	555	819	932	441	971	879	269	549	585	259	518
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.62	0.45	0.41	0.41	0.04	0.85	0.09	0.21	0.17	0.17

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM 7th Signalized Intersection Summary

1: Enderud Blvd & CO 86

2045 Background Improved PM

Bella Mesa South TIS - Castle Rock

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	465	385	165	370	35	210	45	115	40	55	25
Future Volume (veh/h)	35	465	385	165	370	35	210	45	115	40	55	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1885	1885	1885	1870	1870	1870	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	38	505	418	179	402	38	228	49	125	43	60	27
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
Percent Heavy Veh, %	1	1	1	2	2	2	2	2	2	1	1	1
Cap, veh/h	482	811	686	378	887	750	338	294	250	311	140	63
Arrive On Green	0.04	0.43	0.43	0.08	0.47	0.47	0.08	0.16	0.16	0.04	0.11	0.11
Sat Flow, veh/h	1795	1885	1594	1781	1870	1583	1781	1870	1585	1795	1228	552
Grp Volume(v), veh/h	38	505	418	179	402	38	228	49	125	43	0	87
Grp Sat Flow(s),veh/h/ln	1795	1885	1594	1781	1870	1583	1781	1870	1585	1795	0	1780
Q Serve(g_s), s	0.8	15.0	14.6	3.9	10.4	0.9	6.0	1.6	5.2	1.5	0.0	3.3
Cycle Q Clear(g_c), s	0.8	15.0	14.6	3.9	10.4	0.9	6.0	1.6	5.2	1.5	0.0	3.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.31
Lane Grp Cap(c), veh/h	482	811	686	378	887	750	338	294	250	311	0	203
V/C Ratio(X)	0.08	0.62	0.61	0.47	0.45	0.05	0.68	0.17	0.50	0.14	0.00	0.43
Avail Cap(c_a), veh/h	540	811	686	407	887	750	338	545	462	364	0	494
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.8	16.0	15.8	11.8	12.7	10.2	27.7	26.3	27.8	26.4	0.0	29.7
Incr Delay (d2), s/veh	0.1	3.6	4.0	0.9	1.7	0.1	5.2	0.3	1.6	0.2	0.0	1.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	5.9	5.6	1.2	3.7	0.3	4.1	0.7	2.0	0.6	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	10.9	19.5	19.8	12.7	14.4	10.3	32.9	26.5	29.3	26.6	0.0	31.1
LnGrp LOS	B	B	B	B	B	B	C	C	C	C		C
Approach Vol, veh/h	961			619			402			130		
Approach Delay, s/veh	19.3			13.6			31.0			29.6		
Approach LOS	B			B			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.8	37.0	7.9	16.3	7.7	40.1	11.0	13.2				
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0				
Max Green Setting (Gmax), s	7.0	31.0	5.0	21.0	5.0	33.0	6.0	20.0				
Max Q Clear Time (g_c+I1), s	5.9	17.0	3.5	7.2	2.8	12.4	8.0	5.3				
Green Ext Time (p_c), s	0.0	3.6	0.0	0.5	0.0	2.1	0.0	0.3				
Intersection Summary												
HCM 7th Control Delay, s/veh	20.5											
HCM 7th LOS	C											
Notes												
User approved pedestrian interval to be less than phase max green.												

Timings 2: Enderud Blvd & Mikelson Blvd

2045 Background Improved PM
Bella Mesa South TIS - Castle Rock

					
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	125	255	75	360	80
Future Volume (vph)	125	255	75	360	80
Turn Type	Prot	pm+ov	NA	pm+pt	NA
Protected Phases	8	1	2	1	6
Permitted Phases		8		6	
Detector Phase	8	1	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5
Total Split (s)	23.0	23.0	24.0	23.0	47.0
Total Split (%)	32.9%	32.9%	34.3%	32.9%	67.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5
Lead/Lag		Lead	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	None	None	Max	None	Max
Act Effect Green (s)	9.8	22.7	27.5	43.1	44.2
Actuated g/C Ratio	0.17	0.38	0.46	0.73	0.75
v/c Ratio	0.46	0.35	0.15	0.46	0.03
Control Delay (s/veh)	28.5	2.6	5.8	5.9	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	28.5	2.6	5.8	5.9	3.6
LOS	C	A	A	A	A
Approach Delay (s/veh)	11.1		5.8		5.5
Approach LOS	B		A		A

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 59.3

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.46

Intersection Signal Delay (s/veh): 7.6

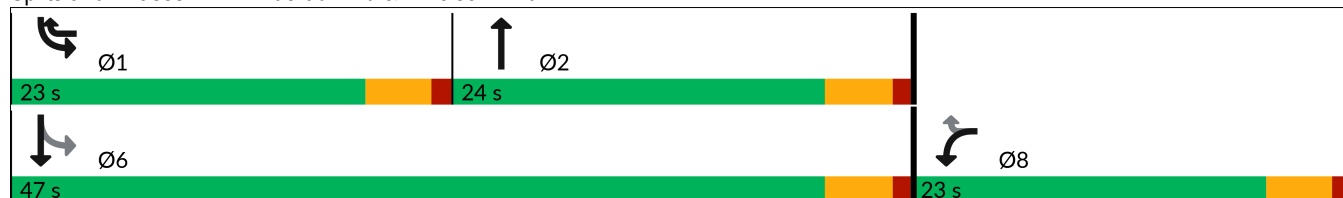
Intersection LOS: A

Intersection Capacity Utilization 44.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 2: Enderud Blvd & Mikelson Blvd



Queues

2: Enderud Blvd & Mikelson Blvd

2045 Background Improved PM

Bella Mesa South TIS - Castle Rock



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	136	277	240	391	87
v/c Ratio	0.46	0.35	0.15	0.46	0.03
Control Delay (s/veh)	28.5	2.6	5.8	5.9	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	28.5	2.6	5.8	5.9	3.6
Queue Length 50th (ft)	47	0	8	45	4
Queue Length 95th (ft)	92	28	34	98	11
Internal Link Dist (ft)	4240		3911		2535
Turn Bay Length (ft)	310	305		138	
Base Capacity (vph)	564	955	1578	964	2663
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.24	0.29	0.15	0.41	0.03
Intersection Summary					

HCM 7th Signalized Intersection Summary

2: Enderud Blvd & Mikelson Blvd

2045 Background Improved PM
Bella Mesa South TIS - Castle Rock

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	125	255	75	145	360	80
Future Volume (veh/h)	125	255	75	145	360	80
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	136	277	82	158	391	87
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	332	532	812	724	832	2409
Arrive On Green	0.19	0.19	0.45	0.45	0.15	0.67
Sat Flow, veh/h	1795	1598	1885	1598	1795	3676
Grp Volume(v), veh/h	136	277	82	158	391	87
Grp Sat Flow(s),veh/h/ln	1795	1598	1791	1598	1795	1791
Q Serve(g_s), s	4.2	8.8	1.7	3.8	6.5	0.5
Cycle Q Clear(g_c), s	4.2	8.8	1.7	3.8	6.5	0.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	332	532	812	724	832	2409
V/C Ratio(X)	0.41	0.52	0.10	0.22	0.47	0.04
Avail Cap(c_a), veh/h	526	704	812	724	1092	2409
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.7	17.0	9.9	10.5	5.8	3.5
Incr Delay (d2), s/veh	0.8	0.8	0.2	0.7	0.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	3.0	0.6	1.3	1.7	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	23.5	17.8	10.1	11.2	6.3	3.5
LnGrp LOS	C	B	B	B	A	A
Approach Vol, veh/h	413		240			478
Approach Delay, s/veh	19.7		10.8			5.8
Approach LOS	B		B			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	13.9	33.1			47.0	16.2
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5
Max Green Setting (Gmax), s	18.5	19.5			42.5	18.5
Max Q Clear Time (g_c+I1), s	8.5	5.8			2.5	10.8
Green Ext Time (p_c), s	0.9	1.1			0.5	0.9
Intersection Summary						
HCM 7th Control Delay, s/veh			11.9			
HCM 7th LOS			B			

HCM 7th Roundabout
3: N Ridge Rd & Enderud Blvd

2045 Background Improved PM
Bella Mesa South TIS - Castle Rock

Intersection						
Intersection Delay, s/veh	7.3					
Intersection LOS	A					
Approach	WB		NB		SB	
Entry Lanes	2		2		2	
Conflicting Circle Lanes	2		2		2	
Adj Approach Flow, veh/h	457		479		1125	
Demand Flow Rate, veh/h	457		479		1159	
Vehicles Circulating, veh/h	370		515		109	
Vehicles Exiting, veh/h	624		753		718	
Ped Vol Crossing Leg, #/h	1		1		1	
Ped Cap Adj	0.999		0.999		0.999	
Approach Delay, s/veh	6.4		7.0		7.8	
Approach LOS	A		A		A	
Lane	Left	Right	Left	Right	Left	Right
Designated Moves	L	TR	LT	TR	LT	TR
Assumed Moves	L	TR	LT	TR	LT	TR
RT Channelized						
Lane Util	0.239	0.761	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	109	348	225	254	545	614
Cap Entry Lane, veh/h	960	1037	841	917	1221	1294
Entry HV Adj Factor	1.000	1.000	1.001	0.999	0.970	0.971
Flow Entry, veh/h	109	348	225	254	529	596
Cap Entry, veh/h	960	1036	840	916	1184	1256
V/C Ratio	0.114	0.336	0.268	0.277	0.447	0.475
Control Delay, s/veh	4.8	6.9	7.2	6.8	7.7	7.8
LOS	A	A	A	A	A	A
95th %tile Queue, veh	0	1	1	1	2	3

HCM 7th Roundabout
4: Mikelson Blvd & N Mitchell St

2045 Background Improved PM
Bella Mesa South TIS - Castle Rock

Intersection						
Intersection Delay, s/veh	4.5					
Intersection LOS	A					
Approach	EB		WB		SB	
Entry Lanes	2		2		2	
Conflicting Circle Lanes	2		2		2	
Adj Approach Flow, veh/h	408		272		305	
Demand Flow Rate, veh/h	412		274		305	
Vehicles Circulating, veh/h	71		313		148	
Vehicles Exiting, veh/h	382		170		439	
Ped Vol Crossing Leg, #/h	5		5		5	
Ped Cap Adj	0.995		0.996		0.995	
Approach Delay, s/veh	4.7		4.6		4.3	
Approach LOS	A		A		A	
Lane	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	L	TR
Assumed Moves	L	TR	LT	TR	L	TR
RT Channelized						
Lane Util	0.760	0.240	0.471	0.529	0.233	0.767
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	313	99	129	145	71	234
Cap Entry Lane, veh/h	1264	1337	1012	1088	1178	1252
Entry HV Adj Factor	0.990	0.990	0.989	0.993	1.000	1.000
Flow Entry, veh/h	310	98	128	144	71	234
Cap Entry, veh/h	1246	1317	997	1076	1172	1246
V/C Ratio	0.249	0.074	0.128	0.134	0.061	0.188
Control Delay, s/veh	5.1	3.3	4.8	4.5	3.6	4.5
LOS	A	A	A	A	A	A
95th %tile Queue, veh	1	0	0	0	0	1

Intersection					
Intersection Delay, s/veh	6.6				
Intersection LOS	A				
Approach	NB		SE		NW
Entry Lanes	2		1		1
Conflicting Circle Lanes	2		2		2
Adj Approach Flow, veh/h	842		745		521
Demand Flow Rate, veh/h	850		752		537
Vehicles Circulating, veh/h	335		302		329
Vehicles Exiting, veh/h	302		564		856
Ped Vol Crossing Leg, #/h	0		0		0
Ped Cap Adj	1.000		1.000		1.000
Approach Delay, s/veh	8.3		2.8		9.4
Approach LOS	A		A		A
Lane	Left	Right	Left	Bypass	Left
Designated Moves	L	LTR	T	R	LT
Assumed Moves	L	TR	T		LT
RT Channelized				Free	
Lane Util	0.387	0.613	1.000		1.000
Follow-Up Headway, s	2.667	2.535	2.535		2.535
Critical Headway, s	4.645	4.328	4.328		4.328
A (Intercept)	1350	1420	1420		1420
B (Slope)	9.199e-4	8.501e-4	8.501e-4		8.501e-4
Entry Flow, veh/h	329	521	335	417	537
Cap Entry Lane, veh/h	992	1068	1099	1919	1074
Entry HV Adj Factor	0.991	0.990	0.990	0.990	0.970
Flow Entry, veh/h	326	516	332	413	521
Cap Entry, veh/h	983	1058	1088	1900	1042
V/C Ratio	0.332	0.488	0.305	0.217	0.500
Control Delay, s/veh	7.1	9.0	6.3	0.0	9.4
LOS	A	A	A	A	A
95th %tile Queue, veh	1	3	1	1	3

Intersection						
Int Delay, s/veh	8.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	345	35	10	590	80
Future Vol, veh/h	10	345	35	10	590	80
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	3	3	0	0
Mvmt Flow	11	375	38	11	641	87
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1413	43	0	0	49	0
Stage 1	43	-	-	-	-	-
Stage 2	1370	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.1	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.2	-
Pot Cap-1 Maneuver	152	1027	-	-	1571	-
Stage 1	979	-	-	-	-	-
Stage 2	236	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	87	1027	-	-	1571	-
Mov Cap-2 Maneuver	87	-	-	-	-	-
Stage 1	979	-	-	-	-	-
Stage 2	135	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s/v	11.69	0	7.8			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 87 1027 1495	-			
HCM Lane V/C Ratio	-	- 0.125 0.365 0.408	-			
HCM Control Delay (s/veh)	-	- 52.4 10.5 8.9	0			
HCM Lane LOS	-	- F B A A				
HCM 95th %tile Q(veh)	-	- 0.4 1.7 2	-			

HCM 7th TWSC
26: N Mitchell St & Rock Canyon Trail

2045 Background Improved PM
Bella Mesa South TIS - Castle Rock

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	35	0	0	0	341	59	0	245	0
Future Vol, veh/h	0	0	0	35	0	0	0	341	59	0	245	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	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	38	0	0	0	371	64	0	266	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	452	701	133	536	669	217	266	0	0	435	0	0
Stage 1	266	266	-	403	403	-	-	-	-	-	-	-
Stage 2	185	435	-	133	266	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	491	361	891	428	377	787	1295	-	-	1121	-	-
Stage 1	716	687	-	595	598	-	-	-	-	-	-	-
Stage 2	799	579	-	856	687	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	491	361	891	428	377	787	1295	-	-	1121	-	-
Mov Cap-2 Maneuver	491	361	-	428	377	-	-	-	-	-	-	-
Stage 1	716	687	-	595	598	-	-	-	-	-	-	-
Stage 2	799	579	-	856	687	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	0		14.24		0		0					
HCM LOS	A		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1295	-	-	-	428	1121	-	-				
HCM Lane V/C Ratio	-	-	-	-	0.089	-	-	-				
HCM Control Delay (s/veh)	0	-	-	0	14.2	0	-	-				
HCM Lane LOS	A	-	-	A	B	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	-	0.3	0	-	-				

***Intersection Capacity Worksheets:
2030 Background
+ Project***

Timings
1: Enderud Blvd & CO 86

2030 Background+Project AM
Bella Mesa South TIS - Castle Rock

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	6	145	163	86	276	19	356	89	153	16	100
Future Volume (vph)	6	145	163	86	276	19	356	89	153	16	100
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6		7	4		3	8
Permitted Phases	2		2	6		6	4		4	8	
Detector Phase	5	2	2	1	6	6	7	4	4	3	8
Switch Phase											
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	5.0	8.0	8.0	5.0	8.0
Minimum Split (s)	10.0	31.0	31.0	10.0	31.0	31.0	10.0	30.0	30.0	10.0	25.0
Total Split (s)	10.0	38.0	38.0	10.0	38.0	38.0	27.0	42.0	42.0	10.0	25.0
Total Split (%)	10.0%	38.0%	38.0%	10.0%	38.0%	38.0%	27.0%	42.0%	42.0%	10.0%	25.0%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None
Act Effect Green (s)	37.3	32.4	32.4	40.2	38.2	38.2	37.4	33.7	33.7	17.2	12.1
Actuated g/C Ratio	0.42	0.37	0.37	0.45	0.43	0.43	0.42	0.38	0.38	0.19	0.14
v/c Ratio	0.02	0.24	0.26	0.17	0.38	0.03	0.68	0.14	0.23	0.06	0.57
Control Delay (s/veh)	14.8	23.1	4.4	15.9	20.9	0.1	26.0	20.6	4.6	18.1	42.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	14.8	23.1	4.4	15.9	20.9	0.1	26.0	20.6	4.6	18.1	42.3
LOS	B	C	A	B	C	A	C	C	A	B	D
Approach Delay (s/veh)		13.3			18.7			19.7			39.7
Approach LOS		B			B			B			D

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 88.6

Natural Cycle: 85

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.68

Intersection Signal Delay (s/veh): 20.1

Intersection LOS: C

Intersection Capacity Utilization 70.5%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: Enderud Blvd & CO 86

 Ø1	 Ø2	 Ø3	 Ø4
10 s	38 s	10 s	42 s
 Ø5	 Ø6	 Ø7	 Ø8
10 s	38 s	27 s	25 s

Queues

1: Enderud Blvd & CO 86

2030 Background+Project AM

Bella Mesa South TIS - Castle Rock

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	7	158	177	93	300	21	387	97	166	17	146
v/c Ratio	0.02	0.24	0.26	0.17	0.38	0.03	0.68	0.14	0.23	0.06	0.57
Control Delay (s/veh)	14.8	23.1	4.4	15.9	20.9	0.1	26.0	20.6	4.6	18.1	42.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	14.8	23.1	4.4	15.9	20.9	0.1	26.0	20.6	4.6	18.1	42.3
Queue Length 50th (ft)	2	65	0	29	109	0	161	33	0	6	73
Queue Length 95th (ft)	10	123	41	63	229	0	243	77	42	18	133
Internal Link Dist (ft)	1178			1294			2535			817	
Turn Bay Length (ft)	575		360	370		375	130		120	185	
Base Capacity (vph)	453	669	685	543	796	765	588	804	778	277	419
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.24	0.26	0.17	0.38	0.03	0.66	0.12	0.21	0.06	0.35
Intersection Summary											

HCM 7th Signalized Intersection Summary

1: Enderud Blvd & CO 86

2030 Background+Project AM

Bella Mesa South TIS - Castle Rock

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	145	163	86	276	19	356	89	153	16	100	34
Future Volume (veh/h)	6	145	163	86	276	19	356	89	153	16	100	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1841	1841	1841	1856	1856	1856	1885	1885	1885	1870	1870	1870
Adj Flow Rate, veh/h	7	158	177	93	300	21	387	97	166	17	109	37
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
Percent Heavy Veh, %	4	4	4	3	3	3	1	1	1	2	2	2
Cap, veh/h	423	695	588	508	782	661	503	570	483	245	149	51
Arrive On Green	0.01	0.38	0.38	0.05	0.42	0.42	0.21	0.30	0.30	0.02	0.11	0.11
Sat Flow, veh/h	1753	1841	1556	1767	1856	1570	1795	1885	1598	1781	1332	452
Grp Volume(v), veh/h	7	158	177	93	300	21	387	97	166	17	0	146
Grp Sat Flow(s),veh/h/ln	1753	1841	1556	1767	1856	1570	1795	1885	1598	1781	0	1784
Q Serve(g_s), s	0.2	4.9	6.8	2.6	9.5	0.7	15.2	3.2	6.9	0.7	0.0	6.7
Cycle Q Clear(g_c), s	0.2	4.9	6.8	2.6	9.5	0.7	15.2	3.2	6.9	0.7	0.0	6.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	423	695	588	508	782	661	503	570	483	245	0	200
V/C Ratio(X)	0.02	0.23	0.30	0.18	0.38	0.03	0.77	0.17	0.34	0.07	0.00	0.73
Avail Cap(c_a), veh/h	511	695	588	520	782	661	592	823	698	315	0	421
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.2	17.9	18.5	14.3	16.9	14.4	23.8	21.7	23.0	32.3	0.0	36.4
Incr Delay (d2), s/veh	0.0	0.8	1.3	0.2	1.4	0.1	5.2	0.1	0.4	0.1	0.0	5.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.0	2.6	0.9	3.7	0.2	6.8	1.4	2.6	0.3	0.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	16.2	18.7	19.8	14.5	18.4	14.5	29.0	21.9	23.4	32.4	0.0	41.5
LnGrp LOS	B	B	B	B	B	B	C	C	C	C		D
Approach Vol, veh/h	342			414			650			163		
Approach Delay, s/veh	19.2			17.3			26.5			40.5		
Approach LOS	B			B			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.4	38.0	6.6	30.6	5.8	41.7	22.8	14.5				
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0				
Max Green Setting (Gmax), s	5.0	32.0	5.0	37.0	5.0	32.0	22.0	20.0				
Max Q Clear Time (g_c+I1), s	4.6	8.8	2.7	8.9	2.2	11.5	17.2	8.7				
Green Ext Time (p_c), s	0.0	1.2	0.0	1.0	0.0	1.4	0.6	0.5				
Intersection Summary												
HCM 7th Control Delay, s/veh	23.9											
HCM 7th LOS	C											
Notes												
User approved pedestrian interval to be less than phase max green.												

Timings

2: Enderud Blvd & Mikelson Blvd

2030 Background+Project AM
Bella Mesa South TIS - Castle Rock

					
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	221	438	68	304	34
Future Volume (vph)	221	438	68	304	34
Turn Type	Prot	pm+ov	NA	pm+pt	NA
Protected Phases	8	1	2	1	6
Permitted Phases		8		6	
Detector Phase	8	1	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5
Total Split (s)	23.0	23.0	24.0	23.0	47.0
Total Split (%)	32.9%	32.9%	34.3%	32.9%	67.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5
Lead/Lag		Lead	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	None	None	Max	None	Max
Act Effect Green (s)	13.6	30.0	26.3	42.6	42.6
Actuated g/C Ratio	0.21	0.46	0.40	0.65	0.65
v/c Ratio	0.65	0.48	0.12	0.41	0.02
Control Delay (s/veh)	32.0	2.6	8.2	7.2	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	32.0	2.6	8.2	7.2	4.9
LOS	C	A	A	A	A
Approach Delay (s/veh)	12.4		8.2		6.9
Approach LOS	B		A		A

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 65.3

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.65

Intersection Signal Delay (s/veh): 10.3

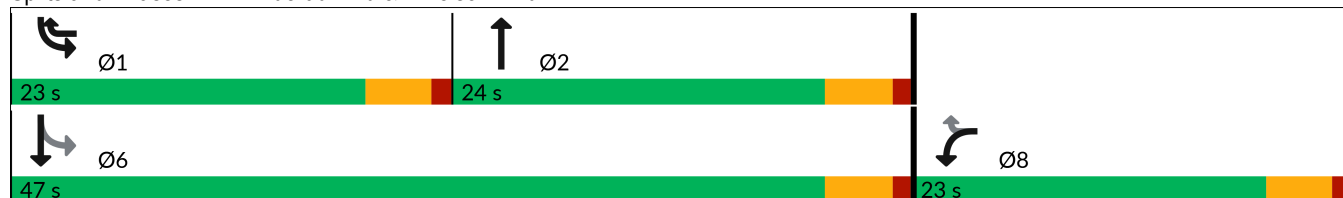
Intersection LOS: B

Intersection Capacity Utilization 44.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 2: Enderud Blvd & Mikelson Blvd



Queues

2030 Background+Project AM

2: Enderud Blvd & Mikelson Blvd

Bella Mesa South TIS - Castle Rock

					
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	240	476	165	330	37
v/c Ratio	0.65	0.48	0.12	0.41	0.02
Control Delay (s/veh)	32.0	2.6	8.2	7.2	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	32.0	2.6	8.2	7.2	4.9
Queue Length 50th (ft)	88	0	8	47	2
Queue Length 95th (ft)	153	33	33	101	7
Internal Link Dist (ft)	4240		3911		2535
Turn Bay Length (ft)	310	305		138	
Base Capacity (vph)	508	1106	1375	883	2311
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.47	0.43	0.12	0.37	0.02
Intersection Summary					

HCM 7th Signalized Intersection Summary

2: Enderud Blvd & Mikelson Blvd

2030 Background+Project AM
Bella Mesa South TIS - Castle Rock

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	221	438	68	84	304	34
Future Volume (veh/h)	221	438	68	84	304	34
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1870	1870
Adj Flow Rate, veh/h	240	476	74	91	330	37
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	2	2
Cap, veh/h	475	640	729	650	798	2158
Arrive On Green	0.26	0.26	0.41	0.41	0.14	0.61
Sat Flow, veh/h	1795	1598	1885	1598	1781	3647
Grp Volume(v), veh/h	240	476	74	91	330	37
Grp Sat Flow(s),veh/h/ln	1795	1598	1791	1598	1781	1777
Q Serve(g_s), s	7.9	17.8	1.8	2.5	6.8	0.3
Cycle Q Clear(g_c), s	7.9	17.8	1.8	2.5	6.8	0.3
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	475	640	729	650	798	2158
V/C Ratio(X)	0.51	0.74	0.10	0.14	0.41	0.02
Avail Cap(c_a), veh/h	475	640	729	650	1027	2158
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.9	17.9	12.8	13.1	8.1	5.5
Incr Delay (d2), s/veh	0.9	4.7	0.3	0.5	0.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	6.6	0.7	0.9	2.2	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	22.7	22.6	13.1	13.5	8.4	5.5
LnGrp LOS	C	C	B	B	A	A
Approach Vol, veh/h	716		165			367
Approach Delay, s/veh	22.7		13.3			8.1
Approach LOS	C		B			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	14.0	33.0			47.0	23.0
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5
Max Green Setting (Gmax), s	18.5	19.5			42.5	18.5
Max Q Clear Time (g_c+I1), s	8.8	4.5			2.3	19.8
Green Ext Time (p_c), s	0.7	0.7			0.2	0.0
Intersection Summary						
HCM 7th Control Delay, s/veh			17.2			
HCM 7th LOS			B			

HCM 7th Roundabout
3: N Ridge Rd & Enderud Blvd

2030 Background+Project AM
Bella Mesa South TIS - Castle Rock

Intersection						
Intersection Delay, s/veh	6.2					
Intersection LOS	A					
Approach	WB		NB		SB	
Entry Lanes	2		2		2	
Conflicting Circle Lanes	2		2		2	
Adj Approach Flow, veh/h	653		341		305	
Demand Flow Rate, veh/h	653		341		315	
Vehicles Circulating, veh/h	278		154		90	
Vehicles Exiting, veh/h	218		250		841	
Ped Vol Crossing Leg, #/h	1		1		1	
Ped Cap Adj	0.999		0.999		0.999	
Approach Delay, s/veh	8.3		4.2		3.9	
Approach LOS	A		A		A	
Lane	Left	Right	Left	Right	Left	Right
Designated Moves	L	TR	LT	TR	LT	TR
Assumed Moves	L	TR	LT	TR	LT	TR
RT Channelized						
Lane Util	0.138	0.862	0.469	0.531	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	90	563	160	181	148	167
Cap Entry Lane, veh/h	1045	1121	1172	1246	1243	1316
Entry HV Adj Factor	1.000	1.000	1.002	0.999	0.970	0.969
Flow Entry, veh/h	90	563	160	181	144	162
Cap Entry, veh/h	1044	1120	1172	1243	1204	1273
V/C Ratio	0.086	0.503	0.137	0.145	0.119	0.127
Control Delay, s/veh	4.2	8.9	4.2	4.1	4.0	3.9
LOS	A	A	A	A	A	A
95th %tile Queue, veh	0	3	0	1	0	0

Intersection						
Intersection Delay, s/veh	5.8					
Intersection LOS	A					
Approach	EB		WB		SB	
Entry Lanes	2		2		2	
Conflicting Circle Lanes	2		2		2	
Adj Approach Flow, veh/h	419		284		672	
Demand Flow Rate, veh/h	427		290		685	
Vehicles Circulating, veh/h	162		368		97	
Vehicles Exiting, veh/h	620		221		561	
Ped Vol Crossing Leg, #/h	5		5		5	
Ped Cap Adj	0.995		0.996		0.995	
Approach Delay, s/veh	5.8		5.1		6.1	
Approach LOS	A		A		A	
Lane	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	L	TR
Assumed Moves	L	TR	LT	R	L	TR
RT Channelized						
Lane Util	0.862	0.138	0.334	0.666	0.236	0.764
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	368	59	97	193	162	523
Cap Entry Lane, veh/h	1163	1237	962	1039	1235	1308
Entry HV Adj Factor	0.981	0.980	0.980	0.979	0.981	0.981
Flow Entry, veh/h	361	58	95	189	159	513
Cap Entry, veh/h	1135	1207	940	1013	1205	1276
V/C Ratio	0.318	0.048	0.101	0.187	0.132	0.402
Control Delay, s/veh	6.2	3.4	4.8	5.3	4.1	6.7
LOS	A	A	A	A	A	A
95th %tile Queue, veh	1	0	0	1	0	2

Intersection					
Intersection Delay, s/veh	4.5				
Intersection LOS	A				
Approach	NB		SE		NW
Entry Lanes	2		1		1
Conflicting Circle Lanes	2		2		2
Adj Approach Flow, veh/h	192		130		458
Demand Flow Rate, veh/h	196		133		463
Vehicles Circulating, veh/h	31		306		92
Vehicles Exiting, veh/h	306		249		135
Ped Vol Crossing Leg, #/h	0		0		0
Ped Cap Adj	1.000		1.000		1.000
Approach Delay, s/veh	3.3		0.8		6.0
Approach LOS	A		A		A
Lane	Left	Right	Left	Bypass	Left
Designated Moves	L	LTR	T	R	LT
Assumed Moves	L	TR	T		LT
RT Channelized				Free	
Lane Util	0.469	0.531	1.000		1.000
Follow-Up Headway, s	2.667	2.535	2.535		2.535
Critical Headway, s	4.645	4.328	4.328		4.328
A (Intercept)	1350	1420	1420		1420
B (Slope)	9.199e-4	8.501e-4	8.501e-4		8.501e-4
Entry Flow, veh/h	92	104	31	102	463
Cap Entry Lane, veh/h	1312	1383	1095	1938	1313
Entry HV Adj Factor	0.978	0.981	0.980	0.980	0.990
Flow Entry, veh/h	90	102	30	100	458
Cap Entry, veh/h	1283	1357	1073	1900	1300
V/C Ratio	0.070	0.075	0.028	0.053	0.353
Control Delay, s/veh	3.4	3.2	3.6	0.0	6.0
LOS	A	A	A	A	A
95th %tile Queue, veh	0	0	0	0	2

Intersection						
Int Delay, s/veh	10					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	484	47	7	224	13
Future Vol, veh/h	6	484	47	7	224	13
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, %	1	1	2	2	2	2
Mvmt Flow	7	526	51	8	243	14
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	556	55	0	0	59	0
Stage 1	55	-	-	-	-	-
Stage 2	501	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.12	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.218	-
Pot Cap-1 Maneuver	494	1015	-	-	1545	-
Stage 1	970	-	-	-	-	-
Stage 2	611	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	415	1015	-	-	1545	-
Mov Cap-2 Maneuver	415	-	-	-	-	-
Stage 1	970	-	-	-	-	-
Stage 2	514	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s/v12.32		0	7.34			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 415 1015	1533	-		
HCM Lane V/C Ratio	-	- 0.016 0.518	0.158	-		
HCM Control Delay (s/veh)	-	- 13.8 12.3	7.8	0		
HCM Lane LOS	-	- B B	A	A		
HCM 95th %tile Q(veh)	-	- 0 3.1	0.6	-		

HCM 7th TWSC
26: N Mitchell St & North Access/Rock Canyon Trail

2030 Background+Project AM
Bella Mesa South TIS - Castle Rock

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	8	52	0	0	11	477	18	0	532	0
Future Vol, veh/h	0	0	8	52	0	0	11	477	18	0	532	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	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	9	57	0	0	12	518	20	0	578	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	861	1140	289	841	1130	269	578	0	0	538	0	0
Stage 1	578	578	-	552	552	-	-	-	-	-	-	-
Stage 2	283	562	-	289	578	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	249	200	707	258	202	729	991	-	-	1026	-	-
Stage 1	468	499	-	485	513	-	-	-	-	-	-	-
Stage 2	700	508	-	694	499	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	246	197	707	251	200	729	991	-	-	1026	-	-
Mov Cap-2 Maneuver	246	197	-	251	200	-	-	-	-	-	-	-
Stage 1	468	499	-	480	507	-	-	-	-	-	-	-
Stage 2	692	502	-	686	499	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v10.15		23.43	0.19	0
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	991	-	-	707	251	1026	-
HCM Lane V/C Ratio	0.012	-	-	0.012	0.225	-	-
HCM Control Delay (s/veh)	8.7	-	-	10.2	23.4	0	-
HCM Lane LOS	A	-	-	B	C	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.8	0	-

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	26	0	506	592	0
Future Vol, veh/h	0	26	0	506	592	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	-	-	-	-
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	0	28	0	550	643	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	322	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	674	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	674	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v10.58		0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT EBLn1		SBT	SBR		
Capacity (veh/h)	- 674		-	-		
HCM Lane V/C Ratio	- 0.042		-	-		
HCM Control Delay (s/veh)	- 10.6		-	-		
HCM Lane LOS	- B		-	-		
HCM 95th %tile Q(veh)	- 0.1		-	-		

Timings
1: Enderud Blvd & CO 86

2030 Background+Project PM
Bella Mesa South TIS - Castle Rock

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	34	399	375	154	318	27	204	37	109	31	53
Future Volume (vph)	34	399	375	154	318	27	204	37	109	31	53
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6		7	4		3	8
Permitted Phases	2		2	6		6	4		4	8	
Detector Phase	5	2	2	1	6	6	7	4	4	3	8
Switch Phase											
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	5.0	8.0	8.0	5.0	8.0
Minimum Split (s)	10.0	31.0	31.0	10.0	31.0	31.0	10.0	25.0	25.0	10.0	25.0
Total Split (s)	10.0	36.0	36.0	11.0	37.0	37.0	13.0	28.0	28.0	10.0	25.0
Total Split (%)	11.8%	42.4%	42.4%	12.9%	43.5%	43.5%	15.3%	32.9%	32.9%	11.8%	29.4%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None
Act Effect Green (s)	36.2	30.2	30.2	40.0	35.5	35.5	18.1	15.1	15.1	12.0	8.8
Actuated g/C Ratio	0.51	0.42	0.42	0.56	0.50	0.50	0.25	0.21	0.21	0.17	0.12
v/c Ratio	0.06	0.54	0.45	0.36	0.37	0.03	0.70	0.10	0.25	0.13	0.34
Control Delay (s/veh)	7.9	19.7	3.5	10.2	15.2	0.1	34.8	25.1	3.4	20.2	26.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	7.9	19.7	3.5	10.2	15.2	0.1	34.8	25.1	3.4	20.2	26.8
LOS	A	B	A	B	B	A	C	C	A	C	C
Approach Delay (s/veh)		11.7			12.8			24.0			24.9
Approach LOS		B			B			C			C

Intersection Summary

Cycle Length: 85

Actuated Cycle Length: 71.2

Natural Cycle: 80

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.70

Intersection Signal Delay (s/veh): 15.3

Intersection LOS: B

Intersection Capacity Utilization 60.8%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 1: Enderud Blvd & CO 86

	Ø1		Ø2		Ø3		Ø4
11 s		36 s		10 s		28 s	
	Ø5		Ø6		Ø7		Ø8
10 s		37 s		13 s		25 s	

Queues

1: Enderud Blvd & CO 86

2030 Background+Project PM

Bella Mesa South TIS - Castle Rock

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	37	434	408	167	346	29	222	40	118	34	83
v/c Ratio	0.06	0.54	0.45	0.36	0.37	0.03	0.70	0.10	0.25	0.13	0.34
Control Delay (s/veh)	7.9	19.7	3.5	10.2	15.2	0.1	34.8	25.1	3.4	20.2	26.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	7.9	19.7	3.5	10.2	15.2	0.1	34.8	25.1	3.4	20.2	26.8
Queue Length 50th (ft)	7	145	0	32	106	0	81	13	0	11	25
Queue Length 95th (ft)	20	247	51	66	186	0	#147	42	20	30	64
Internal Link Dist (ft)	1178			1294			2535			817	
Turn Bay Length (ft)	575		360	370		375	130		120	185	
Base Capacity (vph)	572	798	913	462	929	848	318	605	627	259	521
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.54	0.45	0.36	0.37	0.03	0.70	0.07	0.19	0.13	0.16

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM 7th Signalized Intersection Summary

1: Enderud Blvd & CO 86

2030 Background+Project PM

Bella Mesa South TIS - Castle Rock

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	399	375	154	318	27	204	37	109	31	53	23
Future Volume (veh/h)	34	399	375	154	318	27	204	37	109	31	53	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1885	1885	1885	1870	1870	1870	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	37	434	408	167	346	29	222	40	118	34	58	25
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
Percent Heavy Veh, %	1	1	1	2	2	2	2	2	2	1	1	1
Cap, veh/h	498	776	656	391	848	717	385	352	299	300	140	61
Arrive On Green	0.04	0.41	0.41	0.08	0.45	0.45	0.11	0.19	0.19	0.03	0.11	0.11
Sat Flow, veh/h	1795	1885	1594	1781	1870	1583	1781	1870	1585	1795	1246	537
Grp Volume(v), veh/h	37	434	408	167	346	29	222	40	118	34	0	83
Grp Sat Flow(s),veh/h/ln	1795	1885	1594	1781	1870	1583	1781	1870	1585	1795	0	1783
Q Serve(g_s), s	0.8	12.8	14.8	3.8	9.0	0.7	7.8	1.3	4.8	1.2	0.0	3.2
Cycle Q Clear(g_c), s	0.8	12.8	14.8	3.8	9.0	0.7	7.8	1.3	4.8	1.2	0.0	3.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.30
Lane Grp Cap(c), veh/h	498	776	656	391	848	717	385	352	299	300	0	201
V/C Ratio(X)	0.07	0.56	0.62	0.43	0.41	0.04	0.58	0.11	0.40	0.11	0.00	0.41
Avail Cap(c_a), veh/h	556	776	656	399	848	717	385	590	500	362	0	489
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.6	16.4	16.9	12.0	13.4	11.1	23.6	24.5	25.9	27.0	0.0	30.1
Incr Delay (d2), s/veh	0.1	2.9	4.4	0.7	1.5	0.1	2.1	0.1	0.8	0.2	0.0	1.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	5.1	5.7	1.2	3.3	0.3	3.3	0.6	1.8	0.5	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	11.7	19.3	21.3	12.7	14.8	11.2	25.7	24.7	26.8	27.2	0.0	31.4
LnGrp LOS	B	B	C	B	B	B	C	C	C	C		C
Approach Vol, veh/h	879				542		380				117	
Approach Delay, s/veh	19.9				14.0		26.0				30.2	
Approach LOS	B				B		C				C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.7	36.0	7.5	18.7	7.6	39.0	13.0	13.2				
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0				
Max Green Setting (Gmax), s	6.0	30.0	5.0	23.0	5.0	31.0	8.0	20.0				
Max Q Clear Time (g_c+I1), s	5.8	16.8	3.2	6.8	2.8	11.0	9.8	5.2				
Green Ext Time (p_c), s	0.0	3.1	0.0	0.5	0.0	1.7	0.0	0.3				
Intersection Summary												
HCM 7th Control Delay, s/veh	20.1											
HCM 7th LOS	C											
Notes												
User approved pedestrian interval to be less than phase max green.												

Timings 2: Enderud Blvd & Mikelson Blvd

2030 Background+Project PM
Bella Mesa South TIS - Castle Rock

					
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	130	246	69	360	75
Future Volume (vph)	130	246	69	360	75
Turn Type	Prot	pm+ov	NA	pm+pt	NA
Protected Phases	8	1	2	1	6
Permitted Phases		8		6	
Detector Phase	8	1	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5
Total Split (s)	23.0	23.0	24.0	23.0	47.0
Total Split (%)	32.9%	32.9%	34.3%	32.9%	67.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5
Lead/Lag		Lead	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	None	None	Max	None	Max
Act Effect Green (s)	10.0	22.9	27.5	43.1	44.2
Actuated g/C Ratio	0.17	0.38	0.46	0.72	0.74
v/c Ratio	0.47	0.34	0.15	0.46	0.03
Control Delay (s/veh)	28.6	2.6	5.6	6.0	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	28.6	2.6	5.6	6.0	3.7
LOS	C	A	A	A	A
Approach Delay (s/veh)	11.6		5.6		5.6
Approach LOS	B		A		A

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 59.5

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.47

Intersection Signal Delay (s/veh): 7.8

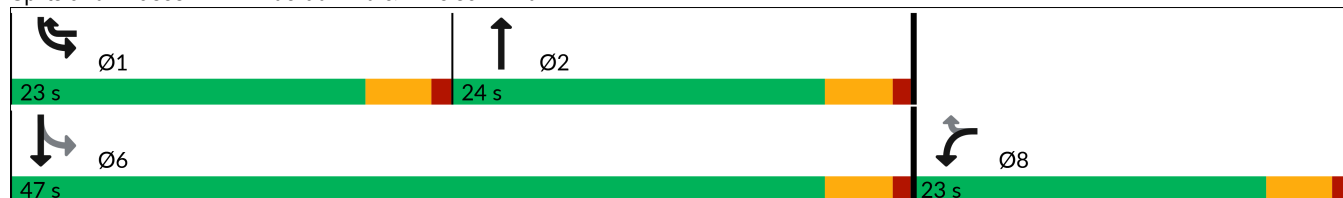
Intersection LOS: A

Intersection Capacity Utilization 45.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 2: Enderud Blvd & Mikelson Blvd



Queues

2: Enderud Blvd & Mikelson Blvd

2030 Background+Project PM

Bella Mesa South TIS - Castle Rock

					
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	141	267	238	391	82
v/c Ratio	0.47	0.34	0.15	0.46	0.03
Control Delay (s/veh)	28.6	2.6	5.6	6.0	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	28.6	2.6	5.6	6.0	3.7
Queue Length 50th (ft)	48	0	7	46	4
Queue Length 95th (ft)	95	28	33	100	11
Internal Link Dist (ft)	4240		3911		2535
Turn Bay Length (ft)	310	305		138	
Base Capacity (vph)	563	952	1569	962	2657
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.25	0.28	0.15	0.41	0.03
Intersection Summary					

HCM 7th Signalized Intersection Summary

2: Enderud Blvd & Mikelson Blvd

2030 Background+Project PM
Bella Mesa South TIS - Castle Rock

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	130	246	69	150	360	75
Future Volume (veh/h)	130	246	69	150	360	75
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	141	267	75	163	391	82
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	324	524	819	731	835	2423
Arrive On Green	0.18	0.18	0.46	0.46	0.15	0.68
Sat Flow, veh/h	1795	1598	1885	1598	1795	3676
Grp Volume(v), veh/h	141	267	75	163	391	82
Grp Sat Flow(s),veh/h/ln	1795	1598	1791	1598	1795	1791
Q Serve(g_s), s	4.4	8.5	1.5	3.9	6.4	0.5
Cycle Q Clear(g_c), s	4.4	8.5	1.5	3.9	6.4	0.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	324	524	819	731	835	2423
V/C Ratio(X)	0.44	0.51	0.09	0.22	0.47	0.03
Avail Cap(c_a), veh/h	529	706	819	731	1099	2423
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.9	17.0	9.7	10.3	5.7	3.4
Incr Delay (d2), s/veh	0.9	0.8	0.2	0.7	0.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	2.9	0.5	1.3	1.7	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	23.8	17.8	9.9	11.0	6.1	3.4
LnGrp LOS	C	B	A	B	A	A
Approach Vol, veh/h	408		238			473
Approach Delay, s/veh	19.9		10.6			5.7
Approach LOS	B		B			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	13.8	33.2			47.0	15.8
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5
Max Green Setting (Gmax), s	18.5	19.5			42.5	18.5
Max Q Clear Time (g_c+I1), s	8.4	5.9			2.5	10.5
Green Ext Time (p_c), s	0.9	1.1			0.5	0.9
Intersection Summary						
HCM 7th Control Delay, s/veh			11.9			
HCM 7th LOS			B			

HCM 7th Roundabout
3: N Ridge Rd & Enderud Blvd

2030 Background+Project PM
Bella Mesa South TIS - Castle Rock

Intersection						
Intersection Delay, s/veh	6.4					
Intersection LOS	A					
Approach	WB		NB		SB	
Entry Lanes	2		2		2	
Conflicting Circle Lanes	2		2		2	
Adj Approach Flow, veh/h	432		397		977	
Demand Flow Rate, veh/h	432		397		1006	
Vehicles Circulating, veh/h	296		490		95	
Vehicles Exiting, veh/h	591		611		633	
Ped Vol Crossing Leg, #/h	1		1		1	
Ped Cap Adj	0.999		0.999		0.999	
Approach Delay, s/veh	5.8		6.2		6.8	
Approach LOS	A		A		A	
Lane	Left	Right	Left	Right	Left	Right
Designated Moves	L	TR	LT	TR	LT	TR
Assumed Moves	L	TR	LT	TR	LT	TR
RT Channelized						
Lane Util	0.220	0.780	0.471	0.529	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	95	337	187	210	473	533
Cap Entry Lane, veh/h	1028	1104	860	936	1237	1310
Entry HV Adj Factor	1.000	1.000	0.998	1.002	0.971	0.971
Flow Entry, veh/h	95	337	187	210	459	518
Cap Entry, veh/h	1027	1103	858	938	1199	1271
V/C Ratio	0.092	0.305	0.218	0.224	0.383	0.407
Control Delay, s/veh	4.3	6.2	6.4	6.1	6.8	6.8
LOS	A	A	A	A	A	A
95th %tile Queue, veh	0	1	1	1	2	2

Intersection						
Intersection Delay, s/veh	4.6					
Intersection LOS	A					
Approach	EB		WB		SB	
Entry Lanes	2		2		2	
Conflicting Circle Lanes	2		2		2	
Adj Approach Flow, veh/h	412		268		321	
Demand Flow Rate, veh/h	416		270		321	
Vehicles Circulating, veh/h	78		323		139	
Vehicles Exiting, veh/h	382		171		454	
Ped Vol Crossing Leg, #/h	5		5		5	
Ped Cap Adj	0.995		0.996		0.995	
Approach Delay, s/veh	4.8		4.7		4.3	
Approach LOS	A		A		A	
Lane	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	L	TR
Assumed Moves	L	TR	LT	TR	L	TR
RT Channelized						
Lane Util	0.776	0.224	0.470	0.530	0.243	0.757
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	323	93	127	143	78	243
Cap Entry Lane, veh/h	1256	1329	1003	1079	1188	1262
Entry HV Adj Factor	0.991	0.990	0.990	0.992	1.000	1.000
Flow Entry, veh/h	320	92	126	142	78	243
Cap Entry, veh/h	1238	1309	989	1066	1182	1255
V/C Ratio	0.258	0.070	0.127	0.133	0.066	0.194
Control Delay, s/veh	5.2	3.3	4.8	4.6	3.6	4.5
LOS	A	A	A	A	A	A
95th %tile Queue, veh	1	0	0	0	0	1

HCM 7th Roundabout
7: Plum Creek Pkwy & Ridge Rd

2030 Background+Project PM
Bella Mesa South TIS - Castle Rock

Intersection					
Intersection Delay, s/veh	5.4				
Intersection LOS	A				
Approach	NB		SE		NW
Entry Lanes	2		1		1
Conflicting Circle Lanes	2		2		2
Adj Approach Flow, veh/h	706		595		439
Demand Flow Rate, veh/h	713		601		453
Vehicles Circulating, veh/h	269		263		262
Vehicles Exiting, veh/h	263		452		720
Ped Vol Crossing Leg, #/h	0		0		0
Ped Cap Adj	1.000		1.000		1.000
Approach Delay, s/veh	6.8		2.4		7.4
Approach LOS	A		A		A
Lane	Left	Right	Left	Bypass	Left
Designated Moves	L	LTR	T	R	LT
Assumed Moves	L	TR	T		LT
RT Channelized				Free	
Lane Util	0.367	0.633	1.000		1.000
Follow-Up Headway, s	2.667	2.535	2.535		2.535
Critical Headway, s	4.645	4.328	4.328		4.328
A (Intercept)	1350	1420	1420		1420
B (Slope)	9.199e-4	8.501e-4	8.501e-4		8.501e-4
Entry Flow, veh/h	262	451	269	332	453
Cap Entry Lane, veh/h	1054	1130	1136	1919	1137
Entry HV Adj Factor	0.989	0.991	0.990	0.990	0.970
Flow Entry, veh/h	259	447	266	329	439
Cap Entry, veh/h	1042	1120	1124	1900	1103
V/C Ratio	0.249	0.399	0.237	0.173	0.399
Control Delay, s/veh	5.8	7.3	5.4	0.0	7.4
LOS	A	A	A	A	A
95th %tile Queue, veh	1	2	1	1	2

Intersection						
Int Delay, s/veh	8.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	335	30	7	567	63
Future Vol, veh/h	10	335	30	7	567	63
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	3	3	0	0
Mvmt Flow	11	364	33	8	616	68
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1337	36	0	0	40	0
Stage 1	36	-	-	-	-	-
Stage 2	1301	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.1	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.2	-
Pot Cap-1 Maneuver	169	1036	-	-	1582	-
Stage 1	986	-	-	-	-	-
Stage 2	255	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	100	1036	-	-	1582	-
Mov Cap-2 Maneuver	100	-	-	-	-	-
Stage 1	986	-	-	-	-	-
Stage 2	152	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s/v	11.35	0	7.85			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 100 1036	1522	-		
HCM Lane V/C Ratio	-	- 0.108 0.351	0.389	-		
HCM Control Delay (s/veh)	-	- 45.1 10.3	8.7	0		
HCM Lane LOS	-	- E B	A	A		
HCM 95th %tile Q(veh)	-	- 0.4 1.6	1.9	-		

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	5	35	0	0	31	324	59	0	239	0
Future Vol, veh/h	0	0	5	35	0	0	31	324	59	0	239	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	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	5	38	0	0	34	352	64	0	260	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	503	743	130	582	711	208	260	0	0	416	0	0
Stage 1	260	260	-	452	452	-	-	-	-	-	-	-
Stage 2	243	484	-	130	260	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	451	341	896	397	356	798	1302	-	-	1139	-	-
Stage 1	722	692	-	557	569	-	-	-	-	-	-	-
Stage 2	738	551	-	860	692	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	440	333	896	384	347	798	1302	-	-	1139	-	-
Mov Cap-2 Maneuver	440	333	-	384	347	-	-	-	-	-	-	-
Stage 1	722	692	-	543	554	-	-	-	-	-	-	-
Stage 2	719	536	-	855	692	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	9.04		15.4		0.59		0					
HCM LOS	A		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1302	-	-	896	384	1139	-	-				
HCM Lane V/C Ratio	0.026	-	-	0.006	0.099	-	-	-				
HCM Control Delay (s/veh)	7.8	-	-	9	15.4	0	-	-				
HCM Lane LOS	A	-	-	A	C	A	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	0	0.3	0	-	-				

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	17	0	414	279	0
Future Vol, veh/h	0	17	0	414	279	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	-	-	-	-
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	0	18	0	450	303	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	152	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	867	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	867	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	9.24	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT EBLn1		SBT	SBR		
Capacity (veh/h)	- 867		-	-		
HCM Lane V/C Ratio	- 0.021		-	-		
HCM Control Delay (s/veh)	- 9.2		-	-		
HCM Lane LOS	- A		-	-		
HCM 95th %tile Q(veh)	- 0.1		-	-		

***Intersection Capacity Worksheets:
2045 Background +
Project***

Timings
1: Enderud Blvd & CO 86

2045 Background Improved AM
Bella Mesa South TIS - Castle Rock

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	10	170	173	91	320	25	359	95	162	20	110
Future Volume (vph)	10	170	173	91	320	25	359	95	162	20	110
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6		7	4		3	8
Permitted Phases	2		2	6		6	4		4	8	
Detector Phase	5	2	2	1	6	6	7	4	4	3	8
Switch Phase											
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	5.0	8.0	8.0	5.0	8.0
Minimum Split (s)	10.0	31.0	31.0	10.0	31.0	31.0	10.0	30.0	30.0	10.0	25.0
Total Split (s)	10.0	38.0	38.0	10.0	38.0	38.0	27.0	42.0	42.0	10.0	25.0
Total Split (%)	10.0%	38.0%	38.0%	10.0%	38.0%	38.0%	27.0%	42.0%	42.0%	10.0%	25.0%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None
Act Effect Green (s)	37.3	32.4	32.4	40.2	38.2	38.2	38.0	34.3	34.3	17.7	12.7
Actuated g/C Ratio	0.42	0.36	0.36	0.45	0.43	0.43	0.43	0.38	0.38	0.20	0.14
v/c Ratio	0.03	0.28	0.27	0.19	0.44	0.04	0.70	0.14	0.24	0.08	0.60
Control Delay (s/veh)	15.3	24.0	4.8	16.5	22.3	0.1	26.3	20.5	4.5	18.2	43.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	15.3	24.0	4.8	16.5	22.3	0.1	26.3	20.5	4.5	18.2	43.4
LOS	B	C	A	B	C	A	C	C	A	B	D
Approach Delay (s/veh)		14.3			19.8			19.7			40.3
Approach LOS		B			B			B			D

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 89.2

Natural Cycle: 85

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.70

Intersection Signal Delay (s/veh): 20.7

Intersection LOS: C

Intersection Capacity Utilization 71.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: Enderud Blvd & CO 86

 Ø1	 Ø2	 Ø3	 Ø4
10 s	38 s	10 s	42 s
 Ø5	 Ø6	 Ø7	 Ø8
10 s	38 s	27 s	25 s

Queues

1: Enderud Blvd & CO 86

2045 Background Improved AM

Bella Mesa South TIS - Castle Rock

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	11	185	188	99	348	27	390	103	176	22	158
v/c Ratio	0.03	0.28	0.27	0.19	0.44	0.04	0.70	0.14	0.24	0.08	0.60
Control Delay (s/veh)	15.3	24.0	4.8	16.5	22.3	0.1	26.3	20.5	4.5	18.2	43.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	15.3	24.0	4.8	16.5	22.3	0.1	26.3	20.5	4.5	18.2	43.4
Queue Length 50th (ft)	3	78	0	32	133	0	163	36	0	7	81
Queue Length 95th (ft)	14	144	47	68	273	0	244	81	43	21	144
Internal Link Dist (ft)	1178			1294			2535			817	
Turn Bay Length (ft)	575		360	370		375	130		120	185	
Base Capacity (vph)	410	664	684	517	790	761	582	801	782	282	416
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.28	0.27	0.19	0.44	0.04	0.67	0.13	0.23	0.08	0.38
Intersection Summary											

HCM 7th Signalized Intersection Summary

1: Enderud Blvd & CO 86

2045 Background Improved AM

Bella Mesa South TIS - Castle Rock

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	170	173	91	320	25	359	95	162	20	110	35
Future Volume (veh/h)	10	170	173	91	320	25	359	95	162	20	110	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1841	1841	1841	1856	1856	1856	1885	1885	1885	1870	1870	1870
Adj Flow Rate, veh/h	11	185	188	99	348	27	390	103	176	22	120	38
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
Percent Heavy Veh, %	4	4	4	3	3	3	1	1	1	2	2	2
Cap, veh/h	383	688	582	481	767	649	501	573	486	256	160	51
Arrive On Green	0.01	0.37	0.37	0.05	0.41	0.41	0.21	0.30	0.30	0.02	0.12	0.12
Sat Flow, veh/h	1753	1841	1556	1767	1856	1570	1795	1885	1598	1781	1358	430
Grp Volume(v), veh/h	11	185	188	99	348	27	390	103	176	22	0	158
Grp Sat Flow(s),veh/h/ln	1753	1841	1556	1767	1856	1570	1795	1885	1598	1781	0	1789
Q Serve(g_s), s	0.3	6.0	7.4	2.9	11.6	0.9	15.4	3.4	7.4	0.9	0.0	7.3
Cycle Q Clear(g_c), s	0.3	6.0	7.4	2.9	11.6	0.9	15.4	3.4	7.4	0.9	0.0	7.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	383	688	582	481	767	649	501	573	486	256	0	211
V/C Ratio(X)	0.03	0.27	0.32	0.21	0.45	0.04	0.78	0.18	0.36	0.09	0.00	0.75
Avail Cap(c_a), veh/h	462	688	582	491	767	649	586	815	691	318	0	418
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.6	18.7	19.1	14.9	18.1	15.0	23.7	21.9	23.3	31.9	0.0	36.5
Incr Delay (d2), s/veh	0.0	1.0	1.5	0.2	1.9	0.1	5.7	0.1	0.5	0.1	0.0	5.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.4	2.8	1.0	4.7	0.3	6.9	1.5	2.8	0.4	0.0	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	16.6	19.6	20.6	15.1	20.1	15.1	29.4	22.1	23.7	32.0	0.0	41.7
LnGrp LOS	B	B	C	B	C	B	C	C	C	C		D
Approach Vol, veh/h	384			474			669			180		
Approach Delay, s/veh	20.0			18.8			26.8			40.5		
Approach LOS	B			B			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	38.0	7.0	31.0	6.2	41.4	23.0	15.1				
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0				
Max Green Setting (Gmax), s	5.0	32.0	5.0	37.0	5.0	32.0	22.0	20.0				
Max Q Clear Time (g_c+I1), s	4.9	9.4	2.9	9.4	2.3	13.6	17.4	9.3				
Green Ext Time (p_c), s	0.0	1.4	0.0	1.1	0.0	1.7	0.5	0.6				

Intersection Summary

HCM 7th Control Delay, s/veh 24.5

HCM 7th LOS C

Notes

User approved pedestrian interval to be less than phase max green.

Timings 2: Enderud Blvd & Mikelson Blvd

2045 Background Improved AM
Bella Mesa South TIS - Castle Rock

					
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	252	466	75	325	35
Future Volume (vph)	252	466	75	325	35
Turn Type	Prot	pm+ov	NA	pm+pt	NA
Protected Phases	8	1	2	1	6
Permitted Phases		8		6	
Detector Phase	8	1	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5
Total Split (s)	23.2	23.0	23.8	23.0	46.8
Total Split (%)	33.1%	32.9%	34.0%	32.9%	66.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5
Lead/Lag		Lead	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	None	None	Max	None	Max
Act Effect Green (s)	14.6	31.8	25.3	42.4	42.4
Actuated g/C Ratio	0.22	0.48	0.38	0.64	0.64
v/c Ratio	0.69	0.49	0.14	0.44	0.02
Control Delay (s/veh)	33.3	2.5	8.9	7.9	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	33.3	2.5	8.9	7.9	5.2
LOS	C	A	A	A	A
Approach Delay (s/veh)	13.3		8.9		7.6
Approach LOS	B		A		A

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 66.1

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.69

Intersection Signal Delay (s/veh): 11.1

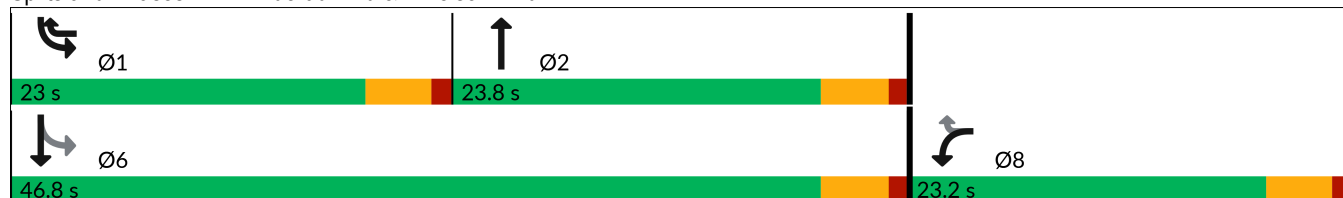
Intersection LOS: B

Intersection Capacity Utilization 48.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 2: Enderud Blvd & Mikelson Blvd



Queues

2: Enderud Blvd & Mikelson Blvd

2045 Background Improved AM

Bella Mesa South TIS - Castle Rock

					
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	274	507	178	353	38
v/c Ratio	0.69	0.49	0.14	0.44	0.02
Control Delay (s/veh)	33.3	2.5	8.9	7.9	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	33.3	2.5	8.9	7.9	5.2
Queue Length 50th (ft)	102	0	11	56	2
Queue Length 95th (ft)	174	33	35	111	8
Internal Link Dist (ft)	4240		3911		2535
Turn Bay Length (ft)	310	305		138	
Base Capacity (vph)	507	1130	1315	861	2271
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.54	0.45	0.14	0.41	0.02
Intersection Summary					

HCM 7th Signalized Intersection Summary

2: Enderud Blvd & Mikelson Blvd

2045 Background Improved AM
Bella Mesa South TIS - Castle Rock

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	252	466	75	88	325	35
Future Volume (veh/h)	252	466	75	88	325	35
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1870	1870
Adj Flow Rate, veh/h	274	507	82	96	353	38
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	2	2
Cap, veh/h	480	660	706	630	791	2147
Arrive On Green	0.27	0.27	0.39	0.39	0.15	0.60
Sat Flow, veh/h	1795	1598	1885	1598	1781	3647
Grp Volume(v), veh/h	274	507	82	96	353	38
Grp Sat Flow(s),veh/h/ln	1795	1598	1791	1598	1781	1777
Q Serve(g_s), s	9.2	18.7	2.0	2.7	7.5	0.3
Cycle Q Clear(g_c), s	9.2	18.7	2.0	2.7	7.5	0.3
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	480	660	706	630	791	2147
V/C Ratio(X)	0.57	0.77	0.12	0.15	0.45	0.02
Avail Cap(c_a), veh/h	480	660	706	630	1002	2147
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	17.7	13.5	13.7	8.3	5.5
Incr Delay (d2), s/veh	1.6	5.5	0.3	0.5	0.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	7.2	0.8	1.0	2.4	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	23.8	23.2	13.8	14.2	8.7	5.6
LnGrp LOS	C	C	B	B	A	A
Approach Vol, veh/h	781		178			391
Approach Delay, s/veh	23.4		14.0			8.4
Approach LOS	C		B			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	14.7	32.1			46.8	23.2
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5
Max Green Setting (Gmax), s	18.5	19.3			42.3	18.7
Max Q Clear Time (g_c+I1), s	9.5	4.7			2.3	20.7
Green Ext Time (p_c), s	0.7	0.8			0.2	0.0
Intersection Summary						
HCM 7th Control Delay, s/veh			17.8			
HCM 7th LOS			B			

HCM 7th Roundabout
3: N Ridge Rd & Enderud Blvd

2045 Background Improved AM
Bella Mesa South TIS - Castle Rock

Intersection						
Intersection Delay, s/veh	7.2					
Intersection LOS	A					
Approach	WB		NB		SB	
Entry Lanes	2		2		2	
Conflicting Circle Lanes	2		2		2	
Adj Approach Flow, veh/h	720		413		357	
Demand Flow Rate, veh/h	720		413		368	
Vehicles Circulating, veh/h	348		166		98	
Vehicles Exiting, veh/h	231		300		970	
Ped Vol Crossing Leg, #/h	1		1		1	
Ped Cap Adj	0.999		0.999		0.999	
Approach Delay, s/veh	10.2		4.5		4.1	
Approach LOS	B		A		A	
Lane	Left	Right	Left	Right	Left	Right
Designated Moves	L	TR	LT	TR	LT	TR
Assumed Moves	L	TR	LT	TR	LT	TR
RT Channelized						
Lane Util	0.136	0.864	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	98	622	194	219	173	195
Cap Entry Lane, veh/h	980	1056	1159	1233	1233	1307
Entry HV Adj Factor	1.000	1.000	1.001	0.999	0.970	0.971
Flow Entry, veh/h	98	622	194	219	168	189
Cap Entry, veh/h	979	1056	1158	1231	1195	1267
V/C Ratio	0.100	0.589	0.168	0.178	0.140	0.149
Control Delay, s/veh	4.6	11.1	4.6	4.4	4.2	4.1
LOS	A	B	A	A	A	A
95th %tile Queue, veh	0	4	1	1	0	1

HCM 7th Roundabout
4: Mikelson Blvd & N Mitchell St

2045 Background Improved AM
Bella Mesa South TIS - Castle Rock

Intersection						
Intersection Delay, s/veh	6.1					
Intersection LOS	A					
Approach	EB		WB		SB	
Entry Lanes	2		2		2	
Conflicting Circle Lanes	2		2		2	
Adj Approach Flow, veh/h	448		303		700	
Demand Flow Rate, veh/h	457		309		714	
Vehicles Circulating, veh/h	168		396		105	
Vehicles Exiting, veh/h	651		229		600	
Ped Vol Crossing Leg, #/h	5		5		5	
Ped Cap Adj	0.995		0.996		0.995	
Approach Delay, s/veh	6.2		5.4		6.4	
Approach LOS	A		A		A	
Lane	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	L	TR
Assumed Moves	L	TR	LT	R	L	TR
RT Channelized						
Lane Util	0.867	0.133	0.340	0.660	0.235	0.765
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	396	61	105	204	168	546
Cap Entry Lane, veh/h	1157	1231	938	1014	1226	1299
Entry HV Adj Factor	0.980	0.980	0.980	0.980	0.982	0.980
Flow Entry, veh/h	388	60	103	200	165	535
Cap Entry, veh/h	1128	1201	916	991	1197	1266
V/C Ratio	0.344	0.050	0.112	0.202	0.138	0.423
Control Delay, s/veh	6.6	3.4	5.0	5.6	4.2	7.0
LOS	A	A	A	A	A	A
95th %tile Queue, veh	2	0	0	1	0	2

Intersection					
Intersection Delay, s/veh	5.1				
Intersection LOS	A				
Approach	NB		SE		NW
Entry Lanes	2		1		1
Conflicting Circle Lanes	2		2		2
Adj Approach Flow, veh/h	232		163		546
Demand Flow Rate, veh/h	236		167		552
Vehicles Circulating, veh/h	39		354		116
Vehicles Exiting, veh/h	354		314		159
Ped Vol Crossing Leg, #/h	0		0		0
Ped Cap Adj	1.000		1.000		1.000
Approach Delay, s/veh	3.4		0.9		7.1
Approach LOS	A		A		A
Lane	Left	Right	Left	Bypass	Left
Designated Moves	L	LTR	T	R	LT
Assumed Moves	L	TR	T		LT
RT Channelized				Free	
Lane Util	0.492	0.508	1.000		1.000
Follow-Up Headway, s	2.667	2.535	2.535		2.535
Critical Headway, s	4.645	4.328	4.328		4.328
A (Intercept)	1350	1420	1420		1420
B (Slope)	9.199e-4	8.501e-4	8.501e-4		8.501e-4
Entry Flow, veh/h	116	120	39	128	552
Cap Entry Lane, veh/h	1302	1374	1051	1938	1287
Entry HV Adj Factor	0.983	0.983	0.980	0.980	0.989
Flow Entry, veh/h	114	118	38	125	546
Cap Entry, veh/h	1280	1351	1030	1900	1273
V/C Ratio	0.089	0.087	0.037	0.066	0.429
Control Delay, s/veh	3.5	3.4	3.8	0.0	7.1
LOS	A	A	A	A	A
95th %tile Queue, veh	0	0	0	0	2

HCM 7th TWSC
6: Ridge Rd & Mikelson Blvd

2045 Background Improved AM
Bella Mesa South TIS - Castle Rock

Intersection						
Int Delay, s/veh	10.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	512	60	10	239	15
Future Vol, veh/h	5	512	60	10	239	15
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, %	1	1	2	2	2	2
Mvmt Flow	5	557	65	11	260	16
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	607	71	0	0	76	0
Stage 1	71	-	-	-	-	-
Stage 2	536	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.12	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.218	-
Pot Cap-1 Maneuver	462	995	-	-	1523	-
Stage 1	955	-	-	-	-	-
Stage 2	589	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	382	995	-	-	1523	-
Mov Cap-2 Maneuver	382	-	-	-	-	-
Stage 1	955	-	-	-	-	-
Stage 2	487	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s/v13.13		0	7.39			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 382 995 1509	-	-		
HCM Lane V/C Ratio	-	- 0.014 0.559 0.171	-	-		
HCM Control Delay (s/veh)	-	- 14.6 13.1 7.8	0			
HCM Lane LOS	-	- B B A A				
HCM 95th %tile Q(veh)	-	- 0 3.6 0.6	-			

HCM 7th TWSC
26: N Mitchell St & North Access/Rock Canyon Trail

2045 Background Improved AM
Bella Mesa South TIS - Castle Rock

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙	↕↗		↙	↕↗	
Traffic Vol, veh/h	0	0	8	52	0	0	11	512	18	0	558	0
Future Vol, veh/h	0	0	8	52	0	0	11	512	18	0	558	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	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	9	57	0	0	12	557	20	0	607	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	909	1207	303	893	1197	288	607	0	0	576	0	0
Stage 1	607	607	-	590	590	-	-	-	-	-	-	-
Stage 2	302	600	-	303	607	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	230	182	693	236	185	709	968	-	-	993	-	-
Stage 1	450	485	-	461	493	-	-	-	-	-	-	-
Stage 2	682	488	-	681	485	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	227	180	693	230	182	709	968	-	-	993	-	-
Mov Cap-2 Maneuver	227	180	-	230	182	-	-	-	-	-	-	-
Stage 1	450	485	-	455	487	-	-	-	-	-	-	-
Stage 2	674	482	-	673	485	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v10.26			25.65		0.18		0					
HCM LOS	B		D									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	968	-	-	693	230	993	-	-				
HCM Lane V/C Ratio	0.012	-	-	0.013	0.246	-	-	-				
HCM Control Delay (s/veh)	8.8	-	-	10.3	25.7	0	-	-				
HCM Lane LOS	A	-	-	B	D	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.9	0	-	-				

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	26	0	541	618	0
Future Vol, veh/h	0	26	0	541	618	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	-	-	-	-
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	0	28	0	588	672	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	336	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	660	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	660	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	10.7	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT EBLn1		SBT	SBR		
Capacity (veh/h)	- 660		-	-		
HCM Lane V/C Ratio	- 0.043		-	-		
HCM Control Delay (s/veh)	- 10.7		-	-		
HCM Lane LOS	- B		-	-		
HCM 95th %tile Q(veh)	- 0.1		-	-		

Timings
1: Enderud Blvd & CO 86

2045 Background Improved PM
Bella Mesa South TIS - Castle Rock

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	35	465	396	167	370	35	216	45	116	40	55
Future Volume (vph)	35	465	396	167	370	35	216	45	116	40	55
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6		7	4		3	8
Permitted Phases	2		2	6		6	4		4	8	
Detector Phase	5	2	2	1	6	6	7	4	4	3	8
Switch Phase											
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	5.0	8.0	8.0	5.0	8.0
Minimum Split (s)	10.0	31.0	31.0	10.0	31.0	31.0	10.0	25.0	25.0	10.0	25.0
Total Split (s)	10.0	37.0	37.0	12.0	39.0	39.0	11.0	26.0	26.0	10.0	25.0
Total Split (%)	11.8%	43.5%	43.5%	14.1%	45.9%	45.9%	12.9%	30.6%	30.6%	11.8%	29.4%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None
Act Effect Green (s)	37.2	31.2	31.2	42.4	37.3	37.3	15.1	11.7	11.7	12.1	8.9
Actuated g/C Ratio	0.52	0.44	0.44	0.59	0.52	0.52	0.21	0.16	0.16	0.17	0.12
v/c Ratio	0.07	0.62	0.46	0.42	0.41	0.04	0.87	0.16	0.32	0.17	0.36
Control Delay (s/veh)	7.2	20.8	3.5	10.0	14.6	0.1	58.2	29.0	4.7	22.0	27.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	7.2	20.8	3.5	10.0	14.6	0.1	58.2	29.0	4.7	22.0	27.1
LOS	A	C	A	A	B	A	E	C	A	C	C
Approach Delay (s/veh)		12.6			12.3			38.3			25.4
Approach LOS		B			B			D			C

Intersection Summary

Cycle Length: 85

Actuated Cycle Length: 71.6

Natural Cycle: 80

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.87

Intersection Signal Delay (s/veh): 18.2

Intersection LOS: B

Intersection Capacity Utilization 65.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: Enderud Blvd & CO 86

 Ø1	 Ø2	 Ø3	 Ø4
12 s	37 s	10 s	26 s
 Ø5	 Ø6	 Ø7	 Ø8
10 s	39 s	11 s	25 s

Queues

1: Enderud Blvd & CO 86

2045 Background Improved PM

Bella Mesa South TIS - Castle Rock

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	38	505	430	182	402	38	235	49	126	43	87
v/c Ratio	0.07	0.62	0.46	0.42	0.41	0.04	0.87	0.16	0.32	0.17	0.36
Control Delay (s/veh)	7.2	20.8	3.5	10.0	14.6	0.1	58.2	29.0	4.7	22.0	27.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	7.2	20.8	3.5	10.0	14.6	0.1	58.2	29.0	4.7	22.0	27.1
Queue Length 50th (ft)	6	173	0	32	121	0	90	20	0	15	26
Queue Length 95th (ft)	19	293	51	66	211	0	#203	49	26	37	66
Internal Link Dist (ft)	1178			1294			2535			817	
Turn Bay Length (ft)	575		360	370		375	130		120	185	
Base Capacity (vph)	555	819	939	441	971	879	269	549	585	259	518
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.62	0.46	0.41	0.41	0.04	0.87	0.09	0.22	0.17	0.17

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM 7th Signalized Intersection Summary

1: Enderud Blvd & CO 86

2045 Background Improved PM

Bella Mesa South TIS - Castle Rock

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	465	396	167	370	35	216	45	116	40	55	25
Future Volume (veh/h)	35	465	396	167	370	35	216	45	116	40	55	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1885	1885	1885	1870	1870	1870	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	38	505	430	182	402	38	235	49	126	43	60	27
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
Percent Heavy Veh, %	1	1	1	2	2	2	2	2	2	1	1	1
Cap, veh/h	482	811	685	378	887	751	337	294	249	311	140	63
Arrive On Green	0.04	0.43	0.43	0.08	0.47	0.47	0.08	0.16	0.16	0.04	0.11	0.11
Sat Flow, veh/h	1795	1885	1594	1781	1870	1583	1781	1870	1585	1795	1228	552
Grp Volume(v), veh/h	38	505	430	182	402	38	235	49	126	43	0	87
Grp Sat Flow(s),veh/h/ln	1795	1885	1594	1781	1870	1583	1781	1870	1585	1795	0	1780
Q Serve(g_s), s	0.8	15.0	15.2	4.0	10.4	0.9	6.0	1.6	5.2	1.5	0.0	3.3
Cycle Q Clear(g_c), s	0.8	15.0	15.2	4.0	10.4	0.9	6.0	1.6	5.2	1.5	0.0	3.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.31
Lane Grp Cap(c), veh/h	482	811	685	378	887	751	337	294	249	311	0	203
V/C Ratio(X)	0.08	0.62	0.63	0.48	0.45	0.05	0.70	0.17	0.51	0.14	0.00	0.43
Avail Cap(c_a), veh/h	540	811	685	405	887	751	337	545	462	363	0	494
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.8	16.0	16.0	11.8	12.7	10.2	28.0	26.3	27.8	26.4	0.0	29.7
Incr Delay (d2), s/veh	0.1	3.6	4.3	1.0	1.7	0.1	6.1	0.3	1.6	0.2	0.0	1.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	5.9	5.8	1.3	3.8	0.3	1.4	0.7	2.0	0.6	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	10.9	19.6	20.4	12.7	14.3	10.3	34.1	26.6	29.4	26.6	0.0	31.2
LnGrp LOS	B	B	C	B	B	B	C	C	C	C		C
Approach Vol, veh/h	973		622			410			130			
Approach Delay, s/veh	19.6		13.6			31.8			29.7			
Approach LOS	B		B			C			C			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.9	37.0	7.9	16.3	7.7	40.2	11.0	13.2				
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0				
Max Green Setting (Gmax), s	7.0	31.0	5.0	21.0	5.0	33.0	6.0	20.0				
Max Q Clear Time (g_c+I1), s	6.0	17.2	3.5	7.2	2.8	12.4	8.0	5.3				
Green Ext Time (p_c), s	0.0	3.7	0.0	0.5	0.0	2.1	0.0	0.3				
Intersection Summary												
HCM 7th Control Delay, s/veh	20.8											
HCM 7th LOS	C											
Notes												
User approved pedestrian interval to be less than phase max green.												

Timings 2: Enderud Blvd & Mikelson Blvd

2045 Background Improved PM
Bella Mesa South TIS - Castle Rock

					
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	133	262	75	374	80
Future Volume (vph)	133	262	75	374	80
Turn Type	Prot	pm+ov	NA	pm+pt	NA
Protected Phases	8	1	2	1	6
Permitted Phases		8		6	
Detector Phase	8	1	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5
Total Split (s)	23.0	23.0	24.0	23.0	47.0
Total Split (%)	32.9%	32.9%	34.3%	32.9%	67.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5
Lead/Lag		Lead	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	None	None	Max	None	Max
Act Effect Green (s)	10.2	23.4	27.1	43.1	44.3
Actuated g/C Ratio	0.17	0.39	0.45	0.72	0.74
v/c Ratio	0.48	0.36	0.16	0.48	0.03
Control Delay (s/veh)	28.6	2.5	6.0	6.3	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	28.6	2.5	6.0	6.3	3.7
LOS	C	A	A	A	A
Approach Delay (s/veh)	11.3		6.0		5.8
Approach LOS	B		A		A

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 59.7

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.48

Intersection Signal Delay (s/veh): 7.9

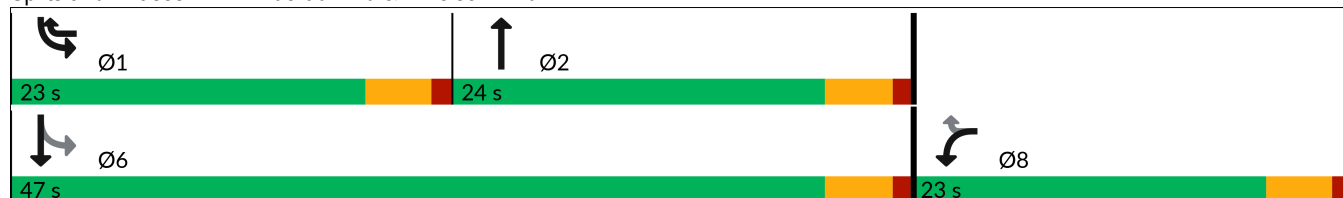
Intersection LOS: A

Intersection Capacity Utilization 46.3%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 2: Enderud Blvd & Mikelson Blvd



Queues

2: Enderud Blvd & Mikelson Blvd

2045 Background Improved PM

Bella Mesa South TIS - Castle Rock

					
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	145	285	248	407	87
v/c Ratio	0.48	0.36	0.16	0.48	0.03
Control Delay (s/veh)	28.6	2.5	6.0	6.3	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	28.6	2.5	6.0	6.3	3.7
Queue Length 50th (ft)	50	0	8	48	4
Queue Length 95th (ft)	97	27	36	106	12
Internal Link Dist (ft)	4240		3911		2535
Turn Bay Length (ft)	310	305		138	
Base Capacity (vph)	562	962	1552	955	2651
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.26	0.30	0.16	0.43	0.03
Intersection Summary					

HCM 7th Signalized Intersection Summary

2: Enderud Blvd & Mikelson Blvd

2045 Background Improved PM
Bella Mesa South TIS - Castle Rock

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	133	262	75	153	374	80
Future Volume (veh/h)	133	262	75	153	374	80
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	145	285	82	166	407	87
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	338	547	796	710	824	2400
Arrive On Green	0.19	0.19	0.44	0.44	0.15	0.67
Sat Flow, veh/h	1795	1598	1885	1598	1795	3676
Grp Volume(v), veh/h	145	285	82	166	407	87
Grp Sat Flow(s),veh/h/ln	1795	1598	1791	1598	1795	1791
Q Serve(g_s), s	4.5	9.1	1.7	4.1	6.9	0.5
Cycle Q Clear(g_c), s	4.5	9.1	1.7	4.1	6.9	0.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	338	547	796	710	824	2400
V/C Ratio(X)	0.43	0.52	0.10	0.23	0.49	0.04
Avail Cap(c_a), veh/h	524	713	796	710	1071	2400
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.7	16.7	10.3	10.9	6.1	3.5
Incr Delay (d2), s/veh	0.9	0.8	0.3	0.8	0.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	3.1	0.6	1.4	1.9	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	23.6	17.5	10.5	11.7	6.5	3.6
LnGrp LOS	C	B	B	B	A	A
Approach Vol, veh/h	430		248			494
Approach Delay, s/veh	19.5		11.3			6.0
Approach LOS	B		B			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	14.3	32.7			47.0	16.4
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5
Max Green Setting (Gmax), s	18.5	19.5			42.5	18.5
Max Q Clear Time (g_c+I1), s	8.9	6.1			2.5	11.1
Green Ext Time (p_c), s	0.9	1.1			0.5	0.9
Intersection Summary						
HCM 7th Control Delay, s/veh			12.1			
HCM 7th LOS			B			

HCM 7th Roundabout
3: N Ridge Rd & Enderud Blvd

2045 Background Improved PM
Bella Mesa South TIS - Castle Rock

Intersection						
Intersection Delay, s/veh	7.3					
Intersection LOS	A					
Approach	WB		NB		SB	
Entry Lanes	2		2		2	
Conflicting Circle Lanes	2		2		2	
Adj Approach Flow, veh/h	466		479		1134	
Demand Flow Rate, veh/h	466		479		1168	
Vehicles Circulating, veh/h	370		524		109	
Vehicles Exiting, veh/h	633		753		727	
Ped Vol Crossing Leg, #/h	1		1		1	
Ped Cap Adj	0.999		0.999		0.999	
Approach Delay, s/veh	6.5		7.1		7.8	
Approach LOS	A		A		A	
Lane	Left	Right	Left	Right	Left	Right
Designated Moves	L	TR	LT	TR	LT	TR
Assumed Moves	L	TR	LT	TR	LT	TR
RT Channelized						
Lane Util	0.234	0.766	0.470	0.530	0.470	0.530
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	109	357	225	254	549	619
Cap Entry Lane, veh/h	960	1037	834	910	1221	1294
Entry HV Adj Factor	1.000	1.000	1.001	0.999	0.971	0.971
Flow Entry, veh/h	109	357	225	254	533	601
Cap Entry, veh/h	960	1036	834	909	1184	1256
V/C Ratio	0.114	0.345	0.270	0.279	0.450	0.479
Control Delay, s/veh	4.8	7.0	7.3	6.9	7.8	7.9
LOS	A	A	A	A	A	A
95th %tile Queue, veh	0	2	1	1	2	3

HCM 7th Roundabout
4: Mikelson Blvd & N Mitchell St

2045 Background Improved PM
Bella Mesa South TIS - Castle Rock

Intersection						
Intersection Delay, s/veh	4.7					
Intersection LOS	A					
Approach	EB		WB		SB	
Entry Lanes	2		2		2	
Conflicting Circle Lanes	2		2		2	
Adj Approach Flow, veh/h	430		284		328	
Demand Flow Rate, veh/h	434		286		328	
Vehicles Circulating, veh/h	79		335		148	
Vehicles Exiting, veh/h	397		178		473	
Ped Vol Crossing Leg, #/h	5		5		5	
Ped Cap Adj	0.995		0.996		0.995	
Approach Delay, s/veh	4.9		4.8		4.4	
Approach LOS	A		A		A	
Lane	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	L	TR
Assumed Moves	L	TR	LT	TR	L	TR
RT Channelized						
Lane Util	0.772	0.228	0.469	0.531	0.241	0.759
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328
A (Intercept)	1350	1420	1350	1420	1350	1420
B (Slope)	9.199e-4	8.501e-4	9.199e-4	8.501e-4	9.199e-4	8.501e-4
Entry Flow, veh/h	335	99	134	152	79	249
Cap Entry Lane, veh/h	1255	1328	992	1068	1178	1252
Entry HV Adj Factor	0.991	0.990	0.994	0.989	1.000	1.000
Flow Entry, veh/h	332	98	133	150	79	249
Cap Entry, veh/h	1237	1308	982	1052	1172	1246
V/C Ratio	0.268	0.075	0.136	0.143	0.067	0.200
Control Delay, s/veh	5.3	3.4	4.9	4.7	3.6	4.6
LOS	A	A	A	A	A	A
95th %tile Queue, veh	1	0	0	0	0	1

Intersection					
Intersection Delay, s/veh	6.7				
Intersection LOS	A				
Approach	NB		SE		NW
Entry Lanes	2		1		1
Conflicting Circle Lanes	2		2		2
Adj Approach Flow, veh/h	854		745		530
Demand Flow Rate, veh/h	862		752		546
Vehicles Circulating, veh/h	335		311		329
Vehicles Exiting, veh/h	311		564		868
Ped Vol Crossing Leg, #/h	0		0		0
Ped Cap Adj	1.000		1.000		1.000
Approach Delay, s/veh	8.4		2.8		9.5
Approach LOS	A		A		A
Lane	Left	Right	Left	Bypass	Left
Designated Moves	L	LTR	T	R	LT
Assumed Moves	L	TR	T		LT
RT Channelized				Free	
Lane Util	0.382	0.618	1.000		1.000
Follow-Up Headway, s	2.667	2.535	2.535		2.535
Critical Headway, s	4.645	4.328	4.328		4.328
A (Intercept)	1350	1420	1420		1420
B (Slope)	9.199e-4	8.501e-4	8.501e-4		8.501e-4
Entry Flow, veh/h	329	533	335	417	546
Cap Entry Lane, veh/h	992	1068	1090	1919	1074
Entry HV Adj Factor	0.991	0.991	0.990	0.990	0.971
Flow Entry, veh/h	326	528	332	413	530
Cap Entry, veh/h	983	1058	1079	1900	1042
V/C Ratio	0.332	0.499	0.307	0.217	0.509
Control Delay, s/veh	7.1	9.2	6.3	0.0	9.5
LOS	A	A	A	A	A
95th %tile Queue, veh	1	3	1	1	3

HCM 7th TWSC
6: Ridge Rd & Mikelson Blvd

2045 Background Improved PM
Bella Mesa South TIS - Castle Rock

Intersection						
Int Delay, s/veh	8.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	353	35	10	601	80
Future Vol, veh/h	10	353	35	10	601	80
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	3	3	0	0
Mvmt Flow	11	384	38	11	653	87
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1437	43	0	0	49	0
Stage 1	43	-	-	-	-	-
Stage 2	1393	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.1	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.2	-
Pot Cap-1 Maneuver	147	1027	-	-	1571	-
Stage 1	979	-	-	-	-	-
Stage 2	230	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	83	1027	-	-	1571	-
Mov Cap-2 Maneuver	83	-	-	-	-	-
Stage 1	979	-	-	-	-	-
Stage 2	129	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s/v	11.81	0	7.87			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 83 1027 1495	-			
HCM Lane V/C Ratio	-	- 0.131 0.374 0.416	-			
HCM Control Delay (s/veh)	-	- 55 10.6 8.9	0			
HCM Lane LOS	-	- F B A	A			
HCM 95th %tile Q(veh)	-	- 0.4 1.8 2.1	-			

HCM 7th TWSC
26: N Mitchell St & North Access/Rock Canyon Trail

2045 Background Improved PM
Bella Mesa South TIS - Castle Rock

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↵	↕↵		↵	↕↵	
Traffic Vol, veh/h	0	0	5	35	0	0	31	341	59	0	245	0
Future Vol, veh/h	0	0	5	35	0	0	31	341	59	0	245	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	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	5	38	0	0	34	371	64	0	266	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	519	768	133	603	736	217	266	0	0	435	0	0
Stage 1	266	266	-	470	470	-	-	-	-	-	-	-
Stage 2	253	502	-	133	266	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	440	330	891	383	345	787	1295	-	-	1121	-	-
Stage 1	716	687	-	543	558	-	-	-	-	-	-	-
Stage 2	729	540	-	856	687	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	428	322	891	370	336	787	1295	-	-	1121	-	-
Mov Cap-2 Maneuver	428	322	-	370	336	-	-	-	-	-	-	-
Stage 1	716	687	-	529	544	-	-	-	-	-	-	-
Stage 2	710	526	-	851	687	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	9.06		15.83		0.56		0					
HCM LOS	A		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1295	-	-	891	370	1121	-	-				
HCM Lane V/C Ratio	0.026	-	-	0.006	0.103	-	-	-				
HCM Control Delay (s/veh)	7.9	-	-	9.1	15.8	0	-	-				
HCM Lane LOS	A	-	-	A	C	A	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	0	0.3	0	-	-				

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	17	0	431	285	0
Future Vol, veh/h	0	17	0	431	285	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	-	-	-	-
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	0	18	0	468	310	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	155	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	863	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	863	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	9.26	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT EBLn1		SBT	SBR		
Capacity (veh/h)	- 863		-	-		
HCM Lane V/C Ratio	- 0.021		-	-		
HCM Control Delay (s/veh)	- 9.3		-	-		
HCM Lane LOS	- A		-	-		
HCM 95th %tile Q(veh)	- 0.1		-	-		